CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT

YEAR 2



Comprehensive Site Compliance Inspection
Public Works Maintenance Shop – 06/05/20
Chemical Drums on Rolling Spill Decks



Chesapeake Bay Restoration – Hotspot Site Investigation
HSI 16 Area for BMP – 02/10/20
Thompson's Auto Repair Center / Budget Rental

Prepared By:

City of Aberdeen
Department of Public Works
60 North Parke Street
Aberdeen, MD 21001

OCTOBER 28, 2020

CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

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FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT

YEAR 2

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Watershed Assessment and Restoration Plan.

Attachment I-3:
Best Management Practices Database

- PDFs: BMP Database Tables B.1.a, B.1.b, and B.1.c provided as pdf files within Annual Report.
- Electronic: BMP Database Tables B.1.a, B.1.b, and B.1.c also provided via separate attachment.

Attachment I-4:
Phase II MS4 Restoration Activity Schedule

- PDFs: Phase II MS4 Restoration Activity Schedule provided as pdf files within Annual Report.
- Electronic: Phase II MS4 Restoration Activity Schedule also provided via separate attachment.

Attachment II-MCM 2:
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CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

APPENDIX D

FISCAL YEAR 2020 MUNICIPAL SMALL MS4 PROGRESS REPORT

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

GENERAL DISCHARGE PERMIT NO. 13-IM-5500
GENERAL NPDES NO. MDR055500

Final Determination:	April 27, 2018
Effective Date:	October 31, 2018
Expiration Date:	October 30, 2023

This National Pollutant Discharge Elimination System (NPDES) general permit covers small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland. MS4 owners and operators to be regulated under this general permit must submit a Notice of Intent (NOI) to MDE by October 31, 2018. An NOI serves as notification that the MS4 owner or operator intends to comply with the terms and conditions of this general permit.

APPENDIX D

Municipal Small MS4 Progress Report

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Maryland Department of the Environment (MDE)

National Pollutant Discharge Elimination System (NPDES)
Small Municipal Separate Storm Sewer Systems (MS4) General Permit

This Progress Report is required for those jurisdictions covered under General Discharge Permit No. 13-IM-5500. Progress Reports must be submitted to:

Maryland Department of the Environment, Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard, Suite 440, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

Contact Information

Permittee Name:	City of Aberdeen
Responsible Personnel:	Kyle Torster, P.E.
Mailing Address:	60 N. Parke St.
	Aberdeen, MD 21001
Phone Number(s):	410-272-1600 Extension 217
Email address:	ktorster@aberdeenmd.gov
Additional Contact(s):	
Mailing Address:	
Phone Number(s):	
Email address:	

Signature of Responsible Personnel

I certify under penalty of law that this document and all attachments were 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 inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kyle Torster	Kyle Torster	10/30/2020
Printed Name	Signature	Date

Reporting Period (State Fiscal Year): FY19; July 1, 2019 - June 30, 2020

Due Date: 10/31/2020 **Date of Submission:** 10/30/20

Type of Report Submitted:

Impervious Area Restoration Progress Report (Annual): ☐

Six Minimum Control Measures Progress (Years 2 and 4): ☐

Both: ☑

Permittee Information:

Renewal Permittee: ☑

New Permittee: ☐

Compliance with Reporting Requirements

Part VI of the Small MS4 General Discharge Permit (No. 13-IM-5500) specifies the reporting information that must be submitted to MDE to demonstrate compliance with permit conditions. The specific information required in this MS4 Progress Report includes:

1. Annual: Progress toward compliance with impervious area restoration requirements in accordance with Part V of the general permit. All requested information and supporting documentation must be submitted as specified in Section I of the Progress Report.
2. Years 2 and 4: Progress toward compliance with the six minimum control measures in accordance with Part IV of the general permit. All requested information and supporting documentation shall be reported as specified in Section II of the Progress Report. MDE may request more frequent reporting and/or a final report in year 5 if additional information is needed to demonstrate compliance with the permit.

Instructions for Completing Appendix D Reporting Forms

The reporting forms provided in Appendix D allow the user to electronically fill in answers to questions. Users may enter quantifiable information (e.g., number of outfalls inspected) in text boxes. When a more descriptive explanation is requested, the reporting forms will expand as the user types to allow as much information needed to fully answer the question. The permittee must indicate in the forms when attachments are included to provide sufficient information required in the MS4 Progress Report.

Section I: Impervious Area Restoration Reporting Form

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(Verbatim from Permit)

Section I: Impervious Area Restoration Reporting

1. a. Was the impervious area baseline assessment submitted in year 1?
☑ Yes ☐ No

   b. If No, describe the status of completing the required information and provide a date at which all information required by MDE will be submitted:

   c. Has the baseline been adjusted since the previous reporting year?
☑ Yes ☐ No

2. Complete the information below based on the most recent data:

   Total impervious acres of jurisdiction covered under this permit: 988.51

   Total impervious acres treated by stormwater water quality best management practices (BMPs): 20.39

   Total impervious acres treated by BMPs providing partial water quality treatment (multiply acres treated by percent of water quality provided): 10.23

   Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales): N/A
   An analysis of these practices will be considered in the future.

   Total impervious acres untreated in the jurisdiction: 968.12

   Twenty percent of this total area (this is the restoration requirement): 193.62

   Verify that all impervious area draining to BMPs with missing inspection records is not considered treated. Describe how this information was incorporated into the overall analysis:
   BMPs that did not pass inspection within the past three years were not included in impervious area calculations. The BMPs included in the calculations are included in Appendix A of the Impervious Area Restoration Work Plan (**Attachment I-1**).

2. Has an Impervious Area Restoration Work Plan been developed and submitted to MDE in accordance with Part V.B, Table 1 of the permit or other format?
☑ Yes ☐ No
   The Impervious Area Restoration Work Plan – Year 2 is submitted as **Attachment I-1** of this Annual Report.

   Has MDE approved the work plan?
☑ Yes ☐ No

Section I: Impervious Area Restoration Reporting

If the answer to either question is No, describe the status of submitting (or resubmitting) the work plan to MDE and provide a date at which all outstanding information will be available:

Describe progress made toward restoration planning, design, and construction efforts and describe adaptive management strategies necessary to meet restoration requirements by the end of the permit term:
Desktop and field assessments were compiled to determine specific areas most in need of restoration in the Watershed Assessment and Restoration Plan (**Attachment I-2**).

3. Has a Restoration Schedule been completed and submitted to MDE in accordance with Part V.B, Table 2 of the permit?
☑ Yes ☐ No
The Restoration Activity Schedule is submitted as **Attachment I-4** of this Annual Report.

In year 5, has a complete restoration schedule been submitted including a complete list of projects and implementation dates for all BMPs needed to meet the twenty percent restoration requirement?
☐ Yes ☐ No
N/A

Are the projected implementation years for completion of all BMPs no later than 2025?
☑ Yes ☐ No

Describe actions planned to provide a complete list of projects in order to achieve compliance by the end of the permit term:
A list of projects is located in the Impervious Area Restoration Work Plan included with this report as **Attachment I-1**.

Describe the progress of restoration efforts (attach examples and photos of proposed or completed projects when available):
The Restoration Activity Schedule is submitted as **Attachment I-4** of this Annual Report. A list of projects is located in the Impervious Area Restoration Work Plan included with this report as **Attachment I-1**.

4. Has the BMP database been submitted to MDE in Microsoft Excel format in accordance with Appendix B, Tables B.1.a, b, and c?
☑ Yes ☐ No
The BMP Database is submitted as **Attachment I-3** of this Annual Report; and also provided via electronic excel attachment.

Is the database complete?
☑ Yes ☐ No

Section I: Impervious Area Restoration Reporting

If either answer is No, describe efforts underway to complete all data fields, and a date that MDE will receive the required information:
N/A

5. Provide a summary of impervious area restoration activities planned for the next reporting cycle (attach additional information if necessary):
   The City will review the Watershed Assessment and Restoration Plan (**Attachment I-2**) and will select projects to meet their restoration requirement.

6. Describe coordination efforts with other agencies regarding the implementation of impervious area restoration activities:
   The City has had discussions with other permittees, and no partnerships have been developed to date. It is possible partnership opportunities may develop later in the Permit process. However, at this time the City feels that partnerships are unlikely to develop.

7. List total cost of developing and implementing the impervious area restoration program during the permit term:
   The total cost is unknown at this time.

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(Verbatim from Permit)

Section II: Minimum Control Measures Reporting Forms

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(Verbatim from Permit)

MCM #1: Public Education and Outreach

1. Does the permittee maintain a process and phone number for the public to report water quality complaints?
   ☑ Yes ☐ No

   Number of complaints received: 18

   Describe the actions taken to address the complaints:
   Conduct site visit. Research and evaluate the issue. Take corrective actions or add to future maintenance or capital projects schedule.

2. Describe training to employees to reduce pollutants to the MS4:
   None.

3. Describe the target audience(s) within the jurisdiction:
   City Residents.

4. Are examples of educational/training materials attached with this report?
   ☑ Yes ☐ No

   Provide the number and type of educational materials distributed:
   Describe how the public outreach program is appropriate for the target audience(s):
   The topics of pamphlets and workshops include actions residents can take to support stormwater best management practices both in their community and on their own properties. The examples of educational material are submitted as **Attachment II-MCM 2** of this Annual Report.

5. Describe how stormwater educational materials were distributed to the public (e.g., newsletters, website):
   Website. Pamphlets available at City Hall. Public Workshops.

6. Describe how educational programs facilitated efforts to reduce pollutants in stormwater runoff:
   Teach residents how they can take individual action to stabilize their yard clean streets in their neighborhood and community groups to do the same.

7. Provide a summary of the activities planned for the next reporting cycle:
   Continue resident education on diverting runoff to collector systems (rain barrels) and/or rain gardens. Continue resident education on cleaning storm drain inlets in their neighborhoods and picking trash.

8. List the total cost of implementing this MCM over the permit term:
   $0 – Free workshop provided by University of Maryland. Other.

MCM #2: Public Involvement and Participation

1. Describe how the public involvement and participation program is appropriate for the target audience(s):
   We provided free educational workshops in the evening to teach residents ways to make improvements to their yards and neighborhoods.

2. Quantify and report public involvement and participation efforts shown below where applicable.

Number of participants at public events:	8
Quantity of trash and debris removed at clean up events:	N/A
Number of employee volunteers participating in sponsored events:	0
Number of trees planted:	0
Length of stream cleaned (feet):	0
Number of storm drains stenciled:	143
Number of public notices published to facilitate public participation:	1
Number of public meetings organized:	6
Total number of attendees at all public meetings:	8

Describe the agenda, items discussed, and collaboration efforts with interested parties for public meetings:
Workshop presentations include topics: best management practices overview, conservation landscaping, grants funding, illicit discharge, rain barrels, stormwater 101. The Workshop Presentations are submitted as **Attachment II-MCM 2** of this Annual Report.

Describe how public comments have been incorporated into the permittee's MS4 program, including water quality improvement projects to address impervious area restoration requirements:
N/A

Describe any additional events and activities if applicable:
N/A

MCM #2: Public Involvement and Participation

3. Provide a summary of activities planned for the next reporting cycle: Public education and tabling at our weekly Farmer's Market. Workshops teaching residents how to divert runoff into rain gardens or other collectors such as rain barrels, stabilize their yard, and clean storm drain inlets.
4. List the total cost of implementing this MCM for the permit term: The total cost is unknown at this time.

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

1. Does the permittee maintain a map of the MS4 owned or operated by the permittee, including stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges?
☑ Yes ☐ No

   If Yes, attach the map to this report and provide a progress update on any features that are still being mapped. If No, detail the current status of map development and provide an estimated date of submission to MDE:
   The FY 2020 IDDE Program Annual Report is included in this Annual Report as **Attachment II-MCM 3-2.** The map is provided in Figure 2 of the FY 2020 IDDE Program Annual Report.

2. Does the permittee have an ordinance, or other regulatory means, that prohibits illicit discharges?
☑ Yes ☐ No

   If Yes, describe the means for enforcement utilized by the permittee (alternatively, a link may be provided to the permittee's webpage where this information is available). If No, describe the permittee's plan, including approximate time frame, to establish a regulatory means to prohibit illicit discharges:
   https://ecode360.com/33452036

3. Describe the process the permittee utilizes for gaining access to private property to investigate and eliminate illicit discharges:
   The IDDE Program Standard Operating Procedures are included in this Annual Report as **Attachment II-MCM 3-1**. Appendix D of the IDDE Program SOP provides the requested information.

4. Did the permittee submit to MDE standard operating procedures (SOPs) in accordance with Part IV.C of the permit?
☑ Yes ☐ No

   If No, provide a proposed date that SOPs will be submitted to MDE. MDE may require more frequent reports for delays in program development:
   The IDDE Program Standard Operating Procedures are being submitted via this Annual Report as **Attachment II-MCM 3-1.**

   Did MDE approve the submitted SOPs?
☐ Yes ☑ No

   If No, describe the status of requested SOP revisions and approximate date of resubmission for MDE approval:
   The IDDE Program Standard Operating Procedures are being submitted via this Annual Report as **Attachment II-MCM 3-1.**

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

5. Describe how the permittee prioritized screening locations in areas of high pollutant potential and identify the areas within which screenings were conducted during this reporting period:
The City's Phase II MS4 Permit requires that 20 percent of the City's outfalls be screened annually for illicit discharges. The City's MS4 mapping was used to divide the City into five areas, each containing approximately 20 percent of all outfalls.

6. Answers to the following questions must reflect this two-year reporting period.

How many outfalls are identified on the map? 249

How many outfalls were required to be screened for dry weather flows to meet the minimum numeric requirement (i.e., 20% of total outfalls, up to 100)? 20%

How many outfalls were screened for dry weather flows? 51

Per the permittee's SOP, how frequently were outfalls required to be screened?
Once every five years.

At what frequency were outfalls screened during the reporting period?
Once.

How many dry weather flows were observed? 6

If dry weather flows were observed, how many were determined to be illicit discharges? 0

Describe the investigation process to track and eliminate each suspected illicit discharge and report the status of resolution:
Field Work Procedures are documented in Section B-3 of the IDDE Program SOP (**Attachment II-MCM 3-1**). Details for Elimination and Enforcement of Illicit Discharges are documented in Section C of the IDDE Program SOP.

7. Describe maintenance or corrective actions undertaken during this reporting period to address erosion, debris buildup, sediment accumulation, or blockage problems:
   - Shop pond new rip rap
   - Inlet 0068 new wash pans
   - Inlet 0620 new wash pans
   - Inlet 0523 rebuild
   - Inlet 0626 new wash pans and header repair
   - Inlet 0054 inspected and rebuild
   - Inlet 0638 rebuild

- Inlet 0994 rebuild
- Inlet 0993 rebuild
- Inlet 0978 rebuild
- Inlet 0979 rebuild
- Inlet 0338 rebuild
- Inlets 0029 – 0030 new inlet and vault installed
- Inlet 0662 rebuild piers for vault lid
- Inlet 0841 inspected
- Inlet 0050 inspected/ ditch line cleaned
- Inlet 0285 repaired
- Inlet 0252 rebuild and library tied in
- Inlet 0620 new wash pans
- Inlet 0626 new wash pans and frame/grate
- Inlet 0612 made a repair in floor of inlet causing sinkhole
- Inlet 0596 new frame and grate installed
- Inlet 0597 new frame and grate installed
- Darlington Ave/Defense Drive Ditch line cut/Debris removal/inspected 6-15-20
- E. Bel Air Ditch line cut/debris removal/inspected 7-17-19
- Regraded roadside swale along Henrietta Alley
- Repaired joint in pipe on SWP-0198
- Repaired several holes in pipe on SWP-0843

- Storm Water Management Ponds Cut/ Maintained:
- Medline (along Rock Glenn) cut-1 9\26\19
- Medline (large pond) cut-4 8\31\19 9\3\19 5\27\20 6\29\20
- Ripken (3 small ponds) cut-2 8\26\19 6\2\20
- Ripken (large pond in back) cut-3 7\16\19 9\5\19 6\1\20
- Northdeen cut-2 7\13\19 8\31\19
- DPW Shop pond cut-4 7\13\19 8\27\19 5\20\20 6\10\20
- Transfer pond cut-4 4\15\20 4\29\20 5\14\20 6\10\20 Contract cut every 1 to 2 weeks Pond behind DPW fence (accessed through Compost gate) cut-3 8\5\19 10\10\19 6\5\20

- Drainage/Ditch lines Cut and Maintained:
- Maxa Rd cut-2 8\15\19 8\20\19
- Rigdon Rd cut-3 4\8\20 4\20\20 5\4\20 Contract cut every 1 to 2 weeks
- Trillium Station (along Rt.7)
- Rt.7 bridge cut-1 7\14\19
- APG Rd. by Amtrak
- N. Rogers St. cut-5 8\8\19 8\29\19 5\5\20 5\26\20 6\9\20 Contract cut every 1 to 2 weeks Creek joining two ponds behind DPW fence cut-3 8\6\19 10\10\19 6\5\20
- E. Belair Ave. (APG fence line) cut-5 7\2\19 8\20\19 9\24\19 5\28\20 6\22\20

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

8. Is the permittee maintaining all IDDE inspection records and are they available to MDE during site inspections?
   ☑ Yes ☐ No

9. If spills, illicit discharges, and illegal dumping occurred during this reporting period, describe the corrective actions taken, including enforcement activities, and indicate the status of resolution:
   N/A

10. Attach to this report specific examples of educational materials distributed to the public related to illicit discharge reporting, illegal dumping, and spill prevention. If these are not available, describe plans to develop public education materials and submit examples with the next Progress Report:
    See IDDE Program SOP, Appendix B, SOP Form 10 for Door Hanger Template. The IDDE Program SOP is included in this Annual Report as **Attachment II-MCM 3-1.**

11. Specify the number of employees trained in illicit discharge detection and spill prevention: 32

12. Provide examples of training materials. If not available, describe plans to develop employee training and submit examples with the next Progress Report:
    Examples of training materials are submitted as Attachment II-MCM 2 of this Annual Report.

13. List the cost of implementing this MCM during this permit term:
    Approximately $10,000.

MCM #4: Construction Site Stormwater Runoff Control

Erosion & Sediment Control Program Procedures, Ordinances, and Legal Authority

1. Does the permittee have an MDE approved ordinance?
   ☑ Yes ☐ No

   Has the permittee submitted modifications to MDE?
   ☐ Yes ☑ No

   Has the adopted ordinance been submitted to MDE?
   ☑ Yes ☐ No

   If No, is the adopted ordinance attached?
   ☐ Yes ☐ No

2. Does the permittee rely on the County, local Soil Conservation District, or MDE to perform any or all requirements for an acceptable erosion and sediment control program? ☑ Yes ☐ No

   If Yes, check all that apply:
   ☑ Plan Review and Approval
   ☐ Construction Inspections
   ☐ Enforcement

3. Does the permittee have a process to ensure that all necessary permits for a proposed development have been obtained prior to issuance of a grading or building permit?
   ☑ Yes ☐ No

   Explain how the permittee ensures all permits are in place:
   Checklist: Green stamped plans and all permits from MDE are required (any wetlands, critical area, stream work and NOI). No developer can break ground until all permits have been received.

MCM #4: Construction Site Stormwater Runoff Control

Erosion & Sediment Control Program Implementation Information

1. Does the permittee have a process for receiving, investigating, and resolving complaints from interested parties related to construction activities and erosion and sediment control?
☑ Yes ☐ No

   Describe the process:
   Phone call to City Hall. Complaint assigned to City inspector.

   Provide a list of all complaints and summary of actions taken to resolve them:
   None.

2. Total number of active construction projects within the reporting period: 14

   Provide a list of all construction projects and disturbed areas:
   See spreadsheet immediately after Appendix D, Page D-27.

   Does the permittee submit grading reports to MDE (only applies if the permittee has an MDE approved ordinance)?
   ☐ Yes ☐ No ☑ N/A

3. Total number of violation notices issued related to this MCM within the permit area (report total number whether the permittee or another entity performs inspections):
   0

   Describe the status of enforcement activities:
   Written notice. If no compliance, the City will issue an all-encompassing Stop Work Order.

   Describe how the permittee communicates and collaborates with the enforcement authority for violations within the permit area. Include measures taken by the permittee such as suspending or denying a building or grading permit in order to prevent the discharge of pollutants into the MS4:
   The permittee is the enforcement authority. The City (permittee) will issue an all-encompassing Stop Work Order until the issue has been resolved.

   Are erosion and sediment control inspection records retained and available to MDE during field review of local programs?
   ☑ Yes ☐ No

   If No, explain:

MCM #4: Construction Site Stormwater Runoff Control

4. Number of staff trained in MDE's Responsible Personnel Certification:
   1

5. Describe the coordination efforts with other entities regarding the implementation of this MCM:
   None.

6. List the total cost of implementing this MCM over the permit term:
   The total cost is unknown at this time.

MCM #5: Post Construction Stormwater Management

Stormwater Management Program Procedures, Ordinances, and Legal Authority

1. Does the permittee have an MDE approved ordinance? ☑ Yes ☐ No

   Has the permittee submitted modifications to MDE? ☐ Yes ☑ No

   Has the adopted ordinance been submitted to MDE? ☑ Yes ☐ No

   If No, is the adopted ordinance attached? ☐ Yes ☐ No

2. Does the permittee have a memorandum of understanding (MOU) with the County to perform any or all requirements for an acceptable stormwater program?
   ☑ Yes ☐ No

   If Yes, check all that apply:
   - ☑ Plan Review and Approval
   - ☐ First Year Post Construction Inspections
   - ☐ As-Built Plan Approval
   - ☐ Post Construction Triennial Inspections
   - ☐ Enforcement
   - ☐ BMP Tracking and Reporting

Stormwater Management Program Implementation Information

1. Has an Urban BMP database been submitted in accordance with the database structure in Appendix B, Tables B.1.a, b, and c as a Microsoft Excel file?
   ☑ Yes ☐ No

   Describe the status of the database and efforts to complete all data fields:
   The BMP Database has been completed and is submitted as **Attachment I-3** of this Annual Report. The BMP Database is also provided via electronic excel attachment.

2. Total number of triennial inspections performed: 65

   Total number of BMPs jurisdiction-wide: 262

   Are inspections performed at least once every three years for all BMPs?
   ☑ Yes ☐ No

If No, describe how the permittee will catch up on past inspections and remain on track to perform BMP inspections once every three years:

Are BMP inspection records retained and available to MDE during field review of local programs?
☑ Yes ☐ No

3. Total number of violation notices issued: 30

Describe efforts to bring BMPs into compliance and the status of enforcement activities within the jurisdiction:
Follow-up inspections.

4. Describe how the permittee coordinates and cooperates with the County to ensure stormwater BMPs are functioning according to approved standards. (Applicable for municipalities that rely on the County to perform stormwater triennial inspections):
N/A.

5. Provide a summary of routine maintenance activities for all publicly owned BMPs:
Mowing and brush removal. Trash removal.

Number of publicly owned BMPs: 19

Describe how often BMPs are maintained. Specify whether maintenance activities are more frequent for certain BMP types:
Stormwater ponds are cut and maintained anywhere from one time per year to one time every 1-2 weeks.

Are BMP maintenance checklists and procedures for publicly owned BMPs available to MDE during field review of local programs?
☑ Yes ☐ No

Are BMP maintenance records retained and available to MDE during field review of local programs?
☑ Yes ☐ No

If either answer is No, describe planned actions to implement maintenance checklists and procedures and provide formal documentation of these activities:

MCM #5: Post Construction Stormwater Management

6. Number of staff trained in proper BMP design, performance, inspection, and routine maintenance: 32
7. Provide a summary of activities planned for the next reporting cycle: Continue with triennial inspections for FY21.
8. List the total cost of implementing this MCM over the permit term: The total cost is unknown at this time.

MCM #6: Pollution Prevention and Good Housekeeping

1. Provide a list of topics covered during the last training session related to pollution prevention and good housekeeping, and attach to this report specific examples of training materials:
   Training Presentation topics included best management practices overview, conservation landscaping, grants funding, illicit discharge, rain barrels, and stormwater 101. The Training Presentations are submitted as **Attachment II-MCM 2** of this Annual Report.

   List all training dates within this two-year reporting period:
   06/19/20, 06/23/20, 06/26/20.

   Number of staff attended: 4

2. Are the good housekeeping plan and inspection records at each property retained and available to MDE during field review of the local program? ☑ Yes ☐ No

   If No, explain:

   Provide details of all discharges, releases, leaks, or spills that occurred in the past reporting period using the following format (attach additional sheets if necessary).

   Property Name: 212 N Philadelphia Blvd Date:07/13/2019

   Describe observations:
   Illicit discharge of gray water coming out of a manhole behind the "Family Wash Day" Laundromat located at 212 N. Philadelphia Blvd in Aberdeen. It runs across the paved alley, into a storm drain, under Locust Lane and directly into a small stream.

   Describe permittee's response:
   This manhole is privately-owned. It has a pump system in it for the laundromat. We have responded to several backups at this location and have informed the laundry mat to contact a plumber, which they have done each time. It is pumped through a series of cleanouts and the private lateral lines for that particular shopping center until it reaches our main further up Beech Alley at SMH-1375. It is gray water from the laundromat, so it could be considered an SSO by the privately-owned manhole. We were not contacted to our knowledge for a backup on Saturday. They may have stopped calling us due to the fact that they need to contact a plumber. They need to find a solution to these backups to prevent this in the future.

MCM #6: Pollution Prevention and Good Housekeeping

3. Quantify and report property management efforts as shown below, where applicable (attach additional sheets if necessary).

Number of miles swept: 4.653

Amount of debris collected from sweeping (indicate units): 131.01 tor

If roads and streets are swept, describe the strategy the permittee has implemented to maximize efficiency and target high priority areas:
We sweep every street in the City. We continuously rotate through the Zones throughout the year.

Number of inlets cleaned: see below
Inspected 10,998 inlets. Cleared/Removed debris from 2,378 inlets.

Amount of debris collected from inlet cleaning (indicate units): 10.545 lbs

Describe how trash and hazardous waste materials are disposed of at permittee owned and operated property(ies), including debris collected from street sweeping and inlet cleaning:
All the trash from street sweeping and debris cleared from the inlets goes to Day's Cove Commercial and Demolition Landfill. If the City has hazardous waste, a contractor will dispose of it.

Does the permittee have a current State of Maryland public agency permit to apply pesticides?
☐ Yes ☑ No

If No, explain (e.g., contractor applies pesticides):
We utilize a permitted contractor, as applicable.

Does the permittee employ at least one individual certified in pesticide application?
☐ Yes ☑ No

If Yes, list name(s):

If the permittee applied pesticides during the reporting year, describe good housekeeping methods (e.g., integrated pest management, alternative materials/techniques):
N/A

MCM #6: Pollution Prevention and Good Housekeeping

If the permittee applied fertilizer during the reporting year, describe good housekeeping methods (e.g., application methods, chemical storage, native or low maintenance species, training):
N/A

If the permittee applied materials for snow and ice control during the reporting year, describe good housekeeping methods (e.g., pre-treatment, truck calibration and storage, salt domes):
N/A

Describe good housekeeping BMP alternatives not listed above:

4. If applicable, provide a status update for permittee owned or operated properties regarding coverage under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an individual industrial surface water discharge permit:
   N/A

5. List the total cost of implementing this MCM over the permit term:
   The City's FY20 Operating Budget allotted $30,000 for storm drain maintenance.

Active Construction Projects FY 20							
Site Name	Location	Owner/Address	Acerage	Watershed Des	Land Use Desi	GP# & Approval Date	NOI#
Starbucks	999 Middleton Road	Middleton Holdings, LLC. 14 Back River Neck Road Essex, MD. 21221	0.971 Ac	Swan Creek	Commercial	GP 18-01 2018-08-15	N/A
Aberdeen Logistics Ctr	727 Old Philadelphia Road Aberdeen MI	Manekin LLC 5850 Waterloo Road Suite 210 Columbia MD 21045	35.73 ac	Aberdeen Prov	Industrial	GP 17-06 2018-09-17	MDRCM03VN
Mt. Zion Baptist Church	Hamilton Court, Aberdeen MD 21001	Mt. Zion Baptist Church 520 Lewis Lane Havre de Grace MD 21078	5.58 ac	Swan Creek	Institutional	GP 15-07 2018-11-06	MDRCM02MN
Horne Concrete Construction, L. L. C.	905 Old Philadelphia Road	Horne Concrete Constr LLC 905 Old Philadelphia Road Aberdeen MD 21001	0.42 ac	Bush river	Industrial	GP# 17-05 2017-09-01	N/A
The I-95 Center, LLC	Rte 22	Stadium Towne Center Aberdeen MD 210012	11.04 Ac	Swan Creek	Commercial	GP# 17-03 2018-07-11	MDRCM03DU
Eagle's Rest Oper C	Aldino-Stepney road	Sage Custom Homes, LLC. 6807 Park Heights Ave Baltimore MD 21215	12.65 ac	Swan Creek	Residential	GP# 18-02 2018-05-04	MDRCM03RI
Barnett Land Hotel	Barnett Lane	KCP Properties 5271 Pulaski Highway Perryville, MD. 21903	2.14ac	Swan Creek	Commercial	GP# 07-09 2017-04-13	MDRCM02Z1
Royal Farms Store #271	Rte 22	Two Farms Inc. 3611 Roland Ave Baltimore MD 21211	1.87 ac	Swan Creek	Commercial	GP# 18-08 2018-10-12	MDRCM03ZH
Hickory Ridge Idust. Park, Lot 3 UPS	600 Hickory Drive Aberdeen 21001	KRK Title Holders C/O SK Reality Management 254 W31th St 4th floor NY 10	2.76 Ac	Cranberry Run	Industrial	GP# 19-01 2019-03-15	MDRCM04DB
Eagle's Rest Phase 2	Aldino-Stepney road	Elm Street Development, 1355 Beverly Rd. Suite 240, McLean, Va. 22101	19.74 ac	Carsins Run	Residential	GP# 18-03 2019-04-11	MDRCM0411
Middleton Road Extension	Middleton Road	City of Aberdeen 60 N Parke St Aberdeen MD 21001	3.39 ac	Bush river	Commercial	GP# 19-02 2019-04-22	MDRCM04E2
MD RTE 22/Aberdeen Thruway r/i:r/o	Aberdeen Corporate Park	Merritt Properties 2066 Lord Baltimore Drive Baltimore MD 21244	2.37 ac	Bush river	Commercial	GP# 19-04 2019-06-21	MDRCM04J8
Ripken Center PNC Park CITI Field	873 Long Drive	Ripken Baseball 873 Long Drive Aberdeen MD 21001	3.20 ac	Carsins Run	Commercial	GP# 19-07 2020-01-03	MDRCM04TX
115 Custis Street	115 Custis Street Aberdeen MD 21001	Arthur & Ann Helton 3 S. Rogers Street Aberdeen MD 21001	.43 ac	Swan Creek	Commercial	GP# 18-07 2018-10-25	N/A

Watershed delineated from https://www.arcgis.com/home/webmap/viewer.html?webmap=e1bd823382b04750acc0a2adb6963f81

Delineates completed project

Delineates hold over from previous FY

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT I-1

IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 2

CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

IMPERVIOUS AREA RESTORATION WORK PLAN

YEAR 2

Prepared By:

City of Aberdeen
Department of Public Works
60 North Parke Street
Aberdeen, MD 21001

OCTOBER 19, 2020

CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

IMPERVIOUS AREA RESTORATION WORK PLAN – YEAR 2

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CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
PHASE II MS4 PERMIT
General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

IMPERVIOUS AREA RESTORATION WORK PLAN – YEAR 2

The City of Aberdeen is continuing to make updates to the Impervious Area Restoration Work Plan thorughout the Permit cycle. The report below summarizes updates to the Year 1 Work Plan as well as activites in Year 2.

➢ IMPERVIOUS AREA RESTORATION WORK PLAN: YEAR 1 – UPDATED

I. Develop Impervious Area Baseline Assessment

A. Year 1 Methodology

***Step 1*:** Delineate Best Management Practices (BMP) drainage areas and calculate the acreage of each drainage area.

- Drainage areas for each BMP were delineated using available plans, stormwater management reports, aerial imagery, contour data, and the City's Municipal Separate Storm Sewer System (MS4) data.
- Drainage areas were delineated as polygons in a Geographic Information System (GIS).
- A Quality Assurance/Quality Control (QA/QC) analysis was performed on the delineated drainage areas by a water resources engineer.
- The acreage of each drainage area was calculated in GIS.

***Step 2*:** Calculate the total (2004) impervious acreage for the City as per the Permit, Appendix B, Section III.

- In GIS, base data was obtained and compiled on a map. Layers used in this analysis included the following:
  - Impervious Area for Harford County (2014).
  - Orthoimagery for Harford County (2004)
    - Available 2007 imagery had missing tiles and therefore was not used for analysis.
  - Orthoimagery for Harford County (2017) (used as a reference).
  - Aberdeen municipal boundary.

- 2014 impervious area data was used as the starting point to calculate the 2004 baseline because it was the best available impervious GIS data.
- The initial impervious area for the City based on the 2014 impervious layer was approximately 1392.49 acres.
- The GIS layers were prepared for further analysis by clipping the County data to the City's corporate limits.
- The 2014 impervious area layer was copied and saved as the new 2004 impervious layer. This layer was edited and developed into the final 2004 impervious area baseline layer.
- The City was divided into 1,000 feet by 1,000 feet grids using GIS tools. Grid by grid, the 2004 baseline layer was analyzed and edited. Impervious areas were represented by polygons in GIS. Areas that were impervious in 2014 but not in 2004 were removed. Areas that were impervious in 2004 but not in 2014 were added through digitization.
- Areas not under the responsibility of the City, such as County-owned parcels, schools, and Maryland State Highway Administration right-of-way, were removed from the total impervious area.
- A QA/QC analysis was performed on the final 2004 impervious area layer.
- When calculating the total acreage, overlapping polygons in the GIS layer could cause the total to be inflated. To resolve this issue, the polygons within the impervious layer were merged into one combined polygon.
- Using GIS tools, the final total 2004 impervious area was calculated.
    - **The total impervious area is approximately 998.51 acres (Table 1).**

***Step 3*:** Determine what water quality BMPs prior to 2006* treat existing impervious. Calculate the total impervious area treated by each of the City's water quality BMPs.

* According to the permit, BMPs built after 2006 may be claimed for restoration credits. The impervious area baseline was developed using 2004 imagery. BMPs built between 2004 and 2006 were counted as water quality BMPs in the impervious area baseline assessment if the BMP treated existing 2004 impervious area.

- Using available plans, stormwater management reports, and the drainage areas delineated in Step 1, a desktop analysis was performed by a water resources engineer to determine the amount of water quality treatment for each BMP.
    - In cases where the available plans for the BMP provided a PE value, this value was recorded, and the impervious acres treated value was calculated.

  - In cases where the available plans for the BMP did not provide a PE value but provided other water quality information, an engineer reviewed the plans and calculated the impervious acres treated.

- A QA/QC analysis was performed on the water quality calculations.
- Fact Sheets were created for each BMP detailing the calculations used to determine the impervious acres treated. The Fact Sheets have been included in **Appendix A** of this work **plan**.
- **The total impervious area treated by BMPs providing <u>FULL</u> water quality treatment is approximately 20.01 acres (Table 1).**
- **The total impervious area treated by BMPs providing <u>PARTIAL</u> water quality treatment is approximately 12.71 acres (Table 1).**

***Step 4*:** Calculate the revised total (2004) impervious area baseline by removing impervious areas already treated by water quality BMPs.

- From the Fact Sheets created in Step 3, the total impervious acreage treated by water quality BMPs was determined to be approximately 32.72 acres.
  - Removing the 32.72 acres treated by water quality BMPs, the **final total 2004 impervious area baseline was reduced to 965.79 acres for Year 1 (Table 1)**.

Table 1 – 2004 Impervious Areas Year 1 [1]

Category	Total Area (Acres)
Total Impervious Area	**998.51**
Impervious Area Treated by BMPs with Full Water Quality Treatment [2]	20.01
Impervious Area Treated by BMPs with Partial Water Quality Treatment [3]	12.71
Impervious Area Treated by Non-structural Practices	To Be Determined
Untreated Impervious Area	965.79
Restoration Requirement (20% of Untreated Impervious Area)	**193.16**

1 Areas may continue to be refined during each reporting year as funding allows and as new data becomes available.

2 BMPs with a P_E value ≥ 1 were considered Full Water Quality Treatment BMPs.

3 BMPs with a P_E value < 1 were considered Partial Water Quality Treatment BMPs.

B. Year 2 Methodology / Updates

***Step 1*:** Update BMP Database as detailed in Section 1 of the Year 2 Restoration Work Plan.

- Update Pe values according to comments from MDE.
- Remove BMPs from the baseline that did not pass inspection within the last 3 years.
- Add new BMPs to the baseline that passed inspection since Year 1.
- With the updated BMP information, create BMP Fact Sheets for each BMP the City can claim credit for. These BMP Fact Sheets are included in Appendix A of the Year 2 Restoration Work Plan.
- Using the updated BMP Fact Sheets and Pe values, the total impervious area treated by BMPs providing full water quality treatment was calculated, as well as the total impervious area treated by BMPs providing partial water quality treatment.
    - **The total impervious area treated by BMPs providing FULL water quality treatment in year 2 is approximately 10.16 acres (Table 2).**
    - **The total impervious area treated by BMPs providing PARTIAL water quality treatment is approximately 10.23 acres (Table 2).**
- Remove acreage from Walmart from the Total Impervious Area, as SHA is claiming retrofit credit for BMPs at that property.
    - **The total impervious area in the City of Aberdeen decreased to 988.51.**

Table 2 – 2004 Impervious Areas Year 2 [1]

Category	Total Area (Acres)
Total Impervious Area	**988.51**
Impervious Area Treated by BMPs with Full Water Quality Treatment [2]	10.16
Impervious Area Treated by BMPs with Partial Water Quality Treatment [3]	10.23
Impervious Area Treated by Non-structural Practices	To Be Determined
Untreated Impervious Area	968.12
Restoration Requirement (20% of Untreated Impervious Area)	**193.62**

[1] Areas may continue to be refined during each reporting year as funding allows and as new data becomes available.

[2] BMPs with a P_E value ≥ 1 were considered Full Water Quality Treatment BMPs.

[3] BMPs with a P_E value < 1 were considered Partial Water Quality Treatment BMPs.

II. Develop a Restoration Work Plan for MDE Review and Approval

Next Steps: The City will continue to revise and adjust the Impervious Area Restoration Work Plan as appropriate. The City has already begun to discuss plans for meeting the restoration requirement. Future steps the City plans to take include:

- Assess impervious acre credits available based on Alternative Urban BMPs.
  - Street sweeping.
    - Guidelines from Appendix B, Table B.4 of the Permit will be used to determine the impervious area credit available to the City based on the amount of street sweeping completed.
  - Storm drain cleaning.
    - Guidelines from Appendix B, Table B.4 of the Permit will be used to determine the impervious area credit available to the City based on the amount of storm drain cleaning completed.
  - Stream restoration.
    - Guidelines from Appendix B, Table B.4 of the Permit will be used to determine the impervious credit available for existing stream restorations within the City.
    - The City will evaluate potential areas for future stream restorations and will identify these on the Restoration Activity Schedule.
  - Outfall stabilization.
    - Guidelines from Appendix B, Table B.4 of the Permit will be used to determine the impervious area credit available to the City based on outfall stabilization projects that have been completed.

III. Assess Opportunities and Timelines for Implementing Water Quality BMPs

The City identified several potential opportunities to implement Water Quality BMPs. They fall into the categories of Stream Restoration, Reforestation, Rain Barrels, and Rain Gardens. More information is located in Section VIII of this report.

IV. Assess Opportunities to Develop Partnerships with other NPDES Permittees

The City has had discussions with other permittees, and no partnerships have been developed to date. It is possible that opportunities for partnerships with other permittees may develop later in the permit process. The City feels partnerships are unlikely to develop.

V. Determine Funding Needs and Develop a Long-Term Budget

The City is currently working on an agreement with Harford County that allows a portion of the taxes paid to the County within City limits to be used by the City for stormwater retrofits and improvements. These stormwater improvements will be used to fund a portion of the City's 20% restoration requirement.

➢ IMPERVIOUS AREA RESTORATION WORK PLAN: YEAR 2

VI. Update and Submit Urban BMP Database

New BMPs were added to the BMP Database according to Permit-required specifications (Phase II MS4 Permit Pages B-17 through B-23). Each BMP the City is claiming credit for has a BMP Fact Sheet detailing all impervious information and calculations. The BMP Fact Sheets are located in **Appendix A** of this report.

Existing BMPs in the BMP Database were updated with the latest inspection and impervious information. All changes are also reflected in the BMP Fact Sheets in **Appendix A** of this report.

The following changes were made to the existing BMP Database, which were based on MDE Year 1 Comments.

MDE Comment:
Extra credit for over management was intended to be calculated for restoration projects and not for BMPs implemented to meet regulatory requirements for new development. BMPS built after 2002 should be assumed to a have a Pe of 1".

City Response:
The Pe values of BMPs built after 2002 were updated to be 1.0"

Impacts:

1. AB19BMP000028 – Pe value was revised from 0.5" to 1.0".
   This increased the treatment credit from 0.69 ac to 1.37 ac, an additional 0.68 ac.
2. AB19BMP000029 – Pe value was revised from 1.6" to 1.0".
   This decreased the treatment credit from 0.19 ac to 0.17 ac, a loss of 0.02 ac.
3. AB19BMP000030 – Pe value was revised from 1.4" to 1.0".
   This decreased the treatment credit from 0.23 ac to 0.21 ac, a loss of 0.02 ac.
4. AB19BMP000039 –Pe value was revised from 0.2" to 1.0".
   This increased the treatment credit from 0.13 ac to 0.65 ac, an additional 0.52 ac.
5. AB19BMP000042 – Pe value was revised from 0.7" to 1.0".
   This increased the treatment credit from 0.10 ac to 0.15 ac, an additional 0.05 ac.

MDE Comment:
The following must be updated in the database and baseline estimate: BMP Type beginning with X, including XDED, XDPD, and XOTH, provide no water quality treatment and may not be counted toward the baseline. However, these may be opportunities for retrofit for restoration credit.

City Response:
The Pe values for BMP types beginning with X were revised to "0" to reflect that no treatment is counted towards the baseline.

Impacts:

1. AB19BMP000003 - Pe value was revised from 0.4" to 0.0".
   This decreased the treatment credit from 0.31 ac to 0.0 ac, a loss of 0.31 ac.
2. AB19BMP000015 - Pe value was revised from 0.5" to 0.0".
   This decreased the treatment credit from 2.17 ac to 0.0 ac, a loss of 2.17 ac.
3. AB19BMP000017 - Pe value was revised from 1.0" to 0.0".
   This decreased the treatment credit from 1.39 ac to 0.0 ac, a loss of 1.39 ac.

VII. Maintain Inspection Records for all BMPs

The City continues to inspect all BMPs tri-annually according to the Permit and maintain up-to-date inspection records. All new inspection information is current in the BMP Database submitted with this report.

VIII. Perform Watershed Assessments and Identify Water Quality Problems and Opportunities for Restoration

The City has completed a watershed assessment in accordance with the Phase II MS4 Permit (**Attachment I-2**). The assessments described below support the City's goals for healthy watersheds and natural resources, and also support progress towards satisfying several regulatory and permit requirements. These assessments provide the next step in the planning process specifically for the urban stormwater sector regulated by the Phase II MS4 Permit. This watershed assessment, through both desktop and field assessments, identifies watershed conditions and specific restoration solutions to meet the City's watershed restoration goals.

Results of desktop and field watershed assessments were compiled and analyzed to determine specific areas of impairment most in need of restoration. Restoration measures were then developed according to the type and source of impact.

The following section presents the results and cost for each restoration measure type:

- Stream Restoration;
- Reforestation;
- Rain Barrels;
- Rain Gardens.

Stream Restoration

Stream restoration opportunities were field-identified during a Stream Corridor Assessment (SCA). The current condition of streams was assessed, and locations of stream erosion were identified and mapped using a global positioning system (GPS).

The assessment rated each segment of stream erosion on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. These scores were used to identify high priority stream reaches for stream restoration and were generally sites with a severity score of 1 or 2, and a correctability/access score of 1-4.

Eleven (11) stream restoration projects were identified, with a total length of approximately 11,545 linear feet. **Table 3** provides a summary of cost, impervious acre credit, and load reduction for each stream restoration project identified.

TABLE 3: STREAM RESTORATION COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site ID	SCA Reach	Erosion length (ft)	Total Initial Cost	Total Cost Over 20 Years	Imperv-ious Credit (Acres)*	Cost Per Impervious Credit	Load Reduction (lbs/yr)		
							TN	TP	TSS
SR_1	R022	130	$97,393	$124,301	2.6	$47,808	9.8	8.8	32,240.0
SR_2	R173	3,856	$2,888,823	$3,686,945	77.12	$47,808	289.2	262.2	956,288.0
SR_3	R165	230	$172,311	$219,916	4.6	$47,808	17.3	15.6	57,040.0
SR_4	R137, R141	2025	$1,517,082	$1,936,219	40.5	$47,808	151.9	137.7	502,200.0
SR_5	R126	103	$77,165	$98,484	2.06	$47,808	7.7	7.0	25,544.0
SR_6	R123	80	$59,935	$76,492	1.6	$47,808	6.0	5.4	19,840.0
SR_7	R105	1485	$1,112,527	$1,419,894	29.7	$47,808	111.4	101.0	368,280.0
SR_8	R107	770	$576,865	$736,241	15.4	$47,808	57.8	52.4	190,960.0
SR_9	R088	1,585	$1,187,444	$1,515,510	31.7	$47,808	118.9	107.8	393,080.0
SR_10	R043	996	$746,179	$952,333	19.92	$47,808	74.7	67.7	247,008.0
SR_11	R057	285	$213,516	$272,504	5.7	$47,808	21.4	19.4	70,680.0
Total		**11,545**	**$8,649,240**	**$11,038,839**	**230.9**	**$47,808**	**865.9**	**785.1**	**2,863,160.0**

*Impervious credit calculated with planning rate. Actual site-specific impervious credit may be higher.

Reforestation

A search for potential reforestation sites was conducted during the SCA assessment performed in February and March 2020.

Nine (9) reforestation sites were identified, totaling 3.92 acres. These sites mostly consisted of open areas available for planting adjacent to stream reaches without an adequate 50-100-foot riparian buffer.

Table 4 provides a summary of cost, impervious acre credit, and load reduction for each reforestation project identified:

TABLE 4: REFORESTATION SITE COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site ID	SCA Reach ID	Property Type	Area (acres)	Total Initial Cost	Total Cost Over 20 Years	Imperv-ious Credit	Cost Per Impervious Credit	Load Reduction (lbs/year)		
								TN	TP	TSS
TP_1	R043	Private	0.17	$2,216	$3,842	0.24	$16,029	2.43	0.43	399.33
TP_2	R053	Private	0.49	$6,389	$11,075	0.69	$16,030	28.73	5.04	4,416.12
TP_3	R065	Private	0.25	$3,260	$5,018	0.35	$14,234	3.58	0.63	587.25
TP_4	R065	Private and Public	1.78	$23,207	$40,230	2.46	$16,350	25.45	4.50	4,181.22
TP_5	R075	Public and Private	0.38	$4,954	$8,588	0.54	$16,029	5.43	0.96	892.62
TP_6	R107	Private	0.07	$913	$1,582	0.10	$16,031	1.00	0.18	164.43
TP_7	R108	Private	0.31	$4,014	$7,007	0.44	$16,030	4.43	0.78	728.19
TP_8	R125	Private	0.33	$4,303	$7,458	0.42	$17,578	4.72	0.83	775.17
TP_9	R146	Private	0.14	$1,825	$3,165	0.20	$16,031	2.00	0.35	328.86
Total			**3.92**	**$51,081**	**$87,965**	**5.44**	**$16,179**	**77.78**	**13.72**	**12,473.19**

Rain Barrel

Rain barrels were recommended in neighborhoods that had downspouts directed to impervious surfaces and that had enough space for the barrel to be installed at one or more of the house's downspouts.

A total of ten neighborhoods were found to be good candidates for rain barrel installations.

Table 5 provides an impervious credit and associated cost by NSA neighborhood:

TABLE 5: RAIN BARREL IMPERVIOUS CREDIT AND COST BY NEIGHBORHOOD

NSA Neighbor-hood ID	Number of Houses	Average Roof Size (sq ft)	Total Roof Area (sq ft)*	Number of Rain Barrels**	Impervious Credit (ac)	Cost to Neighborhood	Cost to City
5	57	871.2	14,897.5	34	0.05	$2,907	$1,454
7	37	1,306.8	14,505.5	22	0.03	$1,887	$944
8	90	1,306.8	35,283.6	54	0.08	$4,590	$2,295
11	300	871.2	78,408.0	180	0.28	$15,300	$7,650
12	200	1,742.4	104,544.0	120	0.18	$10,200	$5,100
13	900	1,306.8	352,836.0	540	0.83	$45,900	$22,950
16	400	1,306.8	156,816.0	240	0.37	$20,400	$10,200
17	600	1,306.8	235,224.0	360	0.55	$30,600	$15,300
19	500	653.4	98,010.0	300	0.46	$25,500	$12,750
26	200	2,613.6	156,816.0	120	0.18	$10,200	$5,100
			Total	**1,970**	**3.01**	**$167,484**	**$83,742**

* Assumed 30% homeowner participation in each neighborhood.

** Assumed 2 rain barrels per house.

Rain Gardens

Rain gardens were recommended in neighborhoods that had adequate space down gradient from the house's downspouts for installation of a rain garden.

A total of ten neighborhoods were found to be good candidates for rain garden installations.

Table 6 provides an impervious credit and associated cost by NSA neighborhood:

TABLE 6: RAIN GARDEN IMPERVIOUS CREDIT AND COST PER NEIGHBORHOOD

NSA Neighbor-hood ID	Number of Houses	Average Roof Size (sq ft)	Total Roof Area (sq ft)*	Average Rain Garden (sq ft)**	Total Impervious Credit (ac)	Average Cost Per Garden	Cost Per Neighbor-hood	Cost to City
5	57	871.2	4,966	54.5	0.06	$1,361	$7,759	$3,880
7	37	1,306.8	4,835	81.7	0.06	$2,042	$7,555	$ 3,777
8	90	1,306.8	11,761	81.7	0.14	$2,042	$18,377	$9,188
11	300	871.2	26,136	54.5	0.30	$1,361	$40,838	$20,419
12	200	1,742.4	34,848	108.9	0.40	$2,723	$54,450	$27,225
13	900	1,306.8	117,612	81.7	1.35	$2,042	$183,769	$91,884
16	400	1,306.8	52,272	81.7	0.60	$2,042	$81,675	$40,838
17	600	1,306.8	78,408	81.7	0.90	$2,042	$122,513	$61,256
19	500	653.4	32,670	40.8	0.38	$1,021	$51,047	$25,523
26	200	2,613.6	52,272	163.4	0.60	$4,084	$81,675	$40,838
				Total	**4.77**	**$20,759**	**$649,657**	**$324,828**

* Assumed 10% homeowner participation in each neighborhood and rain garden will receive runoff from only half of each roof.

** Size calculations assume an average depth of 8 inches and one-inch rainfall depth treated.

IX. Develop List of Specific Projects to be Implemented for Restoration and Identify on the Restoration Activity Schedule

At this time, the City has selected some projects as listed in the Phase II MS4 Restoration Activity Schedule (**Appendix B** of this report). Additional potential projects are listed in Section VIII of this report; as well as in Section 4 (Potential Water Quality Improvement Projects) of the *Watershed Assessment and Restoration Plan* (Included in *FY 2020 Phase II MS4 Annual Report*).

X. Incorporate Future Growth Agency-Wide/Jurisdiction-Wide Master Plans into Restoration Planning Efforts

The City will continue to require that all future growth and development adhere to current MDE sediment and stormwater regulations. The City will require full treatment of all new development and impervious surfaces.

XI. Evaluate and Refine Budget Needs for Project Implementation

The City is currently working on an agreement with Harford County that allows a portion of the taxes paid to the County within City limits to be used by the City for stormwater retrofits and improvements. These stormwater improvements will be used to fund a portion of the City's 20% restoration requirement.

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 2

APPENDIX A

BMP FACT SHEETS

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB00BMO000041
BMP Type	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	1999
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	16.60
Total Impervious Area (Acres)	6.81
Total Impervious Area within City Limits (Acres)	6.81
I	41.00
Rv	0.42
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	6.81	**Town Owned Impervious (Acres):**	6.81
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12
(Rv)*A

Rv = .05 + .009(I)

BMP ID Number	AB00BMO000150
BMP Type	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	30.85
Total Impervious Area (Acres)	17.08
Total Impervious Area within City Limits (Acres)	17.08
I	55.00
Rv	0.55
Runnoff Storage Volume (cf) (RS)	32670
P_E Treated by BMP (inches) (Pe)	0.50

Runoff Depth Treated per Impervious:

Q = (RS)*12
(IA)

Q	0.53

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.50	
Total Impervious (Acres):	17.08	**Town Owned Impervious (Acres):**	17.08
Impervious Acres Treated:		8.54	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB00BMP000030
BMP Type	Other - Water Quality Basin
BMP Type Code	XOTH
Plan Date	1999
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.95
Total Impervious Area (Acres)	0.78
Total Impervious Area within City Limits (Acres)	0.78
I	82.00
Rv	0.79
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.78	**Town Owned Impervious (Acres):**	0.78
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB00BMP000151
BMP Type	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	3.11
Total Impervious Area (Acres)	0.60
Total Impervious Area within City Limits (Acres)	0.60
I	19.00
Rv	0.22
Runnoff Storage Volume (cf) (RS)	Attributed to AB00BMP000152
P_E Treated by BMP (inches) (Pe)	

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):			
Total Impervious (Acres):	0.60	**Town Owned Impervious (Acres):**	0.60
Impervious Acres Treated:		N/A	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB00BMP000152
BMP Type	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	4.48
Total Impervious Area (Acres)	1.54
Total Impervious Area within City Limits (Acres)	1.54
I	34.00
Rv	0.36
Runnoff Storage Volume (cf) (RS)	11566
P_E Treated by BMP (inches) (Pe)	2.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	2.07

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		2.00	
Total Impervious (Acres):	1.54	**Town Owned Impervious (Acres):**	1.54
Impervious Acres Treated:		1.92	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12
(Rv)*A

Rv = .05 + .009(I)

BMP ID Number	AB00BMP000193
BMP Type	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	3.00
Total Impervious Area (Acres)	2.55
Total Impervious Area within City Limits (Acres)	2.55
I	85.00
Rv	0.82
Runnoff Storage Volume (cf) (RS)	2264
P_E Treated by BMP (inches) (Pe)	0.30

Runoff Depth Treated per Impervious:

Q = (RS)*12
(IA)

Q	0.24

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.30	
Total Impervious (Acres):	2.55	**Town Owned Impervious (Acres):**	2.55
Impervious Acres Treated:		0.77	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12 / (Rv)*A

Rv = .05 + .009(I)

NOTE: Additional information is needed to determine the treatment provided by this facility.

BMP ID Number	AB01BMP000118
BMP Type	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	46.18
Total Impervious Area (Acres)	6.19
Total Impervious Area within City Limits (Acres)	2.72
I	13.00
Rv	0.17
Runnoff Storage Volume (cf) (RS)	UNK
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = (RS)*12 / (IA)

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	6.19	**Town Owned Impervious (Acres):**	2.72
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB01BMP000124
BMP Type	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	6.63
Total Impervious Area (Acres)	3.13
Total Impervious Area within City Limits (Acres)	3.13
I	47.00
Rv	0.47
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	3.13	**Town Owned Impervious (Acres):**	3.13
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12 / (Rv)*A

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB02BMP000016
BMP Type	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.49
Total Impervious Area (Acres)	4.33
Total Impervious Area within City Limits (Acres)	4.33
I	79.00
Rv	0.76
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = (RS)*12 / (IA)

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	4.33	**Town Owned Impervious (Acres):**	4.33
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12 / (Rv)*A

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB03BMP000012
BMP Type	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	2.09
Total Impervious Area (Acres)	1.39
Total Impervious Area within City Limits (Acres)	1.39
I	66.00
Rv	0.64
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = (RS)*12 / (IA)

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	1.39	**Town Owned Impervious (Acres):**	1.39
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB03BMP000139
BMP Type	Oil Grit Separator
BMP Type Code	XOGS
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.65
Total Impervious Area (Acres)	0.00
Total Impervious Area within City Limits (Acres)	0.00
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.00	**Town Owned Impervious (Acres):**	0.00
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12 / (Rv)*A

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB03BMP000183
BMP Type	UNK
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	7.25
Total Impervious Area (Acres)	3.99
Total Impervious Area within City Limits (Acres)	3.99
I	55.00
Rv	0.55
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = (RS)*12 / (IA)

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	3.99	**Town Owned Impervious (Acres):**	3.99
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

$$Pe = \frac{(RS)*12}{(Rv)*A}$$

Rv = .05 + .009(I)

BMP ID Number	AB03BMP000184
BMP Type	Multiple Pond System
BMP Type Code	PMPS
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	17.38
Total Impervious Area (Acres)	4.18
Total Impervious Area within City Limits (Acres)	4.18
I	24.00
Rv	0.27
Runnoff Storage Volume (cf) (RS)	41077
P_E Treated by BMP (inches) (Pe)	2.40

Runoff Depth Treated per Impervious:

$$Q = \frac{(RS)*12}{(IA)}$$

Q	2.71

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		2.40	
Total Impervious (Acres):	4.18	**Town Owned Impervious (Acres):**	4.18
Impervious Acres Treated:		5.64	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

$$Pe = \frac{(RS)*12}{(Rv)*A}$$

Rv = .05 + .009(I)

NOTE: Additional information is needed to determine the treatment provided by this facility.

BMP ID Number	AB03BMP000186
BMP Type	Submerged Gravel Wetland
BMP Type Code	MSGW
Plan Date	UNK
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	10.37
Total Impervious Area (Acres)	6.26
Total Impervious Area within City Limits (Acres)	6.26
I	60.00
Rv	0.59
Runnoff Storage Volume (cf) (RS)	UNK
P_E Treated by BMP (inches) (Pe)	

Runoff Depth Treated per Impervious:

$$Q = \frac{(RS)*12}{(IA)}$$

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):			
Total Impervious (Acres):	6.26	**Town Owned Impervious (Acres):**	6.26
Impervious Acres Treated:			

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

$$Pe = \frac{(RS)*12}{(Rv)*A}$$

$Rv = .05 + .009(I)$

NOTE: Additional information is needed to determine the treatment provided by this facility.

BMP ID Number	AB04BMP000049
BMP Type	UNK
BMP Type Code	XDED
Plan Date	Before 1999
BMP Inspection Status	Fail
GIS Drainage Area (Acres)	13.70
Total Impervious Area (Acres)	5.60
Total Impervious Area within City Limits (Acres)	5.60
I	41.00
Rv	0.42
Runnoff Storage Volume (cf) (RS)	UNK
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

$$Q = \frac{(RS)*12}{(IA)}$$

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	5.60	**Town Owned Impervious (Acres):**	5.60
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000052
BMP Type	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.23
Total Impervious Area (Acres)	0.52
Total Impervious Area within City Limits (Acres)	0.52
I	10.00
Rv	0.14
Runnoff Storage Volume (cf) (RS)	9652
P_E Treated by BMP (inches) (Pe)	2.60

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	5.16

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		2.60	
Total Impervious (Acres):	0.52	**Town Owned Impervious (Acres):**	0.52
Impervious Acres Treated:		0.72	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB04BMP000053
BMP Type	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	4.73
Total Impervious Area (Acres)	0.01
Total Impervious Area within City Limits (Acres)	0.01
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.01	**Town Owned Impervious (Acres):**	0.01
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB04BMP000054
BMP Type	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.72
Total Impervious Area (Acres)	0.08
Total Impervious Area within City Limits (Acres)	0.08
I	11.00
Rv	0.15
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.08	**Town Owned Impervious (Acres):**	0.08
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB04BMP000055
BMP Type	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.47
Total Impervious Area (Acres)	0.00
Total Impervious Area within City Limits (Acres)	0.00
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.00	**Town Owned Impervious (Acres):**	0.00
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000109
BMP Type	Infiltration Trench
BMP Type Code	ITRN
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	1.53
Total Impervious Area (Acres)	1.37
Total Impervious Area within City Limits (Acres)	1.37
I	89.00
Rv	0.85
Runnoff Storage Volume (cf) (RS)	2465
P_E Treated by BMP (inches) (Pe)	0.50

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.50

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.50	
Total Impervious (Acres):	1.37	**Town Owned Impervious (Acres):**	1.37
Impervious Acres Treated:		0.69	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12
(Rv)*A

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000110
BMP Type	Underground Filter
BMP Type Code	FUND
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.19
Total Impervious Area (Acres)	0.17
Total Impervious Area within City Limits (Acres)	0.17
I	90.00
Rv	0.86
Runnoff Storage Volume (cf) (RS)	960
P_E Treated by BMP (inches) (Pe)	1.60

Runoff Depth Treated per Impervious:

Q = (RS)*12
(IA)

Q	1.57

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		1.60	
Total Impervious (Acres):	0.17	**Town Owned Impervious (Acres):**	0.17
Impervious Acres Treated:		0.19	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

$$Pe = \frac{(RS)*12}{(Rv)*A}$$

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000111
BMP Type	Underground Filter
BMP Type Code	FUND
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.23
Total Impervious Area (Acres)	0.21
Total Impervious Area within City Limits (Acres)	0.21
I	90.00
Rv	0.86
Runnoff Storage Volume (cf) (RS)	960
P_E Treated by BMP (inches) (Pe)	1.40

Runoff Depth Treated per Impervious:

$$Q = \frac{(RS)*12}{(IA)}$$

Q	1.29

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		1.40	
Total Impervious (Acres):	0.21	**Town Owned Impervious (Acres):**	0.21
Impervious Acres Treated:		0.23	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

$$Pe = \frac{(RS)*12}{(Rv)*A}$$

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000147
BMP Type	Dry Swale
BMP Type Code	ODSW
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.31
Total Impervious Area (Acres)	0.10
Total Impervious Area within City Limits (Acres)	0.10
I	32.00
Rv	0.34
Runnoff Storage Volume (cf) (RS)	399
P_E Treated by BMP (inches) (Pe)	1.00

Runoff Depth Treated per Impervious:

$$Q = \frac{(RS)*12}{(IA)}$$

Q	1.10

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		1.00	
Total Impervious (Acres):	0.10	**Town Owned Impervious (Acres):**	0.10
Impervious Acres Treated:		0.10	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12 / (Rv)*A

Rv = .05 + .009(I)

NOTE: Additional information is needed to determine the treatment provided by this facility.

BMP ID Number	AB04BMP000200
BMP Type	Bioretention
BMP Type Code	FBIO
Plan Date	UNK
BMP Inspection Status	Fail
GIS Drainage Area (Acres)	21.61
Total Impervious Area (Acres)	17.24
Total Impervious Area within City Limits (Acres)	17.24
I	80.00
Rv	0.77
Runnoff Storage Volume (cf) (RS)	UNK
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = (RS)*12 / (IA)

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	17.24	**Town Owned Impervious (Acres):**	17.24
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB05BMP000046
BMP Type	Impervious Surface Elimination (to pervious)
BMP Type Code	IMPP
Plan Date	2005
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.09
Total Impervious Area (Acres)	0.09
Total Impervious Area within City Limits (Acres)	0.09
I	100.00
Rv	0.95
Runnoff Storage Volume (cf) (RS)	N/A
P_E Treated by BMP (inches) (Pe)	

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):			
Total Impervious (Acres):	0.09	**Town Owned Impervious (Acres):**	0.09
Impervious Acres Treated:			

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = (RS)*12 / (Rv)*A

Rv = .05 + .009(I)

NOTE: This BMP does not provide water quality treatment.

BMP ID Number	AB05BMP000084
BMP Type	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	1997
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	10.39
Total Impervious Area (Acres)	5.88
Total Impervious Area within City Limits (Acres)	5.56
I	57.00
Rv	0.56
Runnoff Storage Volume (cf) (RS)	0
P_E Treated by BMP (inches) (Pe)	0.00

Runoff Depth Treated per Impervious:

Q = (RS)*12 / (IA)

Q	0.00

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.00	
Total Impervious (Acres):	5.88	**Town Owned Impervious (Acres):**	5.56
Impervious Acres Treated:		0.00	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB05BMP000102
BMP Type	Bioretention
BMP Type Code	FBIO
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.66
Total Impervious Area (Acres)	0.65
Total Impervious Area within City Limits (Acres)	0.65
I	98.00
Rv	0.93
Runnoff Storage Volume (cf) (RS)	448
P_E Treated by BMP (inches) (Pe)	0.20

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.19

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.20	
Total Impervious (Acres):	0.65	**Town Owned Impervious (Acres):**	0.65
Impervious Acres Treated:		0.13	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB05BMP000148
BMP Type	Dry Swale
BMP Type Code	ODSW
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.78
Total Impervious Area (Acres)	0.15
Total Impervious Area within City Limits (Acres)	0.15
I	19.00
Rv	0.22
Runnoff Storage Volume (cf) (RS)	460
P_E Treated by BMP (inches) (Pe)	0.70

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	0.87

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		0.70	
Total Impervious (Acres):	0.15	**Town Owned Impervious (Acres):**	0.15
Impervious Acres Treated:		0.10	

CITY OF ABERDEEN
NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM PROGRAM
BMP FACT SHEET

Date: 10/08/2020

Pe Addressed Calculation:

Pe = $\frac{(RS)*12}{(Rv)*A}$

Rv = .05 + .009(I)

BMP ID Number	AB05BMP000167
BMP Type	Extended Detention Structure, Wet
BMP Type Code	PWED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.38
Total Impervious Area (Acres)	1.21
Total Impervious Area within City Limits (Acres)	1.21
I	23.00
Rv	0.26
Runnoff Storage Volume (cf) (RS)	7492
P_E Treated by BMP (inches) (Pe)	1.50

Runoff Depth Treated per Impervious:

Q = $\frac{(RS)*12}{(IA)}$

Q	1.70

Impervious Area Treated Calculation:

If P_E is less than or equal to 1, then:

Impervious Acres x *PE Treated by BMP* = *Impervious Acres Treated*

If P_E is greater than 1, then:

$$\left[Impervious\ Acres \times \frac{(PE\ Treated\ by\ BMP - 1)}{0.4} \times 0.1\right] + Impervious\ Acres = Impervious\ Acres\ Treated$$

Construction Purpose:		Baseline	
P_E Treated by BMP (inches):		1.50	
Total Impervious (Acres):	1.21	**Town Owned Impervious (Acres):**	1.21
Impervious Acres Treated:		1.36	

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 2

APPENDIX B

PHASE II MS4 RESTORATION ACTIVITY SCHEDULE

Phase II MS4 Restoration Activity Schedule

Total Acreage (988.51); Impervious Acre Baseline (968.12); 20% Restoration Target (193.62 acres)

Type of Restoration Project	BMP Code[1]	BMP ID (Optional)	Cost ($K)[2]	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status[3]	Year Complete or Projected Implementation Year (by 2025)	MD Grid Coordinates (Northing/Easting)	
					193.624				
Stream Restoration	STRE	SR_2	2,888,823	77.12	116.504	P	2025	206954.018	470254.858
Tree Planting	FPU	TP_4	23,207	2.46	114.044	P	2025	204004.485	471344.683
Tree Planting	FPU	TP_5	4,954	0.54	113.504	P	2025	204387.721	472530.133

[1] See Appendix B, Tables B.1.a,b, and c, Urban BMP Database. BMP codes are identified under "MDE BMP Classification"
[2] Provide cost at project completion
[3] Project Status: Enter P for planning and design, UC for under construction, and C for complete

Enter Impervious Acreage Baseline	968.12
20% Impervious Acre Target Calulated	193.624

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT I-2

WATERSHED ASSESSMENT AND RESTORATION PLAN YEAR 2

CITY OF ABERDEEN

WATERSHED ASSESSMENT AND RESTORATION PLAN

SEPTEMBER | 2020

PREPARED FOR

City of Aberdeen

60 N. Parke Street

Aberdeen, MD 21001

PREPARED BY

KCI Technologies, Inc.

936 Ridgebrook Road

Sparks, MD 21152

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LIST OF ACRONYMS

BMP	Best Management Practices
EPA	U.S. Environmental Protection Agency
GPS	Global Positioning System
MDE	Maryland Department of the Environment
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
SPSC	Step Pool Storm Conveyance
SCA	Stream Corridor Assessment
SW-WLA	Stormwater Wasteload Allocation
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids

1 INTRODUCTION

1.1 BACKGROUND

The City of Aberdeen has initiated a watershed assessment in response to requirements set forth by the Maryland Department of the Environment (MDE) in the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s; 13-IM-5500, MDR055500), issued on October 31, 2018 (MDE, 2018). The assessments described in this report support the City's goals for healthy watersheds and natural resources, and also support progress towards satisfying several regulatory and permit requirements. The assessments provide the next step in the planning process specifically for the urban stormwater sector regulated by the NPDES permit. The watershed assessment, through desktop and field assessment, identify watershed conditions and specific restoration solutions to meet the City's watershed restoration goals.

1.2 STUDY AREA DESCRIPTION

The City of Aberdeen is the largest municipality in Harford County, Maryland, and is located in the southeastern side of the County just north of Aberdeen Proving Grounds (**Figure 1**). The City falls within three distinct 8-digit watersheds. The northeastern portion of the City is part of the Swan Creek watershed and includes Carsins Run to the west, which flows into the mainstem Swan Creek, which flows southeast to the Chesapeake Bay. The southwestern portion of the City is part of the Bush River watershed and includes several tributaries to Church Creek, which flows south into the Bush River. Finally, several small tributary streams in the Aberdeen Proving Ground watershed of the Bush River fall within the southern portion of the Aberdeen boundary. The City of Aberdeen is bisected by both Pulaski Highway (Route 40) and Interstate 95 (**Figure 2**).

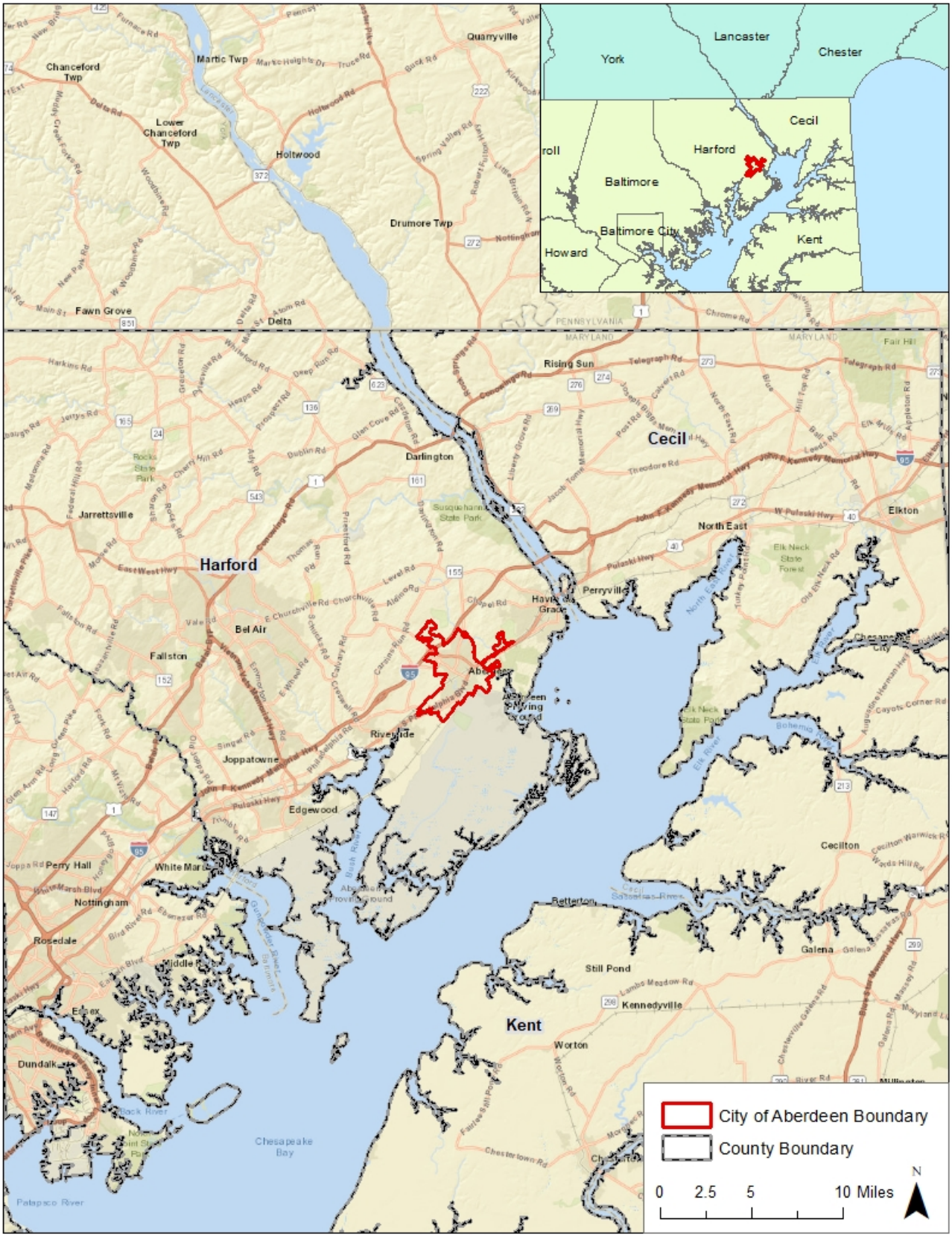


FIGURE 1: STUDY AREA LOCATION MAP

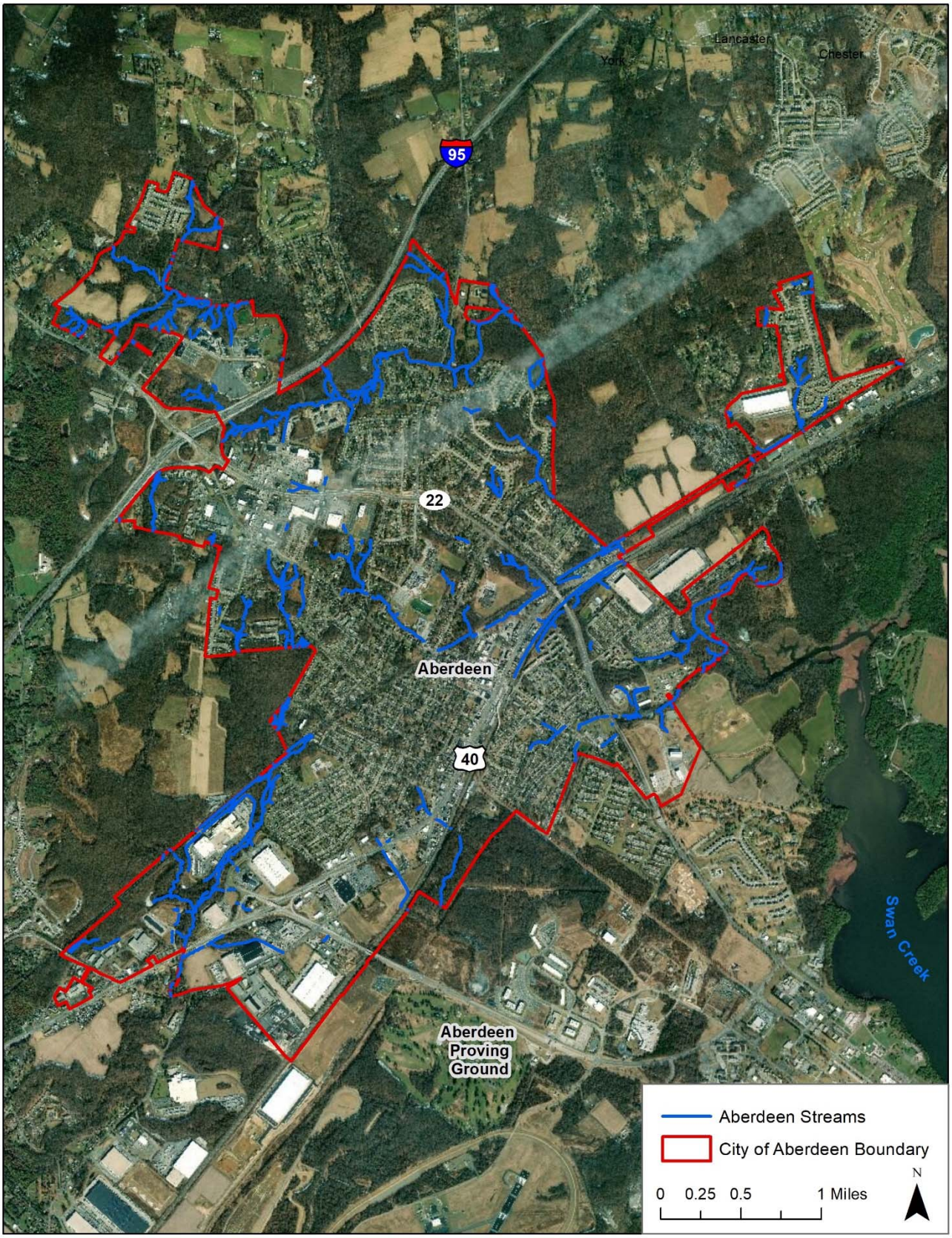


FIGURE 2: CITY OF ABERDEEN LOCATION

1.3 Impervious Restoration Goals

As a requirement of the NPDES small Municipal Separate Storm Sewer System (MS4) Discharge Permit issued by MDE to small MS4s, the City of Aberdeen must treat 20% of remaining baseline untreated impervious acres by 2025. Impervious accounting methodology is included in *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2019). Untreated impervious includes those areas where stormwater practices provide less than the current Maryland standard water quality volume for runoff from 1" of rainfall. The City of Aberdeen has completed an Impervious Area Restoration Work Plan, which outlines the requirements for restoration activities and begins to outline the suite of Best Management Practices (BMPs) required to meet the 20% impervious surface restoration goal.

The assessments described in this report are designed to rapidly assess the current conditions of stream corridors and upland areas throughout the City. The goal of this effort is to identify and develop conceptual designs and planning level cost estimates for restoration opportunities such as stream restoration, tree planting, and stormwater management retrofits to achieve cost-effective impervious treatment. Section 5.2 of this report describes the impervious credit associated with these recommended projects.

2 Watershed Assessment Methods

Stream corridor assessments (SCA) were conducted in the City of Aberdeen in February and March 2020. The assessments required permission to access streams on private property. Target stream sites were identified, and the property owners were sent property access permission letters. No landowners denied access to their properties; therefore, all properties targeted for assessments were able to be accessed as part of this effort.

2.1 Upland Assessment

Upland areas in the watershed were assessed to locate potential pollution sources that could influence water quality and to identify opportunities for restoration projects. This assessment was conducted according to the Unified Subwatershed and Site Reconnaissance (USSR) Manual developed by the Center for Watershed Protection (Wright et al., 2005). This manual provides detailed guidance for watershed groups, municipal staff and consultants to quickly identify major sources of stormwater pollution and to assess restoration potential for source controls, pervious area management and improved municipal maintenance (e.g., education, retrofits, street sweeping, open space management, etc.).

This section outlines two major components of the USSR:

- Neighborhood Source Assessment (NSA)
- Hotspot Site Investigation (HSI)

Each of these components is described in detail in the following sections.

2.1.1 Neighborhood Source Assessment

A Neighborhood Source Assessment (NSA) reconnaissance was conducted in residential neighborhood areas to evaluate pollution-producing behaviors. The NSA rates the potential severity and type of non-point source pollution from residential behaviors. It also provides an assessment of the influence of imperviousness for each site by providing an estimate of whether roof drainage is directed to cisterns, storm drains, impervious areas or pervious areas and the percent of driveways in the neighborhood that are impervious.

Prior to conducting NSAs in the field, neighborhoods were delineated in the office using GIS data, including parcel data and aerial photographs. Neighborhoods were delineated and categorized based on groups of homes with similar characteristics such as house type (single family, townhouse, etc.) lot size, age of development, and lot characteristics (majority lawn, forested, etc.). These neighborhoods were then verified in the field.

The field team drove through every street in each selected neighborhood to identify potential pollution sources and restoration opportunities. General information was collected in each neighborhood for yards and lawns; driveways, sidewalks, and curbs; rooftop runoff; and common areas. These are each described briefly below.

Yards and Lawns

In suburban residential areas, lawns typically represent a large portion of the pervious cover and can be a major source of pollutants such as pesticides and nutrients. Potential pollution sources evaluated by field teams under this category include grass cover and management status (i.e. fertilization and irrigation methods), bare soils, swimming pools and trash in yards. Existing tree cover and landscaping in each neighborhood was also noted to evaluate the potential to expand these areas to intercept additional stormwater runoff.

Driveways, Parking Lots, Sidewalks and Curbs

The presence of driveways, sidewalks and curbs was noted for each neighborhood assessed. Information was collected for potential or existing pollution sources from these areas such as stained or dirty driveways, lawn clippings or leaves on sidewalks, pet waste, trash and/or debris along curbs and long term car parking (i.e. unused cars can potentially leak oil and other pollutants).

Rooftops

Rooftops that are directly connected to other impervious surfaces through downspouts can contribute pollutants directly to stream systems. Disconnecting rooftops through downspout retrofits can reduce this potential source of pollution. In each neighborhood field teams estimated the percentage of downspouts discharging to impervious surfaces and evaluated the potential for implementing downspout retrofits.

Common Areas

Common areas within neighborhoods and in public parks are a good place to evaluate community behaviors such as pet waste disposal, trash dumping, storm drain marking, and buffer management. Field teams noted the condition of common areas, the activities occurring there that could be a potential source of pollution, and opportunities for tree plantings.

Upon completion of the Neighborhood Source Assessments, specific actions were identified based on the overall assessment. Potential actions that result in restoration credit for the City of Aberdeen generally include:

- Downspout disconnection
- Rain gardens
- Rain barrels
- Conservation landscaping
- Tree planting

Once all of the above neighborhood information was compiled, the final step of the NSA was to rate the overall neighborhood pollution severity and restoration potential. The severity of pollution generated by a neighborhood is denoted by the Pollution Severity Index (PSI). There are up to 14 potential pollution sources rated. Neighborhoods are given PSI ratings of severe (7 or more sources), high (4 to 6), moderate (2 to 3), or low (0 to 1).The neighborhood's potential for restoration projects is also rated with the Restoration Opportunity Index (ROI) in a similar fashion, with nine potential opportunities. These are assigned a rating of high (5 or more), moderate (3 to 4), or low (0 to 2).

2.1.2 Hotspot Site Investigations

Stormwater hotspots are areas that have potential to generate higher concentrations of stormwater pollutants than typically found in urban runoff and/or have a higher risk of spills, leaks, or illicit discharges due to the nature of their operations (Wright et al., 2005). These generally include commercial, industrial, government, or transport-related operations. Stormwater pollutants generated as a result of hotspot operations depend on the specific site activities, but typically include nutrients, hydrocarbons, metals, chloride, pesticides, bacteria, and trash.

Commercial hotspots include a range of businesses and activities. Operations characteristic of commercial hotspots include waste or wash water generation, outdoor material storage, fuel handling, or vehicle repair. Common commercial hotspots include auto repair shops, car dealers, car washes, parking facilities, gas stations, marinas, garden centers, construction equipment and building material lots, community swimming pools, and restaurants.

Industrial operations utilize, generate, handle, and/or store pollutants that can be washed off with stormwater, spilled, or mistakenly discharged into the storm drain. Many industrial hotspots are regulated under National Pollution Discharge Elimination System (NPDES) industrial discharge permits. Like industrial operations, many government hotspots are subject to NPDES stormwater permits. Many are regulated and include uses such as airports, ports, highway construction, and trucking centers.

The purpose of the HSI is to evaluate pollution potential from hotspot operations and identify potential restoration practices that may be necessary.

The HSI assessment was conducted at locations identified in the office from aerial photography and mapping layers in GIS, and was targeted towards business, commercial, and industrial sites. The HSIs were focused on unregulated hotspots since regulated hotspots are previously known pollutant sources. Regulated stormwater hotspots are already subject to NPDES permit regulations.

While hotspots have unique operations, drainage systems, and pollutant-related risks, stormwater quality problems can be characterized and evaluated by operations and activities common to most hotspots. The HSI provides an evaluation of six common operations at each potential hotspot: vehicle operations, outdoor materials, waste management, physical plant, turf/landscaping, and stormwater infrastructure. The field team visited each potential hotspot to determine water quality impacts and restoration opportunities. These six categories were used to standardize the HSI process and to be able to prioritize potential restoration efforts. These categories are described briefly below.

Vehicle Operations

Vehicle operations include maintenance, repair, recycling, fueling, washing or long-term parking. The presence of any of these activities was noted for each site since they can be a major source of metals, oil and grease, and hydrocarbons. Outdoor activities including vehicle storage, repair, fueling, and washing were also noted as potential pollution sources.

Outdoor Materials

Stormwater quality issues result from improper handling or storage of outdoor materials at hotspots. Locations where materials were loaded or unloaded were examined to see if they were uncovered and draining to a storm drain inlet. Storage areas were also evaluated for types of materials stored outdoors and their potential for entering the storm drain system. The field team looked for improperly labeled storage containers, lack of secondary containment for liquids, and whether the storage area was directly or indirectly connected to the storm drain system. If any of these were observed, they were marked as potential pollution sources.

Waste Management

Every hotspot generates waste as a result of daily operations that can be potentially hazardous or a source of stormwater pollution depending on the type of waste and how it is stored. The field team noted the type of waste generated (e.g., hazardous, garbage, etc.) and the condition of dumpsters. Dumpsters with no cover or open lids, with leaks, damaged/in poor condition, and/or overflowing were noted as potential pollution sources. Dumpsters located near storm drain inlets or lacking runoff diversion methods were also recorded as potential pollution sources.

Physical Plant

Common physical plant practices include cleaning, maintaining, or repairing the building, outdoor work areas, and parking lots. For each hotspot, the condition of the building itself was evaluated. Similarly, parking lots that were stained, dirty, breaking up, and/or impervious were recorded as potential pollution sources.

Turf/Landscaping

Ground maintenance activities for turf/landscaped areas were also evaluated at hotspot sites. High turf management and improper irrigation practices were noted since they are potential pollution sources of nutrients, fertilizer, and pesticides. The field team also determined whether landscaped areas drained directly to storm drains or if organics such as leaves and grass accumulated on impervious surfaces.

Stormwater Infrastructure

If stormwater treatment practices were not present, this was flagged as a potential pollution source. Private storm drains were also evaluated for pollution potential. Storm drains with considerable amounts of sediment, organics, and/or trash was identified as potential pollution sources. Opportunities for new stormwater treatment practices were noted and will be revisited during the Retrofit Reconnaissance Inventory (RRI).

For each operation on the HSI field form, there is an observed pollution source box that is checked when there is clear evidence of pollution problems at a site. One example would be washwater from an automotive or vehicle operations business being washed down into a storm drain, or oil and grease stains on the pavement. If applicable, one or more of the potential follow-up actions listed below were identified, based on field observations of a hotspot site:

- Refer for immediate enforcement
- Follow-up on-site inspection
- Test for illicit discharge
- Future education effort
- On-site non-residential retrofit
- Check to see if hotspot is an NPDES non-filer
- Pervious area restoration candidate
- Schedule a review of storm water pollution prevention plan

The overall pollution prevention potential for each hotspot site is assessed based on observed sources of pollution and the potential of the site to generate pollutants that would likely enter the storm drain network. There are up to 26 potential pollution sources rated in the assessment. Sites are classified into four hotspot severity categories:

- Not a Hotspot – no observed pollutant; less than 5 sources noted
- Potential – no observed pollution; 5 to 10 sources noted
- Confirmed – pollution observed; 10 to 15 sources noted
- Severe – multiple polluting activities directly observed, more than 15 sources noted

2.2 Stream Corridor Assessment

Stream corridor assessments (SCA) were conducted on all stream reaches within the City boundary, in order to assess the conditions of the stream corridors and identify potential restoration opportunities.

Field crews conducted stream field investigations using modified SCA protocols as outlined in *Stream Corridor Assessment Survey: SCA Survey Protocols* (Yetman, 2001). Slight modifications were made to the protocols to allow a more rapid assessment to quickly inventory important features and identify restoration opportunities. This allowed field crews to more quickly walk all stream reaches within the City limits. Property access permission letters were sent to all landowners within the target watershed with streams on their property. No landowners denied access to their properties, therefore all properties targeted for assessments were able to be accessed as part of this effort.

The field investigation consisted of a two-person team walking the stream channel and conducting a visual assessment to locate problem areas and assess their severity and correctability. The field team collected information on channel alteration, erosion, exposed utility pipes, drainage pipe outfalls, fish barriers, inadequate buffers, construction in or near the stream, trash dumping, and recorded any unusual conditions observed. Representative sites were selected at locations representative of each perennial stream or intermittent stream segment of significant size or flow. The general physical habitat condition was assessed at the representative sites using a modified version of the *U.S. Environmental Protection Agency's (EPA) Rapid Bioassessment Protocols* (Barbour et al., 1999). The assessment includes qualitative ratings for ten habitat parameters as well as information on wetted width, pool, run, and riffle depths, and channel substrate.

During the field assessment, points were given unique alphanumeric identifiers according to the stream reach and point type. This allowed each point to have a unique ID, for example, 001_IB001. A complete list of point types and corresponding alphanumeric identifiers used during the field assessments is included below:

- Erosion (ES)
- Exposed pipe (EP)
- Pipe outfall (PO)
- Fish barrier (FB)
- Trash dumping (TD)
- Channel alteration (CA)
- Unusual condition (UC)

Inadequate buffers (IB) are typically documented in stream corridor assessments. Since Aberdeen is highly urbanized, inadequate stream buffers are widespread due to urban encroachment and in most cases it would be impractical to reestablish forest due to the presence of development. As a result, individual inadequate buffer inventory points were not collected. Instead, feasible opportunities for tree planting projects were identified and documented.

Trash dumping (TD) was also ubiquitous across the study area, therefore every location was not documented. Instead, only trash dumping sites that were isolated and severe were recorded.

A GPS location was recorded, and a photograph was taken for each assessment point. Linear features (eroding banks and channel alteration) were documented with a GPS location at each end of the impact and a line feature was developed to better represent the full extent of the problem area. The assessment rated each feature on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. The results were then compiled into a database which will be used to identify and prioritize areas for restoration actions.

In addition to the basic SCA set of impacts and assessments, KCI added an inventory of Potential Best Management Practice (BMP) locations, in which the field crew could identify potential BMP types that could be implemented at any particular location. This reduced the need for additional field visits and property owner coordination. The potential BMP types included the following:

- Bioretention/raingarden
- Outfall stabilization/Step Pool Conveyance System (SPSC)
- Riparian buffer enhancement or replacement
- Stormwater management pond/pond retrofit
- Stream restoration
- Wetland creation

3 WATERSHED ASSESSMENT RESULTS

3.1 UPLAND ASSESSMENT

Upland assessments including both the NSA and HSI were completed between February 10 and March 9, 2020. Field crews assessed a total of 26 neighborhoods and 20 hotspots in the City of Aberdeen.

3.1.1 NEIGHBORHOOD SOURCE ASSESSMENT

A total of 26 neighborhoods were assessed in the City of Aberdeen (**Figure 3**). Neighborhoods consisted of a mix of single family detached, multifamily apartment complexes, single family attached, and mobile homes. In general, the assessed neighborhoods ranged from 10 to 110 years old. General characteristics of each neighborhood are presented in **Table 1**. A complete record of NSA data is included in **Appendix C**.

TABLE 1: GENERAL CHARACTERISTICS OF NEIGHBORHOODS ASSESSED

Site ID	Neighborhood / Subdivision	LU Type	Lot Size (acres)	Age (Decade)	Curb & Gutter	% Imper-vious	% Lawn	% Canopy
NSA-1	Eagle's Rest	Single Fam Detached	1/4	2010	Yes	50	50	0
NSA-2	The Yard's at Fieldside Village	Multifamily	<1/4	2010	Yes	90	10	0
NSA-3	Residences of Summerlin	Multifamily	<1/4	2005	Yes	80	20	0
NSA-4	The Osprey Apartments/ Cranberry Run Apartments	Multifamily	<1/4	1970	Yes	60	30	0
NSA-5	Pine Ridge Rental Homes	Single Fam Detached	<1/4	1950	Yes	40	60	0
NSA-6	Hillside Terrace Apartments	Multifamily	<1/4	2000	No	75	25	0
NSA-7	Bush Chapel Rd, Schofield Ave	Single Fam Detached	1/4	1930	No	50	45	0
NSA-8	Chapel Glen	Single Fam Detached	1/4	2000	Yes	75	25	0
NSA-9	Fairbrooke Apartments	Multifamily	<1/4	1990	Yes	90	5	0
NSA-10	Woodland Green Way, Woodland Green Ct	Single Fam Attached	1/4	1990	Yes	60	30	0
NSA-11	Plater St, Baltimore St	Single Fam Detached	1/4	1910	Yes	50	45	0
NSA-12	Baker St, Colaine Dr	Single Fam Detached	1/4	1950	Yes	50	30	0
NSA-13	Hillcrest Dr, Beards Hill Rd	Single Fam Detached	1/4	1950	Yes	40	50	0

Site ID	Neighborhood / Subdivision	LU Type	Lot Size (acres)	Age (Decade)	Curb & Gutter	% Imper-vious	% Lawn	% Canopy
NSA-14	Farm Rd, Greenbird Ln	Single Fam Attached	<1/4	1980	Yes	70	30	0
NSA-15	Burton Manor Apartments	Multifamily	<1/4	1980	Yes	75	20	0
NSA-16	Cambridge Ave, Avon Dr	Single Fam Detached	1/4	1950	Yes	30	60	0
NSA-17	Robinson Ave, Church Ln	Single Fam Detached	1/4	1910	Yes	40	45	0
NSA-18	Holly Dr, Holly Cir	Single Fam Attached	1/4	1970	Yes	70	30	0
NSA-19	Defense Dr, Darlington Ave	Singe Fam Detached	<1/4	1940	Yes	40	50	0
NSA-20	The Highlands	Single Fam Attached	1/4	2000	Yes	60	30	0
NSA-21	The Residences at Highlands Commons	Multifamily	<1/4	1960	Yes	70	30	0
NSA-22	Spring Valley Estates	Mobile Homes	<1/4	1940-1950	Yes	35	65	0
NSA-23	Old Post Apartments	Multifamily	<1/4	1970	Yes	70	30	0
NSA-24	Center Deen Ave, N. Deen Ave	Single Fam Attached	<1/4	1960	Yes	40	60	0
NSA-25	S. Deen Ave, Allendale Ave	Single Fam Detached	1/4	1950	Yes	40	60	0
NSA-26	Argonne Dr, Rock Glenn Rd	Single Fam Detached	1/4	2000	Yes	70	25	0

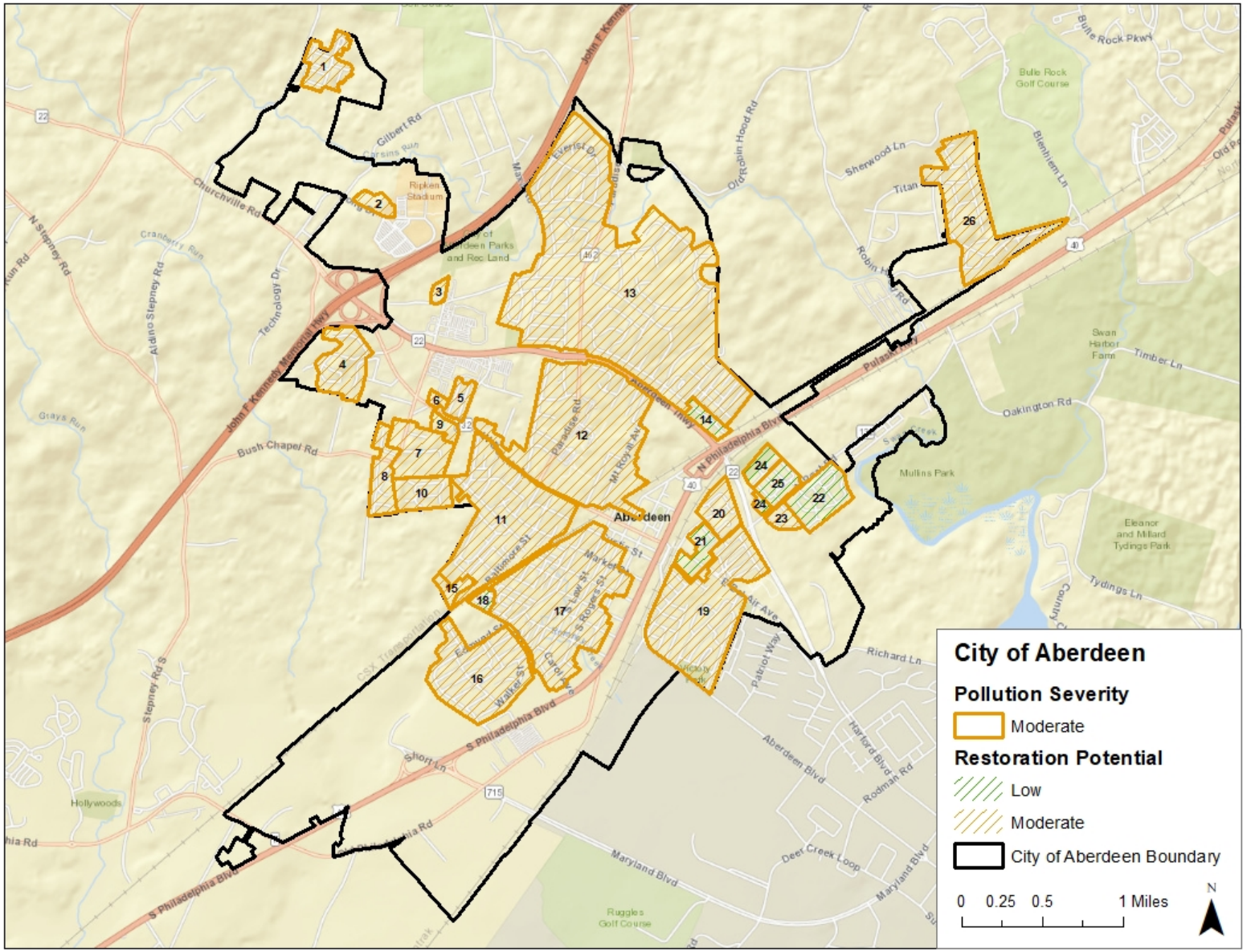


FIGURE 3: NEIGHBORHOOD SOURCE ASSESSMENT RESULTS

All 26 neighborhoods assessed received a 'moderate' pollution severity rating due to various examples of the potential for nutrient, bacteria, trash/litter and oil and grease pollution (**Table 2**). The restoration potential was rated as 'moderate' for all but six neighborhoods, which received a 'low' rating (**Table 2**).

The following sections describe the actions for the City of Aberdeen based on the NSA results. A description of the methods and criteria used to evaluate the potential for each action is provided. Most lots assessed had adequate space for rain barrels, rain gardens, and conservation landscaping. While overall lawn management was not high, there were opportunities for lawn management education. **Appendix C** includes a summary of NSA data collected and the actions needed for each individual neighborhood.

Conservation Landscaping

Conservation landscaping, or BayScaping, refers to the use of plants native to the Chesapeake Bay watershed for landscaping. Plants used in conservation landscaping are native to the region and therefore require less irrigation, fertilizers, and pesticides to maintain as compared to non-native or exotic plants. This means less stormwater pollution and lawn maintenance requirements.

Conservation landscaping was identified for implementation in neighborhoods where the lots were at least ¼ acre in size and where there was sufficient open grass area available to implement conservation landscaping. conservation landscaping was recommended in many neighborhoods (**Table 2**).

Stormwater Retrofits

Potential sites for stormwater management upgrades were identified in two neighborhoods (NSA-2 and 15). The most efficient method to augment stormwater treatment is to convert existing stormwater facilities to a design with greater pollutant removal capability, for example a dry detention pond to an extended detention pond or wetland. This is referred to as a stormwater pond conversion. Two ponds were identified as good candidates for further investigation by stormwater engineers to determine potential retrofit opportunities. Four neighborhoods (NSA-4, 6, 21, and 23) were identified as having ample space for new BMP opportunities.

Rain Barrels

Installation of rain barrels encourage the community to actively participate in cleaning up and taking ownership of the health of their watershed. Rain barrels capture runoff from roof surfaces, allowing homeowners to use the water later, reducing the amount of runoff to local streams.

Rain barrels were recommended in neighborhoods that had downspouts directed to impervious surfaces and that had enough space for rain barrels. Rain barrels were recommended in many neighborhoods (**Table** 2).

Rain Gardens

Installation of rain gardens encourages community involvement and awareness in watershed health. These gardens are depressions in the ground placed strategically to capture runoff from a downspout or other impervious surfaces and are planted with native plants, which soak up water while also providing food and habitat for wildlife.

Rain gardens were recommended in neighborhoods with enough available space down gradient of downspouts. Rain gardens were recommended in many neighborhoods (**Table 2**).

TABLE 2: NEIGHBORHOOD POLLUTION SEVERITY AND RESTORATION POTENTIAL

NSA Site ID	Neighborhood / Subdivision	Pollution Severity	Pollution Sources	Restoration Potential	Potential Action
NSA-1	Eagle's Rest	Moderate	Nutrients	Moderate	Conservation landscaping, several large existing wet ponds
NSA-2	The Yard's at Fieldside Village	Moderate	Nutrients, Bacteria	Moderate	Pond retrofit
NSA-3	Residences of Summerlin	Moderate	Nutrients, Bacteria	Moderate	None; Abundant BMPs present
NSA-4	The Osprey Apartments/ Cranberry Run Apartments	Moderate	Nutrients, Bacteria	Moderate	Several areas for potential BMPs
NSA-5	Pine Ridge Rental Homes	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-6	Hillside Terrace Apartments	Moderate	Nutrients, Oil and Grease	Moderate	Several areas for potential BMPs
NSA-7	Bush Chapel Rd, Schofield Ave	Moderate	Nutrients, Oil and Grease, Trash/Litter, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-8	Chapel Glen	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-9	Fairbrooke Apartments	Moderate	Nutrients, Bacteria	Moderate	None; SWM pond present
NSA-10	Woodland Green Way, Woodland Green Ct	Moderate	Nutrients, Bacteria	Moderate	None; Limited space, 1 BMP (filter) noted
NSA-11	Plater St, Baltimore St	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, conservation landscaping
NSA-12	Baker St, Colaine Dr	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-13	Hillcrest Dr, Beards Hill Rd	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping

NSA Site ID	Neighborhood / Subdivision	Pollution Severity	Pollution Sources	Restoration Potential	Potential Action
NSA-14	Farm Rd, Greenbird Ln	Moderate	Nutrients, Trash/Litter, Bacteria	Low	None; No room for BMPs
NSA-15	Burton Manor Apartments	Moderate	Nutrients	Moderate	Pond retrofit
NSA-16	Cambridge Ave, Avon Dr	Moderate	Nutrients	Moderate	Rain barrels, rain garden, conservation landscaping
NSA-17	Robinson Ave, Church Ln	Moderate	Nutrients	Moderate	Rain barrels, rain garden, conservation landscaping
NSA-18	Holly Dr, Holly Cir	Moderate	Nutrients, Trash/Litter	Low	None; No room for BMPs
NSA-19	Defense Dr, Darlington Ave	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain garden, conservation landscaping
NSA-20	The Highlands	Moderate	Nutrients, Bacteria	Moderate	None; SWM pond present
NSA-21	The Highlands Commons	Moderate	Nutrients, Bacteria	Low	New BMP opportunities
NSA-22	Spring Valley Estates	Moderate	Nutrients, Bacteria	Low	None; No room for BMPs
NSA-23	Old Post Apartments	Moderate	Nutrients, Bacteria	Moderate	New BMP opportunities
NSA-24	Center Deen Ave, N. Deen Ave	Moderate	Nutrients, Bacteria	Low	None; No room for BMPs
NSA-25	S. Deen Ave, Allendale Ave	Moderate	Nutrients, Trash/Litter, Bacteria	Low	None; No room for BMPs
NSA-26	Argonne Dr, Rock Glenn Rd	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain garden, conservation landscaping

3.1.2 HOTSPOT SITE INVESTIGATIONS

A total of 20 sites were investigated in the City of Aberdeen area (**Figure 4**). The location, general description, and common operations (i.e., vehicle operations, outdoor materials, waste management, physical plant, turf/landscaping) of each site investigated are presented in **Table 3**. A complete record of HSI data is included in **Appendix B**.

Of the 20 sites investigated, only two (HSI-7, HSI-15) were designated 'confirmed' as having high potential for discharging pollutants into stormwater runoff (**Table 3**). These sites had car washing activities observed or significant signs of poor washing practices. A total of 15 locations were designated as 'potential' hotspots (where there were activities that had the potential to be polluting but where no active pollution was found), while the remaining three sites were considered 'low' potential. Most sites had very limited room for new stormwater management facilities; five sites were noted as good opportunities for stormwater management retrofits (HSI-1, 6, 7, 16, 20). Specific recommendations for each site can be found in **Table 3**.

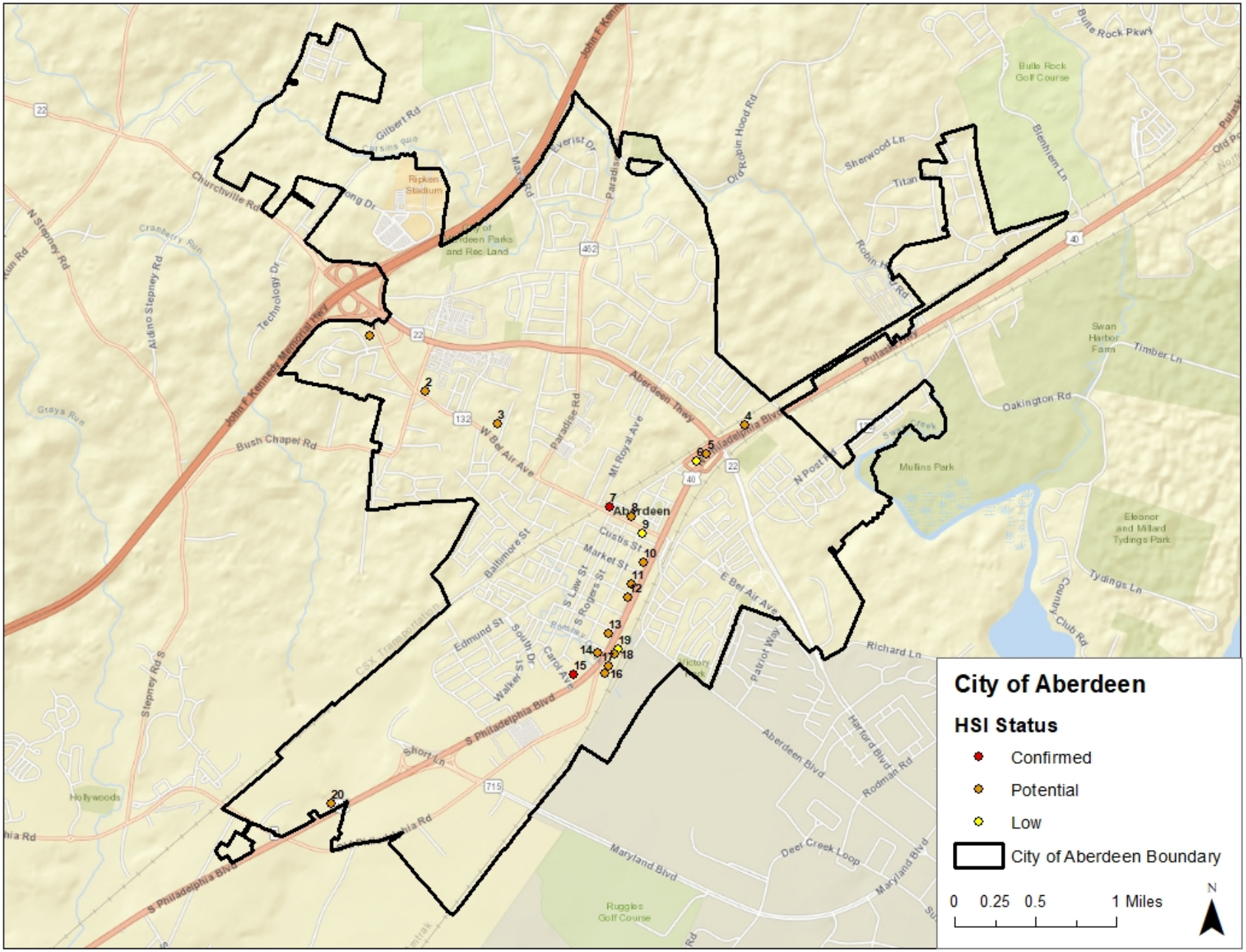


FIGURE 4: HOT SPOT INVESTIGATION RESULTS

TABLE 3: HOT SPOT INVESTIGATION LOCATIONS AND OPERATIONS

HSI Site ID	Location	Description	Vehicle Ops	Outdoor Materials	Waste Mgmt.	Physical Plant	Landscaping	HSI Status	Potential Action/Notes
HSI-1	Travelodge Hotel	hotel	No	No	Yes	Yes	Yes	Potential	Potential area for SWM pond. Put lid on dumpster.
HSI-2	Aberdeen Muffler Works	Auto shop	Yes	No	Yes	Yes	Yes	Potential	
HSI-3	One Hour Heating & Air Conditioning	HVAAC	Yes	No	Yes	Yes	No	Potential	
HSI-4	Core + Man	Plumbing supply store	No	Yes	Yes	Yes	Yes	Potential	Put lid on dumpster.
HSI-5	North End Import Service	Auto shop	Yes	No	Yes	Yes	Yes	Potential	Improve vehicle storage procedures.
HSI-6	Chesapeake Bay Dental, S.A. Bham, M.D.	Doctors office	No	No	No	Yes	Yes	Not a Hotspot	Possible rain gardens to treat roof.
HSI-7	Unique Carwash/ Scott's Transportation	Carwash	Yes	No	Yes	Yes	No	Confirmed	Carwash runoff observed. Potential area for SWM pond. Improve car wash discharge measures.
HSI-8	Mr. Tire	Auto shop	Yes	No	Yes	Yes	Yes	Potential	Cleaner car practices. Move dumpsters from storm drain inlet.
HSI-9	Scoop's	Restaurant	No	No	Yes	Yes	No	Not a Hotspot	
HSI-10	Szechuan Inn	Restaurant	No	No	Yes	Yes	No	Potential	Repair parking lot damage.

HSI Site ID	Location	Description	Vehicle Ops	Outdoor Materials	Waste Mgmt.	Physical Plant	Landscaping	HSI Status	Potential Action/Notes
HSI-11	Pat's Pizza	Restaurant	No	No	Yes	Yes	Yes	Potential	
HSI-12	Domino's	Restaurant	No	No	Yes	Yes	No	Potential	
HSI-13	Astro Car Wash	Carwash	Yes	No	Yes	Yes	Yes	Potential	
HSI-14	7-Eleven	Gas station	Yes	No	Yes	Yes	Yes	Potential	
HSI-15	MAACO Body Shop	Auto shop	Yes	No	Yes	Yes	Yes	Confirmed	Improve carwash discharge measures. Put lid on dumpsters.
HSI-16	Thompson's Auto Repair Center/ Budget Rental	Auto shop/ rental	Yes	No	Yes	Yes	No	Potential	Potential area for BMP. Improve carwash discharge measures.
HSI-17	Sunoco	Gas station	Yes	No	Yes	Yes	Yes	Potential	
HSI-18	Aberdeen Used Tires	Auto shop	Yes	No	Yes	Yes	Yes	Potential	
HSI-19	Aberdeen Diner	Restaurant	No	No	Yes	Yes	No	Not a Hotspot	
HSI-20	Caliber Collision	Auto shop	Yes	No	Yes	Yes	Yes	Potential	Potential area for BMP.

3.2 STREAM CORRIDOR ASSESSMENT

Field crews walked approximately 31.3 miles of stream channels starting on February 10, 2020 and ending on March 9, 2020. **Figure 5** shows the stream reaches walked by field crews and the location of the representative sites for each reach. **Figure 7** presents the locations of the SCA data points and severity scores for stream erosion and pipe outfall points.

The total number of points identified and ranked by severity can be found in **Table 1**. The majority of points were categorized as 'moderate' and 'low' severity. Only two points received a rating of 'very severe'. A more detailed discussion of each data point type follows. A complete dataset is included as **Appendix A**.

Representative sites were selected at locations representative of each perennial, or significant intermittent (larger intermittent streams with significant flow) stream segment. The general physical habitat condition was assessed at the representative sites using a modified version of the EPA's *Rapid Bioassessment Protocols* (Barbour et al., 1999). The assessment included qualitative ratings for ten habitat parameters as well as information on wetted width, pool, run, and riffle depths, and channel substrate. Erosion sites, pipe outfalls, buffer breaks, fish barrier, and unusual condition points were collected.

TABLE 4: STREAM CORRIDOR ASSESSMENT DATA POINTS BY SEVERITY

Potential Problems	Total	Very Severe	Severe	Moderate	Low	Minor
Erosion (13.5 miles)	87	0	24	36	22	5
Pipe Outfall	34	0	2	5	16	11
Fish Barrier	4	1	1	1	1	0
Trash	2	0	1	0	1	0
Channel Alteration	21	1	4	6	6	4
In-Stream Construction	1	0	0	1	0	0
Exposed Pipe	3	0	0	0	1	2
Unusual Conditions	8	0	0	2	4	2
Total	***160***	2	32	51	51	24
Representative Sites	**47**					
Potential BMP Sites	**29**					

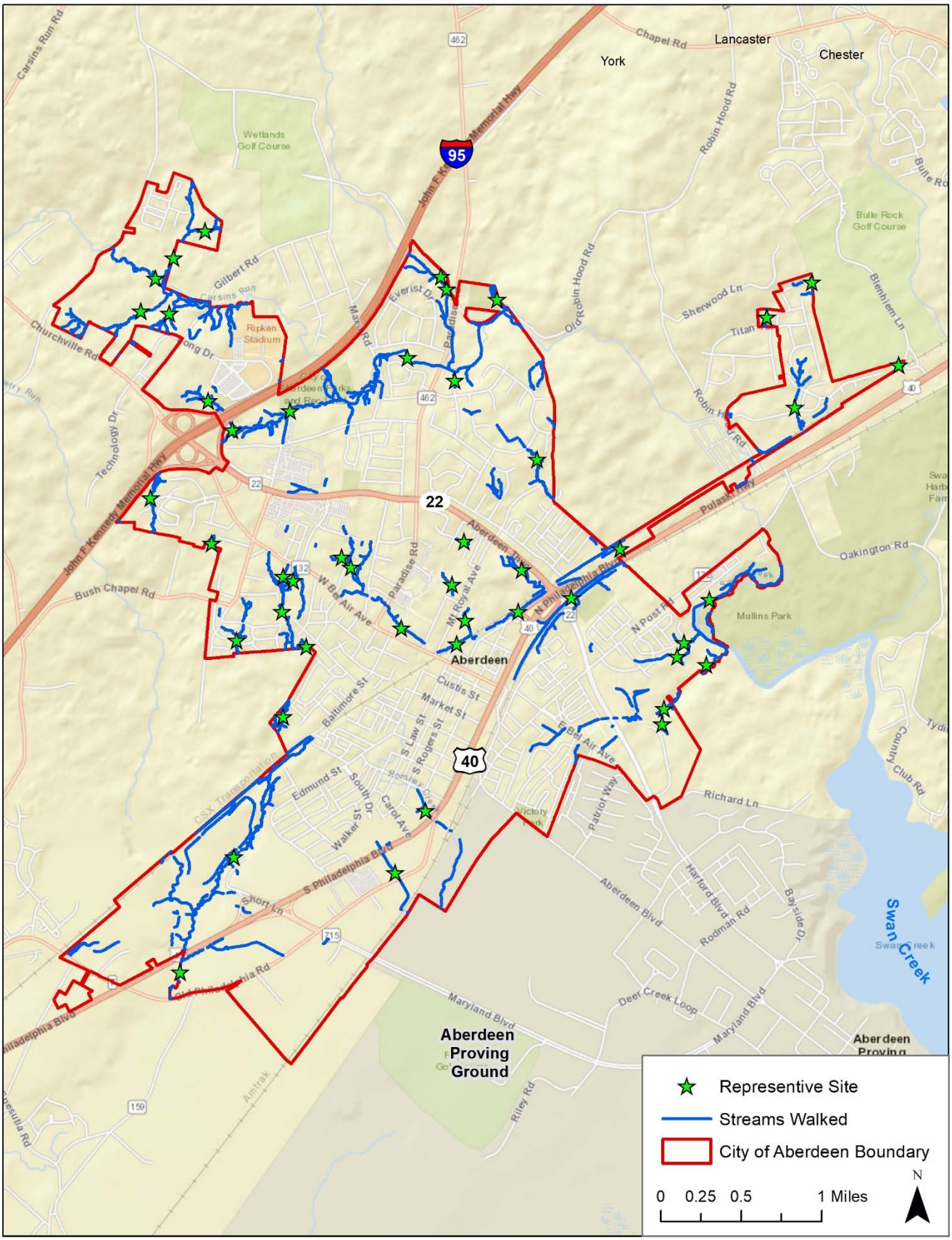


FIGURE 5: CITY OF ABERDEEN STREAM CORRIDOR ASSESSMENT REACHES WALKED AND REPRESENTATIVE SITES

Erosion Sites

Eighty-seven (87) erosion sites totaling 13.5 miles were identified (right and left bank impacts counted separately). Out of the 87 erosion sites, the majority were rated 'moderate' severity, followed by 'severe' and 'low' severity. No sites were rated 'very severe'. The stream erosion process was identified as widening for thirty-four sites, headcutting for ten sites, and downcutting for thirty-six sites, both downcutting and widening for two sites, and both downcutting and headcutting for five sites. While collecting stream erosion data, field crews also attempted to determine the leading possible cause of erosion at each site. These potential causes included: upstream land use changes, matching mainstem channel grade, runoff from infrastructure, and erosion following concrete channelization. The most commonly described possible causes for erosion was landuse change upstream (85%), followed by runoff from infrastructure (10%). Only two sites were identified as a possible threat to infrastructure: site R073_ES001 documented a parking lot breaking up into the stream channel and R102_ES001 documented a small area of fence threatened by the eroding bank. Location and severity of erosion sites can be found in **Figure 7**.

Pipe Outfalls

Thirty-four pipe (34) outfall points were located and assessed. The majority of the pipes were identified as stormwater outfalls. The field crew was unable to identify the source of two pipes (R155_PO001 and R165_PO001). Majority of the pipes had discharge or trickle flow, however, all but one of the discharges noted were clear and odorless. One pipe outfall, R080_PO001, was documenting the discharge point for the wastewater treatment plant on Michaels Lane, and was noted to have discharge with a detergent odor. Soapy suds and heavy algae in the receiving stream were also observed at this pipe outfall point. Majority (79%) of the pipe outfalls were rated as either 'minor' or 'low' severity. Two pipe outfalls were rated as 'severe;' R054_PO001 due to the severe channel erosion from the wet pond outfall and R080_PO001 due to the wastewater treatment plant discharge. The location and severity of these sites are shown in **Figure 7**.

Fish Barriers

Four (4) fish barriers were located during the survey. Three sites (R057_FB001, R111_FB001, and R156_FB001) were blocking fish movement as a result of pipe crossings. R057_FB001 received a severity score of 'very severe' due to the height of the drop, measuring approximately 15 feet. R111_FB001 received a severity score of 'low' due the 5 inch drop between the culvert bottom surface and the stream water level surface. Lastly, R156_FB001 received a severity score of 'moderate' due to the 11 inch drop between the culvert bottom surface and the stream water level surface.

One site (R184_FB001) was documenting a concrete channel that was approximately 4 feet above the stream water level surface. This site received a severity score of 'severe.' The location of the fish barriers are displayed in **Figure 7**.

Trash Dumping

In general, trash was found to be widespread throughout the stream reaches walked. Since this feature was so ubiquitous in the study area, only those trash dumping sites that were considered severe and isolated were recorded.

Two trash dumping sites were documented along the stream reaches walked. Site R139_TD001 received a severity score of 'low' due to the trash dumping of cans, aluminum, and bottles of approximately one truckload worth. This site is located on public property and is a potential volunteer clean-up opportunity. Site R214_TD001 received a severity score of 'severe' due to the dumping of old appliances of approximately three truckloads worth. This site is located on private property and contains large heavy trash, therefore may not be considered a volunteer opportunity. Trash dumping locations can be found in **Figure 7**.

Channel Alteration

Twenty-one (21) channel alteration impacts were identified during the survey. Ten sites were documenting concrete channelization, another ten sites were documenting rip rap and/or gabion basket stabilization, and one site was documenting an old concrete wall on one side of the stream. Severity scores of channel alternation sites ranged from 'minor' to 'very severe'. R057_CA001 documented an old road crossing with concrete channelization and culverts and was the only site to receive a severity score of 'very severe' due to the extent of the channelization and the severe fish barrier caused by the old culverts. In general, sites documenting concrete channelization were rated to be more severe than those documenting riparian and gabion basket stabilization. The locations of channel alteration impacts can be found in **Figure 7**.

In-Stream Construction

One (1) in-stream construction site was identified, site R207_IC001. Construction of a new residential development was occurring, and a new road crossing was installed. This site had adequate erosion and sediment control measures in place and received a severity score of 'moderate.' The extent of the in-stream construction was approximately 75 feet. The location of the in-stream construction site can be found in **Figure 7.**

Exposed Pipes

Three (3) exposed pipes were identified in the assessment. Two sites (R102_EP001 and R106_EP001) were documenting fiber optic cables that were located above the stream channel and both sites received severity scores of 'minor.' One site (R071_EP001) documents two sewage pipes located above the stream, one 18 inch and the other 24 inch, receiving a severity score of 'low.' Exposed pipe locations can be found in **Figure 7.**

Unusual Conditions

Eight (8) unusual condition points were identified along the assessed stream reaches. The unusual condition points range from a severity rating of 'moderate' to 'minor.' Site R146_UC001 was documenting a large metal beam across the stream and therefore directing flow to the right bank causing bank erosion and scour. This site received a severity score of 'moderate.'

One site, R041_UC001 receiving a severity score of 'moderate', is documenting a wetland channel headcutting approximately 2 feet to meet the mainstem after a recent rain storm. Another site, R184_UC001 receives a severity score of 'minor' due to the stream channel being piped underground for about 10 feet due to an old pond or road bed obstructing the channel. Site R175_UC001 was documenting

an old house foundation and chimney located at the headwaters of a wetland channel. The remaining unusual condition points were documenting sections of concrete pipes in the stream channel. Locations of unusual condition sites can be found in **Figure 7**.

Representative Points

Representative points were taken at 47 locations (**Figure 5**). **Figure 6**, below, presents the proportion of reaches in each assessment category for each habitat parameter, giving insight into the types of stream impacts creating the most degradation. In general, the modified qualitative RBP assessment at these sites revealed stream channels dominated by gravel substrates. Overall, channel alteration scored high, with over 75% of the sites scoring in the 'optimal' and 'suboptimal' range and only 15% scoring in the 'poor' range. Bank condition scores mostly fell within the 'marginal' range, but bank vegetation was good, with most sites falling in the 'suboptimal' range. Channel flow status ranged from 'marginal' to 'optimal', with most sites falling within the 'suboptimal' range. More than half of the sites were within the 'poor' or 'marginal' categories for velocity/depth diversity, which is generally to be expected when majority of the streams assessed are smaller headwater systems. Sediment deposition scores range from 'poor' to 'optimal,' with 43% of sites falling within the 'poor' and 'marginal' categories. Embeddedness scores ranged widely, with majority of the scores in the 'marginal' and 'suboptimal' categories.

Shelter for fish and benthic macroinvertebrate substrate scores were similar throughout the sites, with majority of the sites scoring in the 'poor' or 'marginal' categories.

Stream channel erosion is a major factor leading to impaired habitat conditions. Erosion sites were described as channel widening and downcutting processes. As the stream channels widen and down cut, the ability to effectively transport sediments (eroded bank material and from runoff over land) is reduced, leading to reduced scores for several habitat parameters including flow, velocity, embeddedness and macroinvertebrate habitat.

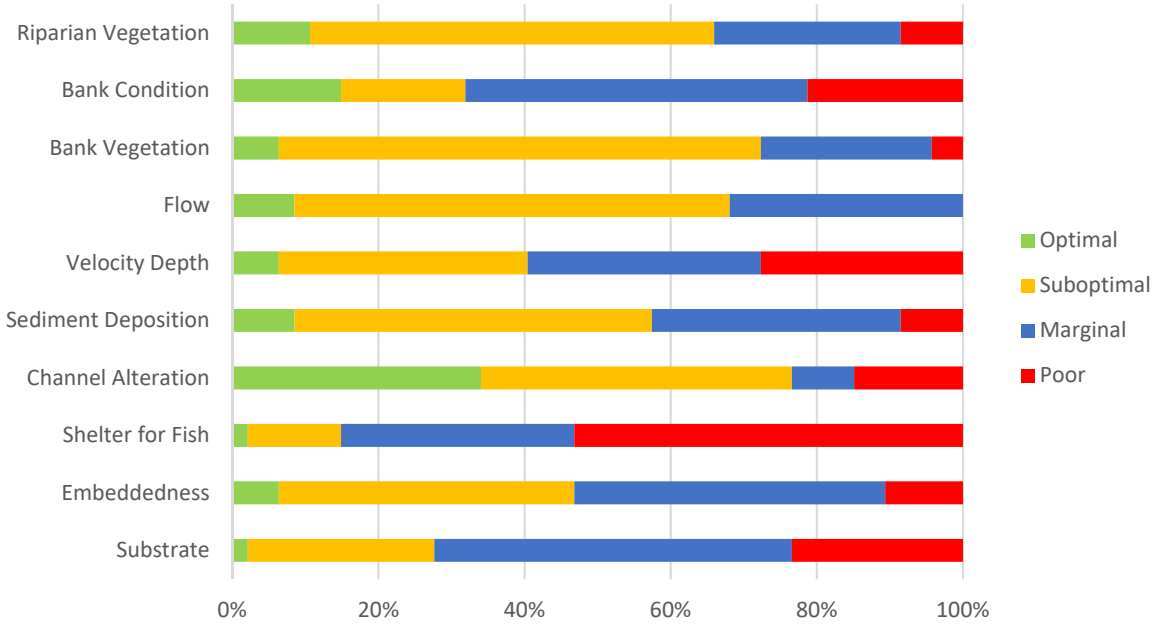


FIGURE 6: PROPORTION OF REACHES PER ASSESSMENT CATEGORY

Potential BMP Sites

Twenty-nine (29) potential improvement site points were created during the SCA fieldwork. Potential BMP types include rain garden, tree planting, wetland creation, stream restoration, wet pond retrofit, impervious surface removal, and SPSC outfall stabilization. Potential BMP locations are presented in **Figure 7**.

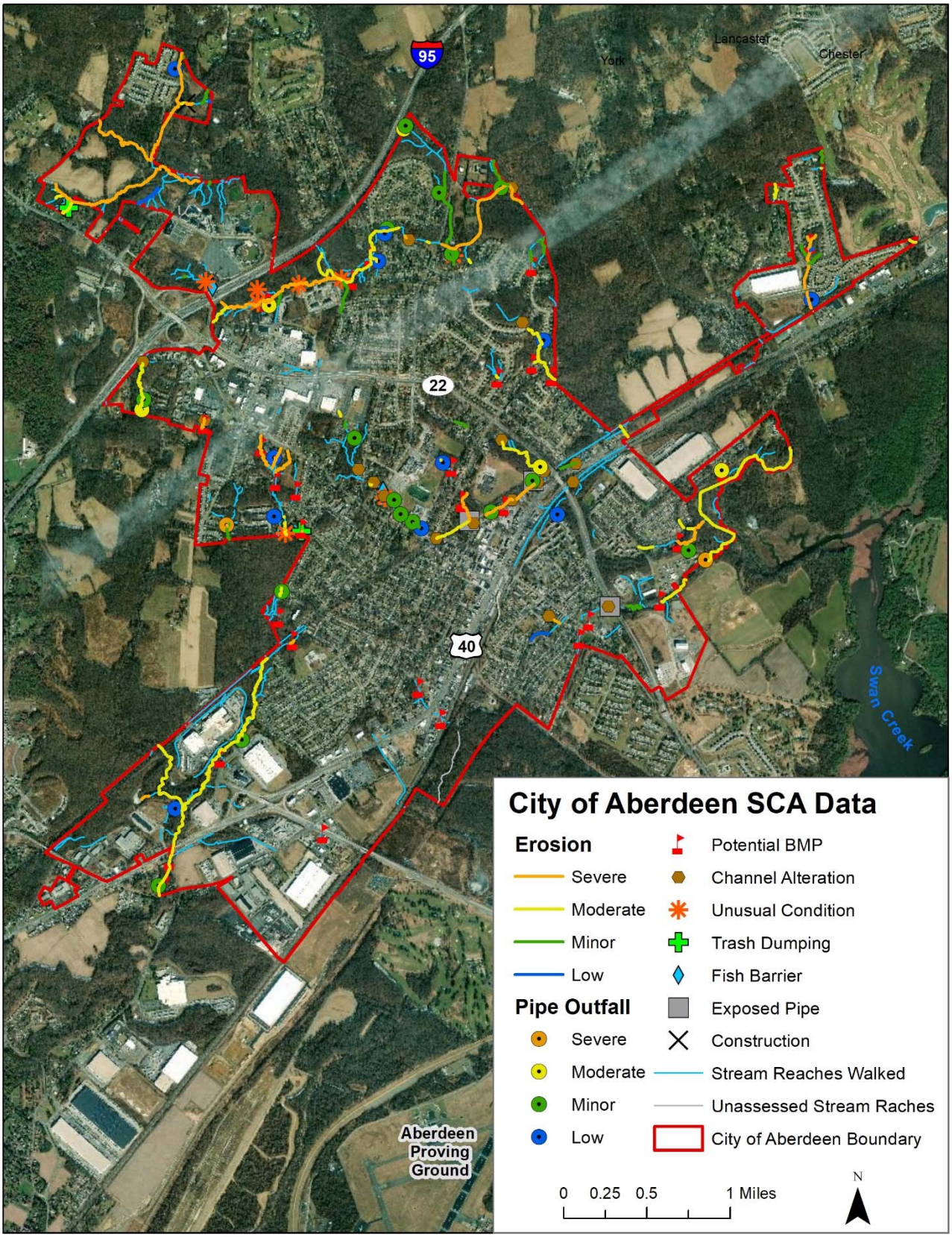


FIGURE 7: STREAM CORRIDOR SURVEY DATA MAP

4 POTENTIAL WATER QUALITY IMPROVEMENT PROJECTS

Results of the desktop and field watershed assessments were compiled and analyzed to determine specific areas of impairment most in need of restoration. Restoration measures were then developed according to the type and source of impact. The following section presents the methods and results for each restoration measure type:

- Stream restoration
- Reforestation

Mapping of the site-specific structural practices are included in **Figure 8.** Tables presenting cost, load reduction, and impervious credit associated with each of the proposed projects are included in each section below.

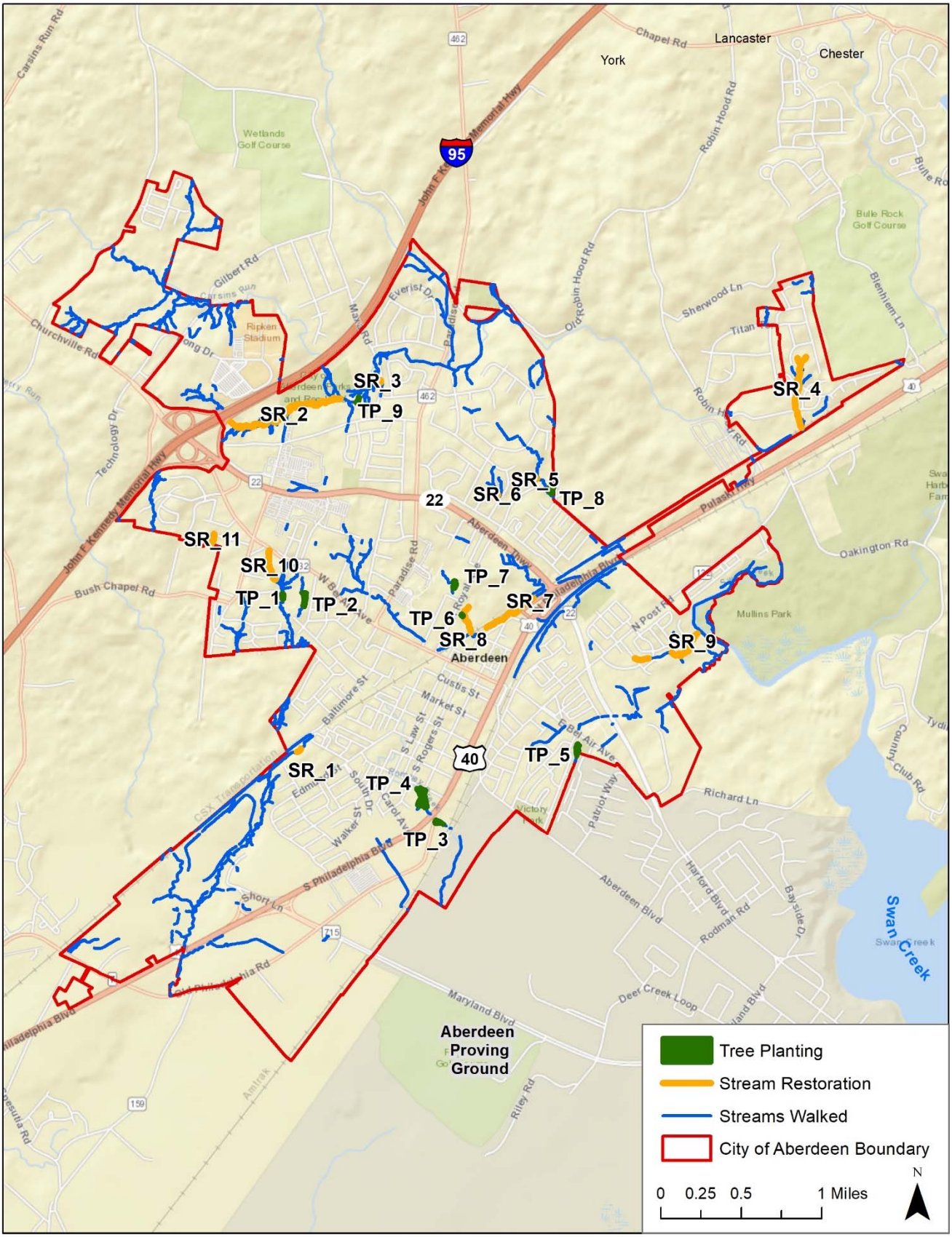


FIGURE 8. LOCATION OF POTENTIAL WATER QUALITY IMPROVEMENT PROJECTS

4.1 STREAM RESTORATION

Stream restoration opportunities were field identified during the SCA assessment. The current condition of streams was assessed, and locations of stream erosion were identified and mapped using a global positioning system (GPS). The assessment rated each segment of stream erosion on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. These scores were used to identify high priority stream reaches for stream restoration and were generally sites with a severity score of 1 or 2, and a correctability/access score of 1-4.

Eleven (11) stream restoration projects were identified with a total length of approximately 11,545 linear feet. **Table 5** provides a summary of current conditions and proposed actions of each site.

Costs of Stormwater Management Practices In Maryland Counties (King and Hagan, 2011) was used to calculate cost estimates for stream restoration projects. A unit cost estimate of $645/ft was used to estimate the initial cost of the stream restoration projects and a cost factor per impervious acre treated was used to derive the total cost over 20 years. The Harford County Cost Adjustment Index of 0.991 was applied, with 17% inflation over 9 years (approximately 1.89% per year from 2011 to 2020). Similar adjustment calculations were used to estimate the cost over 20 years and these projections are current-dollar estimates which do not account for inflation.

Impervious credit and load reductions were calculated for total nitrogen (TN), total phosphorus (TP), and total suspended sediment (TSS) for each restoration site with equivalent impervious acre factors and estimated removal efficiencies from *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2019) which are shown in **Table 6** and **Table 7**. Impervious acre restoration credit estimates were based on the published planning rate of 0.02 impervious credit per linear foot of stream restoration. As stream restoration projects are selected and investigated further, individual site-specific pollutant load reduction and impervious acre credit will be calculated based on the design and stream size using the five stream restoration crediting protocols and may be considerably higher than the planning estimates.

The cost per impervious credit for stream restoration practices is $47,808 (**Table 7**).

TABLE 5: STREAM RESTORATION PROJECT DESCRIPTIONS

Restoration Site ID	SCA Reach	Length (ft)	Current Condition	Proposed Actions
SR_1	22	130	North of Hillsdale Elementary School on Board of Education property. Wetland channel headcuts 5' down to channel with eroded bed and banks. Severe downcutting for 130 linear feet.	Stream bank and bed stabilization to repair headcut, bed and bank erosion.
SR_2	173	3,856	Located within forested area between I-95 and Beards Hill Rd. A large portion of stream reach is on property owned by City of Aberdeen. Stream channel is incised and widened with actively eroding bed and banks.	Stream bank and bed stabilization to repair erosion.
SR_3	165	230	Located west of Maxa Rd. A small gully channel previously ineffectively stabilized with curlex. Incised and actively eroding.	Stream bank and bed stabilization to repair erosion.
SR_4	137, 141	2025	Located north of Pulaski Hwy in Glenn Heights neighborhood. Reach begins at several 4' headcuts, gully channel with severe bed and bank erosion. Stream channel is deeply incised and actively eroding. Part of reach is located on property owned by City of Aberdeen.	Stream bank and bed stabilization to repair bank erosion and provide stream access to floodplain. Stream restoration will stabilize headcut.
SR_5	126	103	Short gully channel with 3' banks, located immediately adjacent to residential property in Burns Corner neighborhood. No forest buffer on right bank.	Stream bank and bed stabilization to repair erosion.
SR_6	123	80	Short incised reach with 4' banks, located adjacent to Kendrick Drive in the Burns Corner neighborhood.	Stream bank and bed stabilization to repair erosion.
SR_7	105	1485	Located between N Rogers St and railroad tracks. Severely eroded and incised channel with 6-10' high banks. Broken up sections of concrete channelization present in channel.	Stream bank and bed stabilization to repair erosion. Project could consist of removal of concrete channelization in stream channel.
SR_8	107	770	Located west of Aberdeen Middle School. Incised channel with 5' high banks and active erosion.	Stream bank and bed stabilization to repair erosion.
SR_9	88	1,585	Tributary to Swan Creek, located just north of Aberdeen Wastewater Treatment Plant. Severely eroded vertical 5' banks.	Stream bank and bed stabilization to repair erosion.
SR_10	43	996	Reach originates at outfall south of W Bel Air Ave near Beards Hill Rd intersection. Severely incised 5' banks.	Stream bank and bed stabilization to repair erosion

Restoration Site ID	SCA Reach	Length (ft)	Current Condition	Proposed Actions
SR_11	57	285	Reach originates at outfall south of Aberdeen Plaza off W Bel Air Ave. There is an old road bed, pipe culvert, and concrete channelization at the upstream end, followed by a 10' drop, and severe bank erosion downstream. Channel bed has concrete rubble stabilization.	Stream bank and bed stabilization to repair erosion. Project could possibly involve removing old road bed and associated culverts and installing a step pool conveyance system.

TABLE 6: STREAM RESTORATION REMOVAL EFFICIENCY AND PLANNING RATE IMPERVIOUS ACRE EQUIVALENT

Pounds Reduced per Linear Foot			Impervious Acre Equivalent per Linear Foot
TN	TP	TSS	
0.075	0.068	248	0.02

Source: MDE, 2019

TABLE 7: STREAM RESTORATION COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site ID	SCA Reach	Erosion length (ft)	Total Initial Cost	Total Cost Over 20 Years	Imper-vious Credit (Acres)*	Cost Per Impervious Credit	Load Reduction (lbs/yr)		
							TN	TP	TSS
SR_1	R022	130	$97,393	$124,301	2.6	$47,808	9.8	8.8	32,240.0
SR_2	R173	3,856	$2,888,823	$3,686,945	77.12	$47,808	289.2	262.2	956,288.0
SR_3	R165	230	$172,311	$219,916	4.6	$47,808	17.3	15.6	57,040.0
SR_4	R137, R141	2025	$1,517,082	$1,936,219	40.5	$47,808	151.9	137.7	502,200.0
SR_5	R126	103	$77,165	$98,484	2.06	$47,808	7.7	7.0	25,544.0
SR_6	R123	80	$59,935	$76,492	1.6	$47,808	6.0	5.4	19,840.0
SR_7	R105	1485	$1,112,527	$1,419,894	29.7	$47,808	111.4	101.0	368,280.0
SR_8	R107	770	$576,865	$736,241	15.4	$47,808	57.8	52.4	190,960.0
SR_9	R088	1,585	$1,187,444	$1,515,510	31.7	$47,808	118.9	107.8	393,080.0
SR_10	R043	996	$746,179	$952,333	19.92	$47,808	74.7	67.7	247,008.0
SR_11	R057	285	$213,516	$272,504	5.7	$47,808	21.4	19.4	70,680.0
Total		**11,545**	**$8,649,240**	**$11,038,839**	**230.9**	**$47,808**	**865.9**	**785.1**	**2,863,160.0**

*Impervious credit calculated with planning rate. Actual site-specific impervious credit may be higher.

4.2 REFORESTATION

A search for potential reforestation sites was conducted during the SCA assessment performed in February and March 2020. Nine (9) reforestation sites were identified, totaling 3.92 acres. These sites mostly consist of open areas available for planting adjacent to stream reaches without an adequate 50-100 foot riparian buffer. Three projects, TP_3, TP_4, and TP_8, have planting areas outside of the 100-foot riparian buffer as well. These forest planting areas were accounted separately from the riparian forest buffer areas. Impervious credit and load reduction efficiencies for each planting type are presented in **Table 8**.

Costs of Stormwater Management Practices In Maryland Counties (King and Hagan, 2011) was used to calculate cost estimates for reforestation projects. A total initial cost estimate of $11,225/acre and a total cost over 20 years of $19,458 was used. The Harford County Cost Adjustment Index of 0.991 was applied, with 17% inflation over 9 years (approximately 1.89% per year from 2011 to 2020). Similar adjustment calculations were used to estimate the cost over 20 years and these projections are current-dollar estimates which do not account for inflation.

It should be noted that economy of scale is not built in to this cost estimate. While there are very few large reforestation projects identified, larger projects will likely cost less than estimated here due to economy of scale. Impervious credit and load reductions for total nitrogen, total phosphorus, and total suspended sediment were calculated for each site with estimated removal efficiencies from *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (Table 8; MDE, 2019). These efficiencies assume a survival rate of 100 trees/acre or greater with at least 50% of trees having a two inch diameter or greater (4.5 feet above ground; MDE, 2019). The average cost per impervious credit for the reforestation projects is $16,179 (**Table 9**).

The City of Aberdeen's NPDES MS4 permit includes a requirement for Public Involvement and Participation (Section IV.B; MDE, 2018). These tree planting sites provide an excellent opportunity to involve the public and significantly reduce the labor cost of the plantings.

TABLE 8: RIPARIAN FOREST BUFFER EFFICIENCY AND IMPERVIOUS ACRE EQUIVALENT

Planting Type	Total Load Reduced (lbs/acre/yr)			Impervious Acre Equivalent
	TN	TP	TSS	
Riparian Forest Buffer Planting	14.30	2.53	2,349	1.41
Forest Planting	11.08	1.80	696	1.00

Source: MDE, 2019

TABLE 9: REFORESTATION SITE COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site ID	SCA Reach ID	Property Type	Area (acres)	Total Initial Cost	Total Cost Over 20 Years	Imper-vious Credit	Cost Per Impervious Credit	Load Reduction (lbs/year)		
								TN	TP	TSS
TP_1	R043	Private	0.17	$2,216	$3,842	0.24	$16,029	2.43	0.43	399.33
TP_2	R053	Private	0.49	$6,389	$11,075	0.69	$16,030	28.73	5.04	4,416.12
TP_3	R065	Private	0.25	$3,260	$5,018	0.35	$14,234	3.58	0.63	587.25
TP_4	R065	Private and Public	1.78	$23,207	$40,230	2.46	$16,350	25.45	4.50	4,181.22
TP_5	R075	Public and Private	0.38	$4,954	$8,588	0.54	$16,029	5.43	0.96	892.62
TP_6	R107	Private	0.07	$913	$1,582	0.10	$16,031	1.00	0.18	164.43
TP_7	R108	Private	0.31	$4,014	$7,007	0.44	$16,030	4.43	0.78	728.19
TP_8	R125	Private	0.33	$4,303	$7,458	0.42	$17,578	4.72	0.83	775.17
TP_9	R146	Private	0.14	$1,825	$3,165	0.20	$16,031	2.00	0.35	328.86
Total			**3.92**	**$51,081**	**$87,965**	**5.44**	**$16,179**	**77.78**	**13.72**	**12,473.19**

4.3 HOMEOWNER PRACTICES

During the Neighborhood Source Assessment, each neighborhood within the City of Aberdeen was assessed to determine the potential pollutant sources of each neighborhood and to recommend residential-scale BMPs to address these pollutants. While some neighborhoods did not have space for BMPs (primarily apartment complexes and townhomes), several BMP types were determined to be feasible in the neighborhoods of Aberdeen, and include rain barrels, rain gardens, and conservation landscaping practices. The following sections describe these practices and estimate the potential impervious credits and cost of each. To help offset the expense to the homeowner's, the City of Aberdeen may develop a cost-share program in which the City provides funds to pay for half of the cost of the homeowner BMP.

Rain Barrels

Rain barrels were recommended in neighborhoods that had downspouts directed to impervious surfaces and that had enough space for the barrel to be installed at one or more of the house's downspouts. A total of ten neighborhoods were found to be good candidates for rain barrel installations. **Table 10** presents the impervious credit and associated cost by NSA neighborhood. Impervious credit is calculated using rainwater harvesting runoff reduction rates (MDE, 2019).

For planning purposes, it was assumed that 30% of the homeowners in each neighborhood would participate and that two 55-gallon rain barrels would be installed at each participating house. The cost per impervious credit for rain barrels is $27,797, assuming a cost share program is implemented to help homeowners purchase the barrels, which are assumed to be $85 each. This estimation only accounts for the cost of the rain barrel, and does not include installation and maintenance (assumed that the homeowner installs and maintains the barrel), or implementation and tracking of the homeowner practices program.

TABLE 10. RAIN BARREL IMPERVIOUS CREDIT AND COST BY NEIGHBORHOOD

NSA Neighbor-hood ID	Number of Houses	Average Roof Size (sq ft)	Total Roof Area (sq ft)*	Number of Rain Barrels**	Impervious Credit (ac)	Cost to Neighborhood	Cost to City
5	57	871.2	14,897.5	34	0.05	$2,907	$1,454
7	37	1,306.8	14,505.5	22	0.03	$1,887	$944
8	90	1,306.8	35,283.6	54	0.08	$4,590	$2,295
11	300	871.2	78,408.0	180	0.28	$15,300	$7,650
12	200	1,742.4	104,544.0	120	0.18	$10,200	$5,100
13	900	1,306.8	352,836.0	540	0.83	$45,900	$22,950
16	400	1,306.8	156,816.0	240	0.37	$20,400	$10,200
17	600	1,306.8	235,224.0	360	0.55	$30,600	$15,300
19	500	653.4	98,010.0	300	0.46	$25,500	$12,750
26	200	2,613.6	156,816.0	120	0.18	$10,200	$5,100
			Total	**1,970**	**3.01**	**$167,484**	**$83,742**

*Assumed 30% homeowner participation in each neighborhood.

**Assumed 2 rain barrels per house.

Rain Gardens

Rain gardens were recommended in neighborhoods that had adequate space down gradient from the house's downspouts for installation of a rain garden. A total of ten neighborhoods were found to be good candidates for rain garden installations. **Table 11** presents the impervious credit and associated cost by NSA neighborhood. Impervious credit is calculated using rain garden runoff reduction rates (MDE, 2019).

For planning purposes, it was assumed that 10% of the homeowners in each neighborhood would participate. The cost per impervious credit for rain gardens is $68,063, assuming a cost share program is implemented. This estimation only accounts for the installation and planting of the rain garden, but does not include maintenance (assumed that the homeowner maintains the garden), or implementation and tracking of the homeowner practices program.

TABLE 11. RAIN GARDEN IMPERVIOUS CREDIT AND CAST PER NEIGHBORHOOD

NSA Neighbor-hood ID	Number of Houses	Average Roof Size (sq ft)	Total Roof Area (sq ft)*	Average Rain Garden (sq ft)**	Total Impervious Credit (ac)	Average Cost Per Garden	Cost Per Neighbor-hood	Cost to City
5	57	871.2	4,966	54.5	0.06	$1,361	$7,759	$3,880
7	37	1,306.8	4,835	81.7	0.06	$2,042	$7,555	$ 3,777
8	90	1,306.8	11,761	81.7	0.14	$2,042	$18,377	$9,188
11	300	871.2	26,136	54.5	0.30	$1,361	$40,838	$20,419
12	200	1,742.4	34,848	108.9	0.40	$2,723	$54,450	$27,225
13	900	1,306.8	117,612	81.7	1.35	$2,042	$183,769	$91,884
16	400	1,306.8	52,272	81.7	0.60	$2,042	$81,675	$40,838
17	600	1,306.8	78,408	81.7	0.90	$2,042	$122,513	$61,256
19	500	653.4	32,670	40.8	0.38	$1,021	$51,047	$25,523
26	200	2,613.6	52,272	163.4	0.60	$4,084	$81,675	$40,838
				Total	**4.79**	**$20,760**	**$649,658**	**$324,828**

*Assumed 10% homeowner participation in each neighborhood and rain garden will receive runoff from only half of each roof.

** Size calculations assume an average depth of 8 inches and one-inch rainfall depth treated.

Conservation Landscaping

Conservation landscaping is defined by MDE as “land cover conservation from pervious to an unmanaged (unfertilized, unmowed) meadow condition” (MDE, 2019), and at a residential scale involves planting native plants in areas previously managed as lawn. Conservation landscaping was recommended in neighborhoods that had adequate lawn space to convert a portion of the lawn into a native garden. A total of eleven neighborhoods were found to be good candidates for conservation landscaping. **Table 12** presents the impervious credit and associated cost by NSA neighborhood. Impervious credit is calculated using an alternative practice impervious acre equivalence for non-riparian conservation landscaping of 0.37 (MDE, 2019).

For planning purposes, it was assumed that 20% of the homeowners in each neighborhood would participate. An assumed plating area was assigned to each neighborhood based on the average lawn space available. The cost per impervious credit for rain gardens is $470,921, assuming a cost share program is implemented. This estimation assumed that funds will be provided to the homeowner to help purchase native plants (at $8 per quart-sized potted plant and planted at one plant per square foot) and assumes that the homeowner will install and maintain the garden). The cost estimates do not include implementation and tracking of the homeowner practices program.

TABLE 12. CONSERVATION LANDSCAPING IMPERVIOUS CREDIT AND COST BY NEIGHBORHOOD

NSA Neighbor-hood ID	Number of Houses	Average Planting Area (sq ft)	Impervious Credit (acres)*	Average Cost Per Garden	Cost Per Neighborhood	Cost to City
1	98	200	0.03	$1,600	$31,360	$15,680
5	57	150	0.02	$1,200	$13,680	$6,840
7	37	200	0.01	$1,600	$11,840	$5,920
8	90	150	0.02	$1,200	$21,600	$10,800
11	300	150	0.08	$1,200	$72,000	$36,000
12	200	200	0.07	$1,600	$64,000	$32,000
13	900	200	0.31	$1,600	$288,000	$144,000
16	400	150	0.10	$1,200	$96,000	$48,000
17	600	150	0.15	$1,200	$144,000	$72,000
19	500	100	0.09	$800	$80,000	$40,000
26	200	200	0.07	$1,600	$64,000	$32,000
		Total	**0.95**	**n/a**	**$886,480**	**$443,240**

*Assumed 20% homeowner participation in each neighborhood.

5 TREATMENT SUMMARY

5.1 PROPOSED PROJECTS SUMMARY

As a requirement of the NPDES MS4 Discharge Permit issued by MDE to the City of Aberdeen on October 31, 2018, the City must treat 20% of remaining baseline untreated impervious acres by 2025. **Table 13** presents a summary of the proposed BMPs described in Section 4, and associated impervious credit and estimated cost.

Costs for restoration projects include the planning, design, surveying, environmental permitting, agency review, and construction costs and were estimated using King and Hagan (2011).

TABLE 13: IMPERVIOUS CREDIT AND COST SUMMARY OF PROPOSED BMPS

BMP	Units	Proposed Implementation	Impervious Credit (acres)	Total Initial Cost	Cost over 20 Years
Reforestation	Acres	3.92	5.44	$51,081	$87,965
Stream Restoration	Linear Feet	11,545	230.90	$8,649,240	$11,038,841
Rain Barrels	Number of Barrels	1,970	3.01	$83,742	n/a
Rain Gardens	Number of Gardens	328	4.77	$324,828	n/a
Conservation Landscaping	Number of Gardens	676	0.95	$443,240	n/a
		Total	**245.07**	**$9,552,131**	**$11,126,806**

5.2 IMPERVIOUS CREDIT

A summary of the baseline impervious area, restoration requirement, and impervious credit achieved through the projects identified in Section 4 can be found in **Table 14**. The impervious credits gained from the identified stream restoration and reforestation practices exceeds the required 20% restoration goal.

TABLE 14: CITY OF ABERDEEN IMPERVIOUS ACCOUNTING

Impervious Accounting	Aberdeen Acres
2004 Baseline Impervious Treatment	
Total Impervious Area	998.51 acres
Impervious Treated	32.72 acres
Impervious Untreated	965.79 acres
Restoration Requirement (20% of Untreated Impervious Area)	193.16 acres
FY 19 Progress	
Impervious Treated	X.X acres
Potential Impervious Treatment	
Operational Practices (Street Sweeping, Inlet Cleaning; annual practices)	TBD
Structural Practices (Stream Restoration, Reforestation)	236.34 acres
Homeowner Practices (Rain Barrels, Rain Gardens, Conservation Landscaping)	8.73 acres
Potential Impervious Treatment	**245.07 acres**
Summary of Projected Progress	
Impervious Untreated	965.79 acres
Potential Impervious Treatment	245.07 acres
Total Progress and Potential Treatment	X.X acres
Percentage Projected to be Treated	**25.4%**

REFERENCES

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish, Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C.

King, D. and P. Hagan. 2011. Costs of Stormwater Management Practices in Maryland Counties. University of Maryland Center for Environmental Science. Solomons, MD. Accessed from: https://www.mwcog.org/uploads/committee-documents/kl1fWF1d20111107094620.pdf

Maryland Department of the Environment (MDE). 2018. National Pollutant Discharge Elimination System General Permit for Dischargers from Small Municipal Separate Storm Sewer Systems. Maryland Department of the Environment, Baltimore, MD. Accessed from: https://mde.state.md.us/programs/water/StormwaterManagementProgram/Documents/NPDES%20PII%20FINAL/Muni%20PII%20permit%20final%20042018.pdf

Maryland Department of the Environment (MDE). 2019. Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated. Guidance for National Pollutant Discharge Elimination System Stormwater Permits. Maryland Department of the Environment, Baltimore, MD.

Wright, T., C. Swann, K. Cappiella, T. Schueler. 2005. *Unified Subwatershed and Site Reconnaissance: A User's Manual-Version 2.0. Manual 11 in the Urban Subwatershed Restoration Manual Series*. Center for Watershed Protection. Ellicott City, MD.

Yetman, Kenneth T., 2001. Stream Corridor Assessment Survey: Survey Protocols. Maryland Department of Natural Resources: Watershed Restoration Division: Annapolis, MD. https://dnr.maryland.gov/streams/Publications/SCAProtocol

APPENDIX A – Stream Corridor Assessment Data

Erosion

REACH	SITE	FIELD DATE	PHOTO	TYPE	POSSIBLE CAUSE	LENGTH RIGHT (FT)	LENGTH LEFT (FT)	HEIGHT (FT)	LAND USE LEFT	LAND USE RIGHT	THREAT TO INFRASTRUCTURE?	DESCRIPTION	CORRECTABILITY	ACCESS	SEVERITY
002	ES001	2/10/2020	R002_ES001_1.jpg,R002_ES001_2.jpg	WIDENING	LAND USE CHANGE US	5820	5820	5	FOREST	FOREST	NO		4	5	3
003	ES001	2/10/2020	R003_ES001.jpg	DOWNCUTTING	MATCHING GRADE OF MAINSTEM	432	432	5	FOREST	FOREST	NO	HIGHLY INCISED CHANNEL ORIGINATING AT POND	3	1	2
016	ES001	2/11/2020	R016_ES001_1.jpg,R016_ES001_2.jpg	WIDENING	LAND USE CHANGE US	3174	3174	3	FOREST	FOREST	NO		4	5	3
022	ES001	2/11/2020	R022_ES001_1.jpg,R022_ES001_2.jpg	DOWNCUTTING/HEADCUTTING	MATCHING GRADE	260	260	5	FOREST	FOREST	NO	WETLAND CHANNEL HEADCUTS 5' DOWN, CREATING GULLY	2	2	2
033	ES001	2/11/2020	R033_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US, REMOVED RIPARIAN	248	248	5	RESIDENTIAL YARD	FOREST	NO	RAW, ERODED BANKS IN ISOLATED LOCATIONS	2	1	3
039	ES001	2/13/2020	R039_ES001.jpg	HEADCUTTING	PARK RUNOFF	10	10	3	PARK, TURF	FOREST	NO	RUNOFF FROM ADJACENT PARK CAUSING 3' HEADCUT	2	1	2
041	ES001	2/13/2020	R041_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	532	532	3	FOREST	FOREST	NO	RAW ERODED BANKS	3	3	3
041	ES002	2/13/2020	R041_ES002_1.jpg,R041_ES002_2.jpg	HEADCUTTING	RUNOFF FROM TOWNHOUSES, FLOWS TO WETLAND	20	20	4	FOREST	FOREST	NO	MULTIPLE HEADCUTS FROM EPHEMERAL WETLAND CHANNEL	3	2	2
041	ES003	2/13/2020	R041_ES003.jpg	HEADCUTTING	RUNOFF FROM ROAD UPSTREAM	2	2	3	FOREST	RESIDENTIAL	NO	RUNOFF FROM ROAD	3	2	3
041	ES004	2/13/2020	R041_ES004.jpg	HEADCUTTING	ADJACENT NEIGHBORHOOD RUNOFF	20	20	3	FOREST	FOREST	NO	EPHEMERAL WETLAND CHANNEL HEADCUTS AT MAINSTEM	3	2	3
041	ES005	2/13/2020	R041_ES005.jpg	HEADCUTTING	LAND USE CHANGE US	0	0	4	RESIDENTIAL	FOREST	NO	HEADWATER HEADCUTS	3	2	3
043	ES001	2/13/2020	R043_ES001_1.jpg, R043_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	1600	1600	5	RESIDENTIAL	FOREST	NO	SEVERELY INCISED CHANNEL	3	2	2
047	ES001	2/13/2020	R047_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	1208	1208	10	FOREST	RESIDENTIAL	NO	SEVERELY INCISED CHANNEL ORGINATES AT PIPE AT ROAD	4	2	2
050	ES001	2/13/2020	R050_ES001_1.jpg,R050_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	1866	1866	10	FOREST	FOREST	NO	HEAVILY INCISED AND ACTIVELY ERODING CHANNEL	3	3	2
054	ES001	2/14/2020	R054_ES001.jpg	WIDENING	LAND USE CHANGE US	744	744	2	FOREST	FOREST	NO		3	3	4
054	ES002	2/14/2020	R054_ES002.jpg	DOWNCUTTING	POND OUTFALL CHANNEL	66	66	3	FOREST/RESIDENTIAL	FOREST/RESIDENTIAL	NO		2	2	2
057	ES001	2/14/2020	R057_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	570	570	10	FOREST	FOREST	NO	SEVERELY INCISED AND ERODED CHANNEL	2	2	2
059	ES001	2/14/2020	R059_ES001_1.jpg,R059_ES001_2.jpg	WIDENING	LAND USE CHANGE US	876	876	4	FOREST	FOREST	NO		4	4	3
067	ES001	2/17/2020	R067_ES001_1.jpg,R067_ES001_2.jpg	DOWNCUTTING/WIDENING	LAND USE CHANGE US	358	358	7	FOREST/DEVELOPED	FOREST	NO		4	3	3
070	ES001	2/17/2020	R070_ES001.jpg	WIDENING	LAND USE CHANGE US	314	314	2	FOREST	FOREST	NO		4	4	4
073	ES001	2/17/2020	R073_ES001_1.jpg,R073_ES001_2.jpg	WIDENING	PARKING LOT	161	161	3	PARKING LOT	RESIDENTIAL YARD	YES	PARKING LOT AT EDGE OF STREAM, ASPHALT BREAKING UP	2	1	2
074	ES001	2/17/2020	R074_ES001_1.jpg,R074_ES001_2.jpg	WIDENING	LAND USE CHANGE US	106	106	3	RESIDENTIAL YARDS	RESIDENTIAL YARDS	NO	MINOR BANK EROSION	3	2	5
080	ES001	2/17/2020	R080_ES001.jpg	WIDENING	LAND USE CHANGE US	1408	1408	5	FOREST	FOREST	NO		4	4	3
082	ES001	2/17/2020	R082_ES001_1.jpg,R082_ES001_2.jpg	WIDENING	LAND USE CHANGE US	4666	4666	3	FOREST	FOREST	NO		4	4	3
088	ES001	2/17/2020	R088_ES001_1.jpg,R088_ES001_2.jpg	DOWNCUTTING/WIDENING	LAND USE CHANGE US	2178	2178	5	RESIDENTIAL	FOREST	NO		3	3	2
088	ES002	2/17/2020	R088_ES002.jpg	WIDENING	LAND USE CHANGE US, APT COMPLEX DRAINAGE	700	700	5	RESIDENTIAL	FOREST	NO		2	2	3
089	ES001	2/18/2020	R089_ES001_1.jpg,R089_ES001_2.jpg	WIDENING	LAND USE CHANGE US	176	176	5	RESIDENTIAL	FOREST	NO		3	2	3
089	ES002	2/18/2020	R089_ES002.jpg	HEADCUTTING	LAND USE CHANGE US	502	502	7	RESIDENTIAL	FOREST/RESIDENTIAL	NO		3	2	3
095	ES001	2/18/2020	R095_ES001.jpg	WIDENING	LAND USE CHANGE US	380	380	2.5	FOREST	COMMERCIAL	NO		3	2	3
100	ES001	2/18/2020	R100_ES001.jpg	DOWNCUTTING	END OF CONCRETE CHANNELIZATION	10	10	2	FOREST	ROAD	NO		2	1	4
102	ES001	2/18/2020	R102_ES001_1.jpg,R102_ES001_2.jpg,R102_ES001_3.jpg	WIDENING	LAND USE CHANGE US	2442	2442	3	FOREST	FOREST	YES	SMALL AREA OF FENCE THREATENED BY ERODING BANK	4	4	3
105	ES001	2/18/2020	R105_ES001_1.jpg,R105_ES001_2.jpg	WIDENING	LAND USE CHANGE US	336	336	6	FOREST	ROAD	NO		3	2	2
105	ES002	2/18/2020	ES002_1.jpg,ES002_2.jpg,ES002_3.jpg,ES002_4.jpg	WIDENING	LAND USE CHANGE US	1126	1126	10	RAILROAD	FOREST/ROADWAY	NO		3	2	2
107	ES001	2/18/2020	R107_ES001_1.jpg,R107_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	1084	1084	5	FOREST	FOREST/RESIDENTIAL	NO		3	3	2
108	ES001	2/18/2020	R108_ES001.jpg	WIDENING	DRAINAGE FROM ADJACENT ATHLETIC FIELD	25	25	3.5	FOREST	ATHLETIC FIELD	NO		4	2	3
109	ES001	2/19/2020	R109_ES001_1.jpg,R109_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	274	274	2	RESIDENTIAL	RESIDENTIAL	NO		4	2	4
110	ES001	2/19/2020	R110_ES001_1.jpg,R110_ES001_2.jpg,R110_ES001_3.jpg	WIDENING	LAND USE CHANGE US	558	558	2	RESIDENTIAL	RAILROAD	NO		2	2	3
111	ES001	2/19/2020	R111_ES001_1.jpg,R111_ES001_2.jpg	WIDENING	LAND USE CHANGE US	246	246	1	SCHOOL	RESIDENTIAL	NO		3	2	4
111	ES002	2/19/2020	R111_ES002.jpg	WIDENING	LAND USE CHANGE US	50	50	4	RESIDENTIAL	RESIDENTIAL	NO		4	3	4
115	ES001	2/19/2020	R115_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	264	264	4	FOREST	COMMERCIAL	NO		4	2	4
115	ES002	2/19/2020	R115_ES002_1.jpg,R115_ES002_2.jpg	DOWNCUTTING	LAND USE CHANGE US, IMPERVIOUS DRAINAGE	256	256	6	COMMERCIAL	COMMERCIAL	NO		3	1	3
123	ES001	2/19/2020	R123_ES001_1.jpg,R123_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	156	156	4	FOREST/RESIDENTIAL	FOREST/RESIDENTIAL	NO		3	2	3
125	ES001	2/19/2020	ES001_1.jpg,ES001_2.jpg,ES001_3.jpg,ES001_4.jpg	DOWNCUTTING	LAND USE CHANGE US	2284	2284	3	FOREST/RESIDENTIAL	FOREST/RESIDENTIAL	NO		3	2	3
126	ES001	2/19/2020	R126_ES001.jpg	DOWNCUTTING	RESIDENTIAL RUNOFF	212	212	3	FOREST	RESIDENTIAL	NO		2	2	3
129	ES001	2/19/2020	R129_ES001_1.jpg,R129_ES001_2.jpg	DOWNCUTTING/HEADCUTTING	LAND USE CHANGE US	322	322	2	FOREST	FOREST	NO		4	3	4
130	ES001	2/19/2020	R130_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	14	14	3	FOREST	FOREST	NO		4	4	4
130	ES002	2/19/2020	R130_ES002.jpg	WIDENING	LAND USE CHANGE US	246	246	2	RESIDENTIAL	FOREST	NO		3	2	4
132	ES001	2/20/2020	R132_ES001.jpg	WIDENING	LAND USE CHANGE US	570	570	2	FOREST/RESIDENTIAL	FOREST	NO		3	2	3
134	ES001	2/20/2020	R134_ES001.jpg	WIDENING	LAND USE CHANGE US	404	404	3	FOREST/GOLFCOURSE	FOREST	NO		4	4	4
135	ES001	2/20/2020	R135_ES001.jpg	HEADCUTTING	LAND USE CHANGE US	15	15	2	FOREST/RESIDENTIAL	FOREST/GOLF COURSE	NO		3	2	3
136	ES001	2/20/2020	R136_ES001.jpg	WIDENING	LAND USE CHANGE US	146	146	4	FOREST	FOREST	NO		3	2	3
137	ES001	2/20/2020	R137_ES001_1.jpg,R137_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	758	758	5	FOREST	FOREST	NO		2	2	2
137	ES002	2/20/2020	R137_ES002.jpg	DOWNCUTTING	LAND USE CHANGE US	2018	2018	4	FOREST/RESIDENTIAL	FOREST/RESIDENTIAL	NO		3	2	2
138	ES001	2/20/2020	R138_ES001_1.jpg,R138_ES001_2.jpg	DOWNCUTTING/HEADCUTTING	LAND USE CHANGE US	230	230	2	FOREST/RESIDENTIAL	FOREST	NO		4	3	4
139	ES001	2/20/2020	R139_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	134	134	2	FOREST	FOREST	NO		4	3	4
140	ES001	2/20/2020	R140_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	20	20	1	FOREST	FOREST	NO		5	3	5
141	ES001	2/20/2020	R141_ES001_1.jpg,R141_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	326	326	4	FOREST	RESIDENTIAL	NO		3	2	2
146	ES001	3/2/2020	R146_ES001_1,ES001_2,ES001_3,ES001_4.jpg	WIDENING	LAND USE CHANGE US	4720	4720	5	FOREST	FOREST	NO		3	4	2
146	ES002	3/2/2020	R146_ES002.jpg	WIDENING	LAND USE CHANGE US	59	59	4	FOREST	RESIDENTIAL	NO		4	2	3
146	ES003	3/2/2020	R146_ES003.jpg	WIDENING	LAND USE CHANGE US	60	60	6	FOREST	RESIDENTIAL	NO	SHORT SEGMENT OF SEVERE BANK EROSION	4	2	2
146	ES004	3/5/2020	R146_ES004.jpg	WIDENING	LAND USE CHANGE US	5694	5694	3	FOREST	FOREST	NO		4	3	3
148	ES001	3/2/2020	R148_ES001_1.jpg,R148_ES001_2.jpg	WIDENING	LAND USE CHANGE US	148	148	1.5	FOREST	FOREST	NO	MINOR MEANDER BEND EROSIONS	4	3	4
154	ES001	3/2/2020	R154_ES001.jpg	DOWNCUTTING/HEADCUTTING	LAND USE CHANGE US	208	208	4	FOREST	FOREST	NO		3	3	3
155	ES001	3/2/2020	R155_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	242	242	2	FOREST	FOREST	NO		4	3	4
156	ES001	3/2/2020	R156_ES001_1,ES001_2,ES001_3,ES001_4.jpg	WIDENING	LAND USE CHANGE US	2682	2682	4	FOREST	FOREST	NO		4	3	4
165	ES001	3/2/2020	R165_ES001_1.jpg,R165_ES001_2.jpg	DOWNCUTTING	RUNOFF FROM ROAD/RESIDENTIAL	396	396	2.5	FOREST	FOREST	NO		3	1	3
171	ES001	3/2/2020	R171_ES001_1.jpg,R171_ES001_2.jpg	DOWNCUTTING	RESIDENTIAL RUNOFF	1332	1332	3	FOREST	FOREST	NO	INCISED CHANNEL, EROSION MOSTLY HEALED OVER	4	3	4
173	ES001	3/5/2020	R173_ES001_1.jpg,R173_ES001_2.jpg	WIDENING	LAND USE CHANGE US	6182	6182	3	FOREST	FOREST	NO		2	2	2
174	ES001	3/5/2020	R174_ES001_1.jpg,R174_ES001_2.jpg	WIDENING	LAND USE CHANGE US	156	156	2	FOREST	COMMERCIAL	NO		3	2	4
181	ES001	3/5/2020	R181_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US, ROAD RUNOFF	894	894	2	FOREST	FOREST	NO	INCISED CHANNEL, ACTIVELY ERODING	2	2	3
181	ES002	3/5/2020	R181_ES002.jpg	HEADCUTTING	LAND USE CHANGE US	0	0	3	FOREST	FOREST	NO	3FT HEADCUT, HELD BY TREE ROOTS	4	3	3
186	ES001	3/5/2020	R186_ES001_1.jpg,R186_ES001_2.jpg	DOWNCUTTING/HEADCUTTING	LAND USE CHANGE US	126	126	3	FOREST	FOREST	NO		4	3	4
192	ES001	3/5/2020	R192_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	148	148	3	FOREST	FOREST	NO	INCISED CHANNEL AT CONFLUENCE WITH CARSINS RUN	3	4	4
197	ES001	3/9/2020	R197_ES001_1.jpg,R197_ES001_2.jpg,R197_ES001_3.jpg	WIDENING	LAND USE CHANGE US	6026	6026	4	FOREST	FOREST	NO		2	4	2
198	ES001	3/5/2020	R198_ES001.jpg	WIDENING	LAND USE CHANGE US	120	120	2.5	FOREST	FOREST	NO		4	3	5
200	ES001	3/5/2020	R200_ES001_1.jpg,R200_ES001_2.jpg	WIDENING	LAND USE CHANGE US	842	842	1	FOREST	FOREST	NO	ERODED MEANDER BENDS, MOSTLY HELD WITH TREE ROOTS	4	4	5
206	ES001	3/9/2020	R206_ES001_1,ES001_2,ES001_3,ES001_4.jpg	DOWNCUTTING	LAND USE CHANGE US	4500	4500	4	FOREST	FOREST	NO	SEVERELY INCISED CHANNEL	3	2	2
207	ES001	3/9/2020	R207_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	234	234	2.5	FOREST	NEW DEVELOPMENT/CONSTR	NO		3	1	3
207	ES002	3/9/2020	R207_ES002.jpg	HEADCUTTING	LAND USE CHANGE US, NEW DEVELOPMENT	0	0	2.5	FOREST	FOREST	NO		3	2	2
207	ES003	3/9/2020	R207_ES003_1.jpg,R207_ES003_2.jpg,R207_ES003_3.jpg	DOWNCUTTING	LAND USE CHANGE US	610	610	2	FOREST	FOREST	NO		3	2	4
208	ES001	3/9/2020	R208_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	46	46	1.5	FOREST	FOREST	NO	INCISED CHANNEL, MOSTLY OLD EROSION	5	3	5
210	ES001	3/9/2020	R210_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	126	126	3	FOREST	FOREST	NO	REACH BEGINS AT 2FT HEADCUT, INCISED CHANNEL	4	3	4
211	ES001	3/9/2020	R211_ES001_1.jpg,R211_ES001_2.jpg,R211_ES001_3.jpg	DOWNCUTTING	LAND USE CHANGE US, AGRICULTURAL FIELD	5090	5090	5	FOREST	FOREST	NO	INCISED CHANNEL	3	4	2
214	ES001	3/9/2020	R214_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	798	798	4	FOREST	RESIDENTIAL YARD	NO	INCISED CHANNEL STARTS AT TWO 4' HEADCUTS	3	2	3
216	ES001	3/9/2020	R216_ES001_1.jpg,R216_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	382	382	4	FOREST	FOREST	NO	INCISED CHANNEL, STARTS AT HEADCUT	4	4	3
216	ES002	3/9/2020	R216_ES002.jpg	HEADCUTTING	LAND USE CHANGE US	0	0	3	FOREST	FOREST	NO		4	4	3
218	ES001	3/9/2020	R218_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US, OLD EROSION	68	68	6	FOREST	FOREST	NO		4	4	3

Unusual Condition

REACH	SITE	PHOTO	FIELD DATE	TYPE	DESCRIPTION	Potential	SEVERITY	CORRECTABILITY	ACCESS	COMMENT
041	UC001	R041_UC001.jpg	2/13/2020	WETLAND CHANNEL HEADCUTTING 2' TO MEET MAINSTEM	FLOWING HEAVY DUE TO RECENT RAIN		3	4	4	
111	UC001	R111_UC001.jpg	2/19/2020	DEBRIS JAM, 2' HIGH HEADCUT			4	3	2	
155	UC001	R155_UC001.jpg	3/2/2020	SECTION OF CONCRETE PIPE IN CHANNEL			4	4	3	
146	UC001	R146_UC001.jpg	3/5/2020	LARGE METAL BEAM ACROSS STREAM	DIRECTING FLOW TO RB, CAUSING BANK EROSION	AND SCOUR	3	2	2	
173	UC001	R173_UC001.jpg	3/5/2020	EXPOSED CONCRETE PIPE AT SEWER CROSSING			4	2	1	
175	UC001	R175_UC001.jpg	3/5/2020	OLD HOUSE FOUNDATION AND CHIMNEY AT HEADWATERS			5	5	5	
173	UC002	R173_UC002.jpg	3/5/2020	CONCRETE PIPE IN CHANNEL			4	4	3	
184	UC001	R184_UC001.jpg	3/5/2020	OLD POND OR ROAD BED, PIPED UNDERGROUND FOR 10FT			5	3	3	

Representative Site

REACH	SITE	FIELD DATE	PHOTO	SUBSTRATE	EMBEDDEDNESS	SHELTER FOR FISH	CHANNEL ALTERATION	SEDIMENT DEPOSITION	VELOCITY DEPTH DIVERSITY	CHANNEL FLOW STATUS	BANK VEGETATION
002	RE001	2/10/2020	R002_RE001_DS.jpg,R002_RE001_US.jpg	MARGINAL	MARGINAL	SUBOPTIMAL	OPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
016	RE001	2/11/2020	R016_RE001_DS.jpg,R016_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
033	RE001	2/11/2020	R033_RE001_DS.jpg,R033_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	OPTIMAL	SUBOPTIMAL
039	RE001	2/13/2020	R039_RE001_DS.jpg,R039_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	OPTIMAL	OPTIMAL	MARGINAL	OPTIMAL	OPTIMAL
043	RE001	2/13/2020	R047_RE001_DS.jpg,R047_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL	MARGINAL
047	RE001	2/13/2020	R050_RE001_DS.jpg,R050_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	POOR	MARGINAL	MARGINAL	MARGINAL
050	RE001	2/13/2020	R043_RE001_DS.jpg,R043_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	OPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
054	RE001	2/14/2020	R054_RE001_DS.jpg,R054_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	MARGINAL	POOR	SUBOPTIMAL	SUBOPTIMAL
057	RE001	2/14/2020	R057_RE001_DS.jpg,R057_RE001_US.jpg	MARGINAL	SUBOPTIMAL	MARGINAL	POOR	MARGINAL	SUBOPTIMAL	MARGINAL	POOR
059	RE001	2/14/2020	R059_RE001_DS.jpg,R059_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL
063	RE001	2/14/2020	R063_RE001_DS.jpg,R063_RE001_US.jpg	POOR	MARGINAL	POOR	POOR	MARGINAL	POOR	MARGINAL	SUBOPTIMAL
065	RE001	2/14/2020	R065_RE001_DS.jpg,R065_RE001_US.jpg	POOR	POOR	POOR	POOR	POOR	POOR	MARGINAL	SUBOPTIMAL
067	RE001	2/17/2020	R067_RE001_DS.jpg,R067_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL
069	RE001	2/17/2020	R069_RE001_DS.jpg,R069_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL
080	RE001	2/17/2020	R080_RE001_DS.jpg,R080_RE001_US.jpg	SUBOPTIMAL	MARGINAL	MARGINAL	OPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	MARGINAL
082	RE001	2/17/2020	R082_RE001_DS.jpg,R082_RE001_US.jpg	MARGINAL	MARGINAL	SUBOPTIMAL	OPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
088	RE001	2/17/2020	R088_RE001_DS.jpg,R088_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
089	RE001	2/18/2020	R089_RE001_DS.jpg,R089_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	POOR	SUBOPTIMAL	MARGINAL	MARGINAL	SUBOPTIMAL
094	RE001	2/18/2020	R094_RE001_DS.jpg,R094_RE001_US.jpg	POOR	MARGINAL	POOR	POOR	MARGINAL	POOR	OPTIMAL	POOR
095	RE001	2/18/2020	R095_RE001_DS.jpg,R095_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL
102	RE001	2/18/2020	R102_RE001_DS.jpg,R102_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
105	RE001	2/18/2020	R105_RE001_DS.jpg,R105_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	POOR	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
107	RE001	2/18/2020	R107_RE001_DS.jpg,R107_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL
108	RE001	2/18/2020	R108_RE001_DS.jpg,R108_RE001_US.jpg	POOR	SUBOPTIMAL	POOR	OPTIMAL	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL
109	RE001	2/18/2020	R109_RE001_DS.jpg,R109_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL	POOR	SUBOPTIMAL	MARGINAL
110	RE001	2/19/2020	R110_RE001_DS.jpg,R110_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	POOR	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL
111	RE001	2/19/2020	R111_RE001_DS.jpg,R111_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
115	RE001	2/19/2020	R115_RE001_DS.jpg,R115_RE001_US.jpg	MARGINAL	MARGINAL	POOR	OPTIMAL	OPTIMAL	POOR	OPTIMAL	OPTIMAL
116	RE001	2/19/2020	R116_RE001_DS.jpg,R116_RE001_US.jpg	MARGINAL	MARGINAL	POOR	OPTIMAL	OPTIMAL	POOR	MARGINAL	SUBOPTIMAL
125	RE001	2/19/2020	R125_RE001_DS.jpg,R125_RE001_US.jpg	MARGINAL	OPTIMAL	POOR	OPTIMAL	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL
132	RE001	2/20/2020	R132_RE001_DS.jpg,R132_RE001_US.jpg	SUBOPTIMAL	OPTIMAL	POOR	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
134	RE001	2/20/2020	R134_RE001_DS.jpg,R134_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
136	RE001	2/20/2020	R136_RE001_DS.jpg,R136_RE001_US.jpg	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
137	RE001	2/20/2020	R137_RE001_DS.jpg,R137_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	MARGINAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
146	RE001	3/2/2020	R148_RE001_DS.jpg,R148_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
148	RE001	3/2/2020	R155_RE001_DS.jpg,R155_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
155	RE001	3/2/2020	R156_RE001_DS.jpg,R156_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL
156	RE001	3/2/2020	R159_RE001_DS.jpg,R159_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL
159	RE001	3/2/2020	R146_RE001_DS.jpg,R146_RE001_US.jpg	OPTIMAL	OPTIMAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL
173	RE001	3/5/2020	R173_RE001_DS.jpg,R173_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL
181	RE001	3/5/2020	R181_RE001_DS.jpg,R181_RE001_US.jpg	POOR	MARGINAL	POOR	MARGINAL	MARGINAL	POOR	MARGINAL	SUBOPTIMAL
184	RE001	3/5/2020	R184_RE001_DS.jpg,R184_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
197	RE001	3/5/2020	R200_RE001_DS.jpg,R200_RE001_US.jpg	POOR	MARGINAL	POOR	OPTIMAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL
200	RE001	3/9/2020	R197_RE001_DS.jpg,R197_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	MARGINAL
206	RE001	3/9/2020	R206_RE001_DS.jpg,R206_RE001_US.jpg	MARGINAL	MARGINAL	POOR	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
207	RE001	3/9/2020	R207_RE001_DS.jpg,R207_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL
211	RE001	3/9/2020	R211_RE001_DS.jpg,R211_RE001_US.jpg	POOR	SUBOPTIMAL	POOR	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	OPTIMAL

Representative Site continued

REACH	SITE	BANK CONDITION	RIPARIAN VEGETATION	WIDTH RIFFLE (IN)	WIDTH RUN (IN)	WIDTH POOL (IN)	DEPTH RIFFLE (IN)	DEPTH RUN (IN)	DEPTH POOL (IN)	BOTTOM SUBSTRATE	STREAM NOTES
002	RE001	POOR	SUBOPTIMAL	96	216	240	6	8	24	SAND/GRAVEL	PERENNIAL
016	RE001	MARGINAL	SUBOPTIMAL	60	84	120	6	8	24	GRAVEL/SAND	PERENNIAL
033	RE001	SUBOPTIMAL	SUBOPTIMAL	48	48	72	3	6	12	GRAVEL/SAND	PERENNIAL
039	RE001	OPTIMAL	SUBOPTIMAL	24	30	36	3	4	10	GRAVEL	PERENNIAL
043	RE001	POOR	SUBOPTIMAL	24	30	36	2	4	8	GRAVEL	PERENNIAL
047	RE001	POOR	SUBOPTIMAL	24	36	48	3	5	8	GRAVEL/SAND	PERENNIAL
050	RE001	SUBOPTIMAL	SUBOPTIMAL	36	48	60	3	5	10	GRAVEL	PERENNIAL
054	RE001	MARGINAL	SUBOPTIMAL	36	42	48	2	4	6	GRAVEL	PERENNIAL
057	RE001	POOR	SUBOPTIMAL	48	60	96	2	4	10	GRAVEL	PERENNIAL
059	RE001	MARGINAL	SUBOPTIMAL	48	60	72	4	6	12	GRAVEL/BOULDER	PERENNIAL
063	RE001	SUBOPTIMAL	MARGINAL	36	36	36	2	4	6	SILT	PERENNIAL
065	RE001	SUBOPTIMAL	POOR	60	60	60	3	5	10	SILT	PERENNIAL
067	RE001	MARGINAL	MARGINAL	72	84	96	2	5	10	GRAVEL	PERENNIAL
069	RE001	MARGINAL	MARGINAL	24	36	48	2	4	6	SILT	INTERMITTENT STREAM, HIGHLY INCISED, NOT ACTIVELY ERODED
080	RE001	MARGINAL	OPTIMAL	96	120	132	4	8	12	GRAVEL	PERENNIAL, SMELLS LIKE DETERGENT,SOAPY SUDS OBSERVED
082	RE001	MARGINAL	OPTIMAL	180	288	360	6	12	36	SAND	PERENNIAL, SWAN CREEK
088	RE001	POOR	SUBOPTIMAL	36	48	60	2	6	8	GRAVEL	PERENNIAL
089	RE001	MARGINAL	MARGINAL	48	48	60	1	3	6	GRAVEL	PERENNIAL
094	RE001	OPTIMAL	POOR	60	60	60	3	5	8	CONCRETE	PERENNIAL
095	RE001	MARGINAL	MARGINAL	48	48	60	3	5	10	GRAVEL	PERENNIAL
102	RE001	MARGINAL	SUBOPTIMAL	48	60	72	2	6	18	GRAVEL	PERENNIAL
105	RE001	MARGINAL	MARGINAL	36	60	84	3	8	18	GRAVEL/SAND	PERENNIAL
107	RE001	POOR	SUBOPTIMAL	12	36	48	2	4	8	GRAVEL	PERENNIAL
108	RE001	OPTIMAL	MARGINAL	12	18	42	1	3	6	GRAVEL	PERENNIAL
109	RE001	MARGINAL	MARGINAL	24	36	42	2	4	8	GRAVEL	PERENNIAL
110	RE001	SUBOPTIMAL	POOR	36	42	72	3	4	8	GRAVEL	PERENNIAL
111	RE001	SUBOPTIMAL	MARGINAL	60	66	84	3	6	10	GRAVEL/COBBLE	PERENNIAL, POSSIBLY OLD STREAM RESTORATION PROJECT?
115	RE001	OPTIMAL	OPTIMAL	24	36	36	2	4	6	SILT	INTERMITTENT
116	RE001	OPTIMAL	POOR	12	24	36	2	3	4	SILT	INTERMITTENT, HEAVY ORANGE FLOC
125	RE001	MARGINAL	SUBOPTIMAL	36	42	60	2	4	8	COBBLE/BOULDER	PERENNIAL
132	RE001	POOR	MARGINAL	36	48	8	3	5	7	COBBLE	PERENNIAL
134	RE001	MARGINAL	SUBOPTIMAL	96	108	108	4	6	10	COBBLE	PERENNIAL
136	RE001	POOR	SUBOPTIMAL	96	120	144	4	8	12	GRAVEL	PERENNIAL
137	RE001	POOR	SUBOPTIMAL	36	36	48	3	4	8	SILT	PERENNIAL
146	RE001	SUBOPTIMAL	SUBOPTIMAL	84	96	108	3	5	10	GRAVEL	PERENNIAL
148	RE001	MARGINAL	SUBOPTIMAL	12	24	48	1	3	8	GRAVEL	PERENNIAL
155	RE001	MARGINAL	SUBOPTIMAL	96	120	144	6	10	24	BOULDER COBBLE	PERENNIAL
156	RE001	OPTIMAL	SUBOPTIMAL	72	120	156	3	6	18	GRAVEL	PERENNIAL
159	RE001	SUBOPTIMAL	MARGINAL	120	144	180	8	10	24	BOULDERS	PERENNIAL
173	RE001	MARGINAL	SUBOPTIMAL	24	36	48	2	4	10	GRAVEL	PERENNIAL
181	RE001	POOR	SUBOPTIMAL	18	24	30	1	3	5	GRAVEL	INTERMITTENT
184	RE001	OPTIMAL	OPTIMAL	24	30	36	2	4	6	GRAVEL	PERENNIAL
197	RE001	MARGINAL	OPTIMAL	12	24	36	2	4	8	GRAVEL	INTERMITTENT
200	RE001	MARGINAL	SUBOPTIMAL	60	96	144	5	10	16	GRAVEL	PERENNIAL, CARSINS RUN
206	RE001	MARGINAL	SUBOPTIMAL	36	48	60	3	5	10	GRAVEL	PERENNIAL
207	RE001	MARGINAL	MARGINAL	12	18	30	2	4	6	SILT	PERENNIAL
211	RE001	MARGINAL	SUBOPTIMAL	18	24	30	1	4	6	GRAVEL	PERENNIAL

Habitat Assessment Rankings (in order from worst to best condition) - Poor, Marginal, Suboptimal, Optimal

Potential BMP

REACH	SITE	FIELD DATE	PHOTO	BMP TYPE	BMP TYPE 2	COMMENTS
002	PB001	2/10/2020	R002_PB001_1.jpg,R002_PB001_2.jpg	STREAM RESTORATION		
013	PB001	2/11/2020	R013_PB001.jpg	POND RETROFIT		
019	PB001	2/11/2020	R019_PB001_1.jpg,R019_PB001_2.jpg	SPSC, OUTFALL STABILIZATION		
022	PB001	2/11/2020	R022_PB001_1.jpg,R022_PB001_2.jpg	STREAM RESTORATION		
034	PB001	2/11/2020	R034_PB001.jpg	POND RETROFIT		
039	PB001	2/13/2020	R039_PB001_1.jpg,R039_PB001_2.jpg	RAIN GARDEN		
043	PB001	2/13/2020	R043_PB001.jpg	TREE PLANTING		
043	PB002	2/13/2020	R043_PB002_1.jpg,R043_PB002_2.jpg	STREAM RESTORATION		
053	PB001	2/14/2020	R053_PB001.jpg	TREE PLANTING		
057	PB001	2/14/2020	R057_PB001.jpg	STREAM RESTORATION/ SPSC		
065	PB001	2/14/2020	R065_PB001.jpg	TREE PLANTING		
065	PB002	2/14/2020	R065_PB002.jpg	TREE PLANTING		
067	PB001	2/17/2020	R067_PB001_1.jpg,R067_PB001_2.jpg,R067_PB001_3.jpg	POND RETROFIT		REPACE GABION WITH RISER, REMOVE CONCRETE, INSTALL OUTFALL CHANNEL
072	PB001	2/17/2020	R072_PB001.jpg	STREAM RESTORATION	NEW STORMWATER BMP	DAYLIGHT PIPED STREAM, PIPED APPROX 700 FEET, ALSO MAY BE ROOM HERE FOR SWM BMP IN OPEN FIELD
075	PB001	2/17/2020	R075_PB001.jpg	TREE PLANTING		
082	PB001	2/17/2020	R082_PB001.jpg	SPSC		
088	PB001	2/17/2020	R088_PB001_1.jpg,R088_PB001_2.jpg	STREAM RESTORATION		
107	PB001	2/18/2020	R107_PB001.jpg	TREE PLANTING		
107	PB002	2/18/2020	R107_PB002_1.jpg,R107_PB002_2.jpg,R107_PB002_3.jpg	STREAM RESTORATION		
108	PB001	2/18/2020	R108_PB001_1.jpg,R108_PB001_2.jpg	TREE PLANTING		
105	PB001	2/18/2020	R105_PB001_1,PB001_2,PB001_3,PB001_4,PB001_5.jpg	STREAM RESTORATION		ES001 AND ES002
123	PB001	2/19/2020	R123_PB001_1.jpg,R123_PB001_2.jpg	STREAM RESTORATION		SHORT REACH US FROM ROAD
125	PB001	2/19/2020	R125_PB001.jpg	TREE PLANTING		
126	PB001	2/19/2020	R126_PB001.jpg	STREAM RESTORATION		
130	PB001	2/20/2020	R130_PB001_1.jpg,R130_PB001_2.jpg	IMPERVIOUS REMOVAL	NEW STORMWATER BMP	
137	PB001	2/20/2020	R137_PB001_1.jpg,R137_PB001_2.jpg	STREAM RESTORATION		FROM HERE UPSTREAM, RESTORE ALL REACHES, INCISED CHANNELS
165	PB001	3/2/2020	R165_PB001_1.jpg,R165_PB001_2.jpg	STREAM RESTORATION		COULD INCLUDE UNMAPPED INCISED EPHEMERAL TRIB, RECEIVES ROAD RUNOFF, WAS STABILIZED WITH CURLEX
146	PB001	3/2/2020	R146_PB001.jpg	TREE PLANTING		TREE PLANTING ON RIGHT BANK, SPARSE CANOPY
173	PB001	3/5/2020	R173_PB001_1.jpg,R173_PB001_2.jpg,R173_PB001_3.jpg	STREAM RESTORATION		

Pipe Outfall

REACH	SITE	FIELD DATE	PHOTO	OUTFALL TYPE	PIPE TYPE	LOCATION	DIAMETER (IN)	CHANNEL WIDTH (	DISCHARGE	COLOR	ODOR	SEVERITY	CORRECTABILITY	ACCESS	DESCRIPTION	TYPEDE	COLORDES
002	PO001	2/10/2020	R002_PO001.jpg	STORMWATER	PVC	LEFT	8	1	YES	CLEAR	NONE	4	3	3	OLD POND OUTFALL		
002	PO002	2/10/2020	R002_PO002.jpg	STORMWATER	RCP	RIGHT	36	3	TRICKLE	CLEAR	NONE	5	5	2	WET POND OUTFALL		
016	PO001	2/11/2020	R016_PO001.jpg	STORMWATER	RCP	LEFT	36	5	YES	CLEAR	NONE	4	5	1			
033	PO001	2/11/2020	R033_PO001.jpg	STORMWATER	CMP	LEFT	36	2	YES	CLEAR	NONE	4	4	4			
042	PO001	2/13/2020	R042_PO001.jpg	STORMWATER	RCP	LEFT	24	5	NO			5	5	1			
047	PO001	2/13/2020	R047_PO001.jpg	STORMWATER	CMP	RIGHT	24	5	YES	CLEAR	NONE	5	5	3			
054	PO001	2/14/2020	R054_PO001.jpg	STORMWATER	PVC	RIGHT	12	3	YES	CLEAR	NO	2	2	2	OUTFALL FOR WET POND, ERODED CHANNEL		
059	PO001	2/14/2020	R059_PO001.jpg	STORMWATER	CMP	LEFT	18	0	YES	CLEAR	NO	3	4	3			RUST
059	PO002	2/14/2020	R059_PO002.jpg	STORMWATER	RCP	LEFT	24	4	YES	CLEAR	NONE	4	4	2			
080	PO001	2/17/2020	R080_PO001.jpg	WASTEWATER	CONCRETE	LEFT	0	4	YES	CLEAR	DETERGEN	2	4	1	WASTEWATER TREATMENT PLANT DISCHARGE	SOAPY S	
082	PO001	2/17/2020	R082_PO001.jpg	STORMWATER	RCP	RIGHT	24	7	YES	CLEAR	NONE	3	3	2			
088	PO001	2/17/2020	R088_PO001.jpg	STORMWATER	RCP	RIGHT	24	3	NO			4	5	2			
092	PO001	2/18/2020	R092_PO001.jpg	STORMWATER	CONCRETE WEIR	RIGHT	3	5	NO			5	5	1			
102	PO001	2/18/2020	R102_PO001.jpg	STORMWATER	RCP	RIGHT	36	3	YES	CLEAR	NONE	4	5	1			
102	PO002	2/18/2020	R102_PO002_1.jpg,R102_PO002_2.jpg,R102_PO002_3.jpg	STORMWATER	CMP	LEFT	36	3	YES	CLEAR	NONE	3	3	2	FIRST 20 FEET OF OUTFALL CHANNEL CHANNELIZED WITH CO		
105	PO001	2/18/2020	R105_PO001.jpg	STORMWATER	RCP	RIGHT	12	0	NO			4	4	2	DOUBLE 12 INCH PIPES, NO OUTFALL CHANNEL, PIPES PARTIA		
108	PO001	2/18/2020	R108_PO001.jpg	STORMWATER	RCP	RIGHT	20	3	NO			5	5	3			
111	PO001	2/19/2020	R111_PO001.jpg	STORMWATER	RCP	LEFT	30	4	YES	CLEAR	NO	5	5	2			ALGAE
111	PO002	2/19/2020	R111_PO002.jpg	STORMWATER	RCP	LEFT	12	3	NO			4	4	3	MOSTLY SUBMERGED		
111	PO003	2/19/2020	R111_PO003.jpg	STORMWATER	RCP	LEFT	12	4	YES	CLEAR	NONE	4	4	3			
111	PO004	2/19/2020	R111_PO004_DS.jpg,R111_PO004_US.jpg	STORMWATER	RCP	LEFT	36	5	YES	CLEAR	NONE	4	5	2			ALGAE
111	PO005	2/19/2020	R111_PO005_1.jpg,R111_PO005_2.jpg	STORMWATER	RCP	RIGHT	12	4	YES	CLEAR	NONE	4	5	3			
125	PO001	2/19/2020	R125_PO001_DS.jpg,R125_PO001_US.jpg	STORMWATER	CMP	LEFT	24	3	NO			5	5	3	OUTFALLS ADJACENT TO SWM BMP		
137	PO001	2/20/2020	R137_PO001.jpg	STORMWATER	RCP	LEFT	36	4	TRICKLE	CLEAR	NONE	5	4	2			ALGAE
146	PO001	3/2/2020	R146_PO001.jpg	STORMWATER	CMP	RIGHT	15	0	NO			4	4	1			
155	PO001	3/2/2020	R155_PO001.jpg	UNKNOWN	TERRA COTTA	LEFT	12	0	NO			4	4	3	ENDWALL HAS SEPERATED		
158	PO001	3/2/2020	R158_PO001.jpg	STORMWATER	CMP	RIGHT	30	2	TRICKLE	CLEAR	NONE	4	4	2			
156	PO001	3/2/2020	R156_PO001_DS.jpg,R156_PO001_US.jpg	STORMWATER	SMOOTH METAL	RIGHT	24	1	NO			3	3	3	40FT SECTION OF CONCRETE OUTFALL, PERCHED 2 FEET ABO		
156	PO002	3/2/2020	R156_PO002.jpg	STORMWATER	CONCRETE DITCH	LEFT	0	2	TRICKLE	CLEAR	NONE	4	3	3			
146	PO002	3/2/2020	R146_PO002.jpg	STORMWATER	CMP	LEFT	24	3	NO			4	4	2			
146	PO003	3/2/2020	R146_PO003.jpg	STORMWATER	RCP	RIGHT	12	3	NO			5	5	2			
165	PO001	3/2/2020	R165_PO001.jpg	UNKNOWN	CORREGATED PLASTIC	RIGHT	15	1	TRICKLE	CLEAR	NONE	5	5	1			
173	PO001	3/5/2020	R173_PO001_DS.jpg,R173_PO001_US.jpg	STORMWATER	CMP	RIGHT	24	3	TRICKLE	CLEAR	NONE	3	3	2	ERODED OUTFALL CHANNEL AFTER 15 FT OF RIPRAP ENDS		
206	PO001	3/9/2020	R206_PO001_1.jpg,R206_PO001_2.jpg	STORMWATER	RCP	RIGHT	15	3	NO			5	5	2	POND OUTFALL		

Fish Barrier

REACH	SITE	FIELD DATE	PHOTO	BLOCKAGE	TYPE	REASON	DROP (IN)	DEPTH (IN)	SEVERITY	CORRECTIBILIT	ACCESS	DESCRIPTION
057	FB001	2/14/2020	R057_FB001.jpg	TOTAL	ROAD CROSSING	TOO HIGH	180	0	1	2	2	
111	FB001	2/19/2020	R111_FB001.jpg	TOTAL	ROAD CROSSING	TOO HIGH	5	0	4	4	1	ROAD CULVERT CONCRETE SURFACE IS 5 INCHES ABOVE STREAM WATER LEVEL
156	FB001	3/2/2020	R156_FB001.jpg	TOTAL	ROAD CROSSING	TOO HIGH	11	0	3	4	3	
184	FB001	3/5/2020	R184_FB001.jpg	TOTAL	CHANNELIZED	TOO HIGH	48	0	2	3	2	CONCRETE CHANNEL

Channel Alteration

REACH	SITE	FIELD DATE	PHOTO	TYPE	BOTTOM WIDTH	LENGTH (FT)	PERENNIAL	SEDIMENTATIO	VEGETATION IN	ROAD CROSSING	LENGTH ABOVE	LENGTH BELOW	SEVERITY	CORRECTABILI	ACCESS	DESCRIPTION
057	CA001	2/14/2020	R057_CA001_1.jpg,R057_CA001_2.jpg	OLD ROAD CROSSING	5	30	YES	NO	NO	YES	0	0	1	2	2	
059	CA001	2/14/2020	R059_CA001.jpg	CONCRETE	3	50	YES	NO	NO	NO	0	0	3	3	3	CONCRETE CHANNELIZATION
071	CA001	2/17/2020	R071_CA001.jpg	CONCRETE	7	100	NO	NO	NO	NO	0	0	2	2	1	
073	CA001	2/17/2020	R073_CA001_DS.jpg,R073_CA001_US.jpg	RIP RAP UPSTREAM, GABION BASKET DO	3	0	NO	NO	NO	NO	0	0	3	4	1	
094	CA001	2/18/2020	R094_CA001_DS.jpg,R094_CA001_US.jpg	CONCRETE	5	0	YES	YES	YES	NO	0	0	2	4	3	CONCRETE TRAPEZOIDAL CHANNEL
100	CA001	2/18/2020	R100_CA001_1.jpg,R100_CA001_2.jpg	CONCRETE	3	0	NO	YES	YES	NO	0	0	5	4	1	
101	CA001	2/18/2020	R101_CA001_1.jpg,R101_CA001_2.jpg	CONCRETE	2	0	NO	YES	YES	NO	0	0	3	3	2	
102	CA001	2/18/2020	R102_CA001_1.jpg,R102_CA001_2.jpg	CONCRETE	3	0	YES	YES	NO	NO	0	0	3	4	2	
102	CA002	2/18/2020	R102_CA002_1.jpg,R102_CA002_2.jpg	CONCRETE APRON 15' PAST POND OUTF	6	0	YES	NO	NO	NO	0	0	5	5	3	RESTORED WITH ROCK CROSS VANES
105	CA001	2/18/2020	R105_CA001.jpg	CONCRETE	3	15	YES	NO	NO	NO	0	0	2	3	2	CONCRETE CHANNELIZED TRAPEZOIDAL CHANNEL
105	CA002	2/18/2020	R105_CA002_1.jpg,R105_CA002_2.jpg,R105_CA002_3.jpg	RIP RAP FOR APPROX 10 FEET AT DS END	0	0	YES	NO	NO	NO	0	0	2	3	2	CONCRETE CHANNELIZATION IMMIEDATELY US, BREAKING UP
106	CA001	2/18/2020	R106_CA001.jpg	RIPRAP	4	0	YES	NO	NO	NO	0	0	4	5	1	RIP RAP ON RB AT PARKING LOT
110	CA001	2/19/2020	R110_CA001.jpg	CONCRETE WALL/GABION	10	30	YES	NO	NO	YES	0	40	3	3	1	CONCRETE WALL FOR 10' IMMEDIATELY DS OF CULVERT, THEN 20' OF GABION BASKET
111	CA001	2/19/2020	R111_CA001.jpg	GABION/RIP RAP	5	0	YES	NO	NO	YES	30	0	4	4	1	RIGHT BANK GABION BASKET ABOVE ROAD CROSSING FOR 30', THEN 50' OF RIP RAP
111	CA002	2/19/2020	R111_CA002.jpg	GABION	5	20	YES	NO	NO	NO	0	0	4	4	1	GABION ON RIGHT BANK
111	CA003	2/19/2020	R111_CA003_1.jpg,R111_CA003_2.jpg,R111_CA003_3.jpg	RIP RAP AND GABION	5	0	YES	NO	NO	NO	0	0	4	4	2	RIP RAP ON BOTH BANKS ENTIRE LENGTH BETWEEN ROAD CROSSINGS, 50 FEET SECTION OF GABION ON RIGHT BANK
111	CA004	2/19/2020	R111_CA004.jpg	RIP RAP	2	0	YES	NO	NO	NO	0	0	4	4	2	
125	CA001	2/19/2020	R125_CA001.jpg	RIP RAP	4	0	NO	NO	NO	NO	0	0	5	4	1	RIP RAP ON THIS SINGLE SEGMENT
146	CA001	3/2/2020	R146_CA001.jpg	RIP RAP AND CONCRETE	15	70	YES	NO	NO	NO	0	0	3	4	2	RIP RAP ALONG BOTTOM, THEN CONCRETE WALL 10 FT TO STABILIZE ROAD
146	CA002	3/2/2020	R146_CA002.jpg	STONE OLD STONE WALL ON RIGHT BAN	20	60	YES	NO	NO	NO	0	0	5	5	2	
156	CA001	3/2/2020	R156_CA001_1.jpg,R156_CA001_2.jpg	GABION AND RIP RAP	10	0	YES	NO	NO	YES	0	0	4	5	2	GABION ON LEFT BANK, 30' DS FROM ROAD CROSSING, RIP RAP 150' UPSTREAM ON RIGHT BANK FROM ROAD CROSS

Trash Dumping

REACH	SITE	FIELD DATE	PHOTO	TYPE	TRUCKLOADS	EXTENT	VOLUNTEER	OWNER TYPE	OWNER NAME	SEVERITY	CORRECTIBILIT	ACCESS	STREAM	TYPE DESCRIPTION
039	TD001	2/13/2020	R139_TD001.jpg	RESIDENTIAL	1	SINGLE	YES	PUBLIC	City of Aberdeen Pa	4	1	1		CANS, ALUMINUM, BOTTLES
214	TD001	3/9/2020	R214_TD001.jpg	RESIDENTIAL	3	SINGLE	NO	PRIVATE	Mt Zion UMC	2	4	1		OLD APPLIANCES

APPENDIX B – Hot Spot Site Investigation Data Sheets

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE ID: HSI-1
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#: 472,473,474
MAP GRID:	LAT ___° ____' ____" LONG ___° ____' ____"		LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Travelodge Hotel

Category: ☑ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: hotel

	INDEX*
B. VEHICLE OPERATIONS ☒ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☑ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☒ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	●
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 70 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☒ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☐ N ☐ Can't Tell

F. Turf/Landscaping Areas ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ____% Turf grass 80 % Landscaping 20 % Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☒ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. Storm Water Infrastructure ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☒ Y ☐ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. Initial Hotspot Status - Index Results

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)
☑ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

OPEN MOWED AREA DOWN GRADIENT OF PARKING LOT, GOOD OPP. FOR POND

REVISIT

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-2
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 885
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Aberdeen Muffler Jacks

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: auto shop

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☒ Other: repair	
B2. Approximate number of vehicles: 15	
B3. Vehicle activities *(circle all that apply)*: Maintained (Repaired) Recycled Fueled Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 70 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 5 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☐ N ☐ Don't know ☒ None visible
Are downspouts directly connected to storm drains? ☐ Y ☐ N ☒ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. Turf/Landscaping Areas ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ___% Turf grass ___% Landscaping 100% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☒ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☒ Y ☐ N ☐ Can't Tell

G. Storm Water Infrastructure ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. Initial Hotspot Status - Index Results

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SWM

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-3
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 397
MAP GRID:	LAT ___° ____' ____" LONG ___° ____' ____"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: One Hour Heating + Air Conditioning

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: HVAAC

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☒ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: 4	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed (Stored)	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☒ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☐ Garbage ☐ Construction materials ☐ Hazardous materials	○
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 50 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 10 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☒ Breaking up
Surface material ☐ Paved/Concrete ☒ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* — **Observed Pollution Source?** ☐

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?** ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO CURB + GUTTER, GRAVEL LOT

NO GOOD ROOM FOR SW BMP

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-4
DATE: 2/13/20	ASSESSED BY: / CAMERA ID:	PIC#: 475, 476, 477
MAP GRID:	LAT ___°____'____" LONG ___°____'____"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Core+Man

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: Plumbing supply store

INDEX*

B. VEHICLE OPERATIONS ☒ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☐ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☒ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell	●
C2. Are materials stored outside? ☒ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☒ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☒ concrete/asphalt ☐ bermed area	●
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☒ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☒ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☒ Y ☐ N ☐ Can't Tell	●
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☒ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☒ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☒ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	●
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 80 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○ ○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☒ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. Turf/Landscaping Areas ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ____% Turf grass 100% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☒ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. Storm Water Infrastructure ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. Initial Hotspot Status - Index Results

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SWM

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	**SUBWATERSHED:**		**UNIQUE SITE ID:** HSI-5
DATE: 2/13/20	**ASSESSED BY:**	**CAMERA ID:**	**PIC#:** 478
MAP GRID:	**LAT** ___°____'____" **LONG** ___°____'____"		**LMK #**

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: North End Import Service

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: Car Shop

INDEX*

B. VEHICLE OPERATIONS ☐ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☒ Other: Repair shop	
B2. Approximate number of vehicles: 6	
B3. Vehicle activities *(circle all that apply)*: Maintained (Repaired) Recycled Fueled Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 50 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 10 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☒ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. Turf/Landscaping Areas ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ____% Turf grass 100 % Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☒ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. Storm Water Infrastructure ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. Initial Hotspot Status - Index Results

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SUM

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-6
DATE: 2/13/20	ASSESSED BY: / CAMERA ID:	PIC#: 480
MAP GRID:	LAT ___° ____' ____" LONG ___° ____' ____"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Chesapeake Bay Dental, S.A. Bham, MD.

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: dentist + doctor

	INDEX*
B. VEHICLE OPERATIONS ☒ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☒ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☐ Garbage ☐ Construction materials ☐ Hazardous materials	○
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 40 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 5 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☒ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. Turf/Landscaping Areas ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ____% Turf grass 100 % Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☒ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. Storm Water Infrastructure ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. Initial Hotspot Status - Index Results

☑ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

POSSIBLE RAIN GARDEN(S) TO TREAT ROOF
PARKING LOT SLOPED TO ROAD, NO ROOM

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-7
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 380, 381
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Unique CarWash / Scott's Transportation

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related ☐ Golf Course ☐ Marina ☐ Animal Facility ☐ Miscellaneous

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: car wash

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ✓
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: car wash / transportation	
B2. Approximate number of vehicles: 4	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled (Washed) Stored	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☒ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☒ Y ☐ N ☐ Can't Tell	●
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?**
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?**
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?**
E1. Building: Approximate age: 80 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ▭ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 25 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☒ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)
☑ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

REVISIT, POTENTIAL OPEN AREA BEHIND BUILDING FOR SW BMP, WOULD ONLY TREAT BUILDING. LOW PRIORITY PARKING LOT DRAINS TOWARDS RR

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HS1-8
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 378,379
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Mr. Tire

Category: ☐ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: tire store

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: auto service	
B2. Approximate number of vehicles: 10	
B3. Vehicle activities *(circle all that apply)*: Maintained (Repaired) Recycled Fueled Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☒ Y ☐ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 60 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☒ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☒ Y ☐ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ___% Turf grass 100 % Landscaping ___% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☒ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☒ Y ☐ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy	
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	FULL OF WATER,
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	UNABLE TO
Litter	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5	ASSESS

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SW BMP

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-9
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 382, 383
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Scoop's

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: restaurant / ice cream shop

	INDEX*
B. VEHICLE OPERATIONS ☒ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 80 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☑ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SW BMP

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-10
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 384,385
MAP GRID:	LAT ___° ____' ____" LONG ___° ____' ____"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Szechuan Inn

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related ☐ Golf Course ☐ Marina ☐ Animal Facility ☐ Miscellaneous

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: restaurant

	INDEX*
B. VEHICLE OPERATIONS ☒ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 70 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○ ○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 30 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☒ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☒ Y ☒ N ☐ Don't know FRONT HALF CONNECTED

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☒ Y ☐ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
☐ Refer for immediate enforcement
☐ Suggest follow-up on-site inspection
☐ Test for illicit discharge
☐ Include in future education effort
☐ Check to see if hotspot is an NPDES non-filer
☐ Onsite non-residential retrofit
☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SWM

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-11
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 386, 387, 388
MAP GRID:	LAT ___° ____' ____" LONG ___° ____' ____"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Pat's Pizza

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: restaurant

	INDEX*
B. VEHICLE OPERATIONS ☒ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 5 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 5 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ___% Turf grass ___% Landscaping 100% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☒ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
Litter	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SWM, ENTIRE LOT DRAINS TO FRONT OF PROP TO INLET

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-12
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 389.390
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Domo's

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: restaurants

	INDEX*
B. VEHICLE OPERATIONS ☒ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 50 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SWM

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-13
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 391, 392
MAP GRID:	LAT ___°___'___" LONG ___°___'___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Astro Car Wash

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: car wash

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☒ Other: car wash	
B2. Approximate number of vehicles: 0	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled (Washed) Stored	●
B4. Are vehicles stored and/or repaired outside? ☐ Y ☒ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☒ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 60 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ___% Turf grass 100 % Landscaping ___% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☒ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SW BMP

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-14
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 393
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: 7 Eleven

Category: ☐ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: gas station

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled (Fueled) Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☐ Y ☒ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 60 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 16 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☐ N ☐ Don't know ☒ None visible
Are downspouts directly connected to storm drains? ☐ Y ☐ N ☒ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ___% Turf grass 50 % Landscaping 50% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☒ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☒ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-15
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 394, 395
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Maacco Body Shop

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: auto body shop

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☒ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained (Repaired) Recycled Fueled Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☒ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ✓
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☒ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	●
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 50 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☒ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. Turf/Landscaping Areas ☐ N/A *(skip to part G)*

Observed Pollution Source? ☐

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. Storm Water Infrastructure ☐ N/A *(skip to part H)*

Observed Pollution Source? ☐

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. Initial Hotspot Status - Index Results

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)
☑ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:

- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM FOR SWM

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: 16
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 370,371,372
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Thompson's Auto Repair Center / Budget Rental

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: auto repair

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☒ Other: auto repair / truck rental	
B2. Approximate number of vehicles: 30	
B3. Vehicle activities *(circle all that apply)*: (Maintained) (Repaired) Recycled (Fueled) Washed (Stored)	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☒ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☒ Y ☐ N ☐ Can't Tell	●
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 40 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○ ○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 10 yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☐ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☐ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☐ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:
LOW PRIORITY REVISIT

CONVERT DITCH TO BMP?

WATERSHED: Aberden	SUBWATERSHED:		UNIQUE SITE ID: HSI-17
DATE: 2/10/20	ASSESSED BY:	CAMERA ID:	PIC#: 373
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"		LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Sunoco

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related ☐ Golf Course ☐ Marina ☐ Animal Facility ☐ Miscellaneous

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: gas station

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled (Fueled) Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☐ Y ☒ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☒ Y ☐ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell	●
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 50 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 15 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☐ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ___% Turf grass ___% Landscaping 100% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☒ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☒ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☒ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☒ Y ☐ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

DRAINS TO SAME DITCH AS HSI-~~17~~ 16, THOMPSON'S AUTO
LOW PRIORITY REVISIT

Hotspot Site Investigation **HSI**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-18	
DATE: 2/10/20	ASSESSED BY:	CAMERA ID:	PIC#: 376.377
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"		LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Aberdeen Used Tires

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: Used tires sales

INDEX*

B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)* — **Observed Pollution Source?** ☐

B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: tire sales

B2. Approximate number of vehicles: 3

B3. Vehicle activities *(circle all that apply)*: Maintained (Repaired) Recycled Fueled Washed Stored — ●

B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell — ●
Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell

B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell — ○

B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell — ○

B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell — ○

B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell — ○
Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell

C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)* — **Observed Pollution Source?** ☐

C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell — ○
If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell

C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ — ○
Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area

C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell — ○

C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell — ○

C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell — ○

C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell — ○

C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell — ○

D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)* — **Observed Pollution Source?** ☐

D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials — ●

D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing — ○

D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell — ●
If yes, are runoff diversion methods (berms, curbs) lacking? ☒ Y ☐ N ☐ Can't Tell

E. PHYSICAL PLANT ☐ N/A *(Skip to part F)* — **Observed Pollution Source?** ☐

E1. Building: Approximate age: 60 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged — ○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know — ○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☒ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ **N/A** *(skip to part G)* **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass 100 % Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☒ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

NO ROOM DOWNGRADIENT FOR BMP

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: 19
DATE: 2/10/20	ASSESSED BY: / CAMERA ID:	PIC#: 374.375
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Aberdeen Diner

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: restaurant

	INDEX*
B. VEHICLE OPERATIONS ☒ **N/A** *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☐ Other: _____	
B2. Approximate number of vehicles: _____	
B3. Vehicle activities *(circle all that apply)*: Maintained Repaired Recycled Fueled Washed Stored	○
B4. Are vehicles stored and/or repaired outside? ☐ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☐ Y ☐ N ☐ Can't Tell	○
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☐ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☐ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☐ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☐ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ **N/A** *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ **N/A** *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☐ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	○
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☒ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ **N/A** *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 80 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 20 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☐ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☐ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☒ **N/A** *(skip to part G)* **Observed Pollution Source?**

F1. % of site with: Forest canopy ____% Turf grass ____% Landscaping ____% Bare Soil ____%

F2. Rate the turf management status: ☐ High ☐ Medium ☐ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☐ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☐ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☐ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☑ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
- ☐ Refer for immediate enforcement
- ☐ Suggest follow-up on-site inspection
- ☐ Test for illicit discharge
- ☐ Include in future education effort
- ☐ Check to see if hotspot is an NPDES non-filer
- ☐ Onsite non-residential retrofit
- ☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
- ☐ Schedule a review of storm water pollution prevention plan

Notes:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: HSI-20
DATE: 2/10/20	ASSESSED BY: SB/AB CAMERA ID:	PIC#: 367,368,369
MAP GRID:	LAT ___° ___' ___" LONG ___° ___' ___"	LMK #

A. SITE DATA AND BASIC CLASSIFICATION

Name and Address: Caliber Collision

Category: ☒ Commercial ☐ Industrial ☐ Institutional ☐ Municipal ☐ Transport-Related
Miscellaneous: ☐ Golf Course ☐ Marina ☐ Animal Facility

SIC code (if available): _____

NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown

Basic Description of Operation: auto body shop

	INDEX*
B. VEHICLE OPERATIONS ☐ N/A *(Skip to part C)*	**Observed Pollution Source?** ☐
B1. Types of vehicles: ☐ Fleet vehicles ☐ School buses ☒ Other: auto body shop	
B2. Approximate number of vehicles: 20	
B3. Vehicle activities *(circle all that apply)*: Maintained (Repaired) Recycled Fueled Washed Stored	●
B4. Are vehicles stored and/or repaired outside? ☒ Y ☐ N ☐ Can't Tell Are these vehicles lacking runoff diversion methods? ☒ Y ☐ N ☐ Can't Tell	●
B5. Is there evidence of spills/leakage from vehicles? ☐ Y ☒ N ☐ Can't Tell	○
B6. Are uncovered outdoor fueling areas present? ☐ Y ☒ N ☐ Can't Tell	○
B7. Are fueling areas directly connected to storm drains? ☐ Y ☒ N ☐ Can't Tell	○
B8. Are vehicles washed outdoors? ☐ Y ☒ N ☐ Can't Tell Does the area where vehicles are washed discharge to the storm drain? ☐ Y ☐ N ☐ Can't Tell	○
C. OUTDOOR MATERIALS ☒ N/A *(Skip to part D)*	**Observed Pollution Source?** ☐
C1. Are loading/unloading operations present? ☐ Y ☐ N ☐ Can't Tell If yes, are they uncovered *and* draining towards a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell	○
C2. Are materials stored outside? ☐ Y ☐ N ☐ Can't Tell If yes, are they ☐ Liquid ☐ Solid Description: _____ Where are they stored? ☐ grass/dirt area ☐ concrete/asphalt ☐ bermed area	○
C3. Is the storage area directly or indirectly connected to storm drain (circle one)? ☐ Y ☐ N ☐ Can't Tell	○
C4. Is staining or discoloration around the area visible? ☐ Y ☐ N ☐ Can't Tell	○
C5. Does outdoor storage area lack a cover? ☐ Y ☐ N ☐ Can't Tell	○
C6. Are liquid materials stored *without* secondary containment? ☐ Y ☐ N ☐ Can't Tell	○
C7. Are storage containers missing labels or in poor condition (rusting)? ☐ Y ☐ N ☐ Can't Tell	○
D. WASTE MANAGEMENT ☐ N/A *(Skip to part E)*	**Observed Pollution Source?** ☐
D1. Type of waste *(check all that apply)*: ☒ Garbage ☐ Construction materials ☐ Hazardous materials	●
D2. Dumpster condition *(check all that apply)*: ☒ No cover/Lid is open ☐ Damaged/poor condition ☐ Leaking or evidence of leakage (stains on ground) ☐ Overflowing	●
D3. Is the dumpster located near a storm drain inlet? ☐ Y ☐ N ☐ Can't Tell If yes, are runoff diversion methods (berms, curbs) lacking? ☐ Y ☐ N ☐ Can't Tell	○
E. PHYSICAL PLANT ☐ N/A *(Skip to part F)*	**Observed Pollution Source?** ☐
E1. Building: Approximate age: 50 yrs. Condition of surfaces: ☒ Clean ☐ Stained ☐ Dirty ☐ Damaged	○
Evidence that maintenance results in discharge to storm drains (staining/discoloration)? ☐ Y ☒ N ☐ Don't know	○

*Index: ○ denotes potential pollution source; ☐ denotes confirmed polluter (evidence was seen)

E2. Parking Lot: Approximate age 5 yrs. Condition: ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up
Surface material ☒ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know

E3. Do downspouts discharge to impervious surface? ☒ Y ☐ N ☐ Don't know ☐ None visible
Are downspouts directly connected to storm drains? ☐ Y ☐ N ☐ Don't know

E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)? ☐ Y ☒ N ☐ Can't Tell

F. TURF/LANDSCAPING AREAS ☐ **N/A** *(skip to part G)* — **Observed Pollution Source?**

F1. % of site with: Forest canopy ___% Turf grass 100% Landscaping ___% Bare Soil ___%

F2. Rate the turf management status: ☐ High ☐ Medium ☒ Low

F3. Evidence of permanent irrigation or "non-target" irrigation ☐ Y ☒ N ☐ Can't Tell

F4. Do landscaped areas drain to the storm drain system? ☒ Y ☐ N ☐ Can't Tell

F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? ☐ Y ☒ N ☐ Can't Tell

G. STORM WATER INFRASTRUCTURE ☐ **N/A** *(skip to part H)* — **Observed Pollution Source?**

G1. Are storm water treatment practices present? ☐ Y ☒ N ☐ Unknown If yes, please describe: _____

G2. Are private storm drains located at the facility? ☐ Y ☒ N ☐ Unknown
Is trash present in gutters leading to storm drains? If so, complete the index below.

Index Rating for Accumulation in Gutters

	Clean				Filthy
Sediment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Organic material	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Litter	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

G3. Catch basin inspection – Record SSD Unique Site ID here: _____ Condition: ☐ Dirty ☐ Clean

H. INITIAL HOTSPOT STATUS - INDEX RESULTS

☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑ Potential hotspot (5 to 10 circles but no boxes checked)
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)

Follow-up Action:
☐ Refer for immediate enforcement
☐ Suggest follow-up on-site inspection
☐ Test for illicit discharge
☐ Include in future education effort
☐ Check to see if hotspot is an NPDES non-filer
☐ Onsite non-residential retrofit
☐ Pervious area restoration; complete PAA sheet and record Unique Site ID here: _____
☐ Schedule a review of storm water pollution prevention plan

Notes:

LOW PRIORITY REVISIT

MAY BE ROOM ON EAST SIDE OF PARKING LOT FOR BMP

UTILITIES MAY BE ISSUE

APPENDIX C – RRI Field Forms

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-1	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#: 905, 906, 907

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Eagle's Rest Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed: _____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <1/4 (1/4) 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 10 years | Percent of Homes with Garages: 100% With Basements 100% | **INDEX***

Sewer Service? ☒ Y ☐ N ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	50		
B2. % of lot with grass cover	50		●
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 70		●
	Med: 20		
	Low: 10		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	20		
D3. Downspouts discharge to pervious area	80		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☒ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☐ <1 acre ☒ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☐ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

SEVERAL LARGE WET PONDS

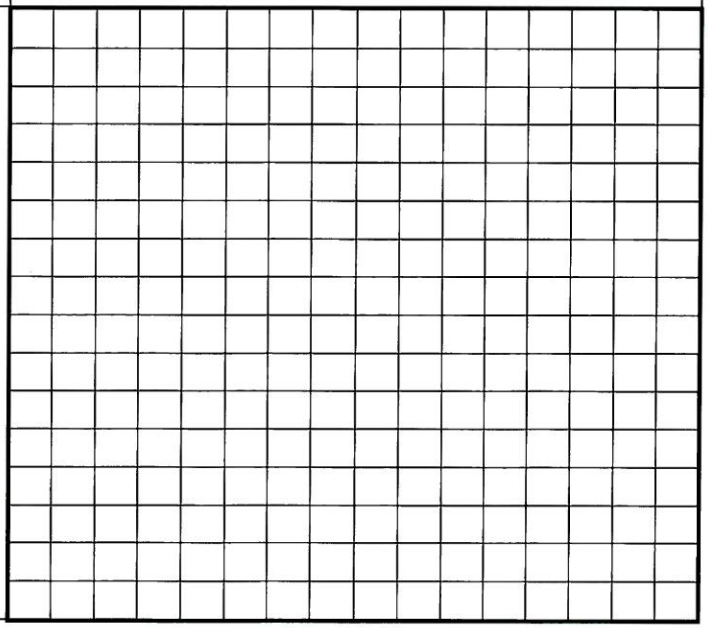
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-2	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#: 902, 903, 904

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: The Yards at Fieldside Village Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <1/4 1/4 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 10 years | Percent of Homes with Garages: 40 % With Basements — % | **INDEX***

Sewer Service? ☒ Y ☐ N ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	90		
B2. % of lot with grass cover	10		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 80		●
	Med: 20		
	Low: 0		
B8. Outdoor swimming pools? ☒ Y ☐ N ☐ Can't Tell Estimated # 1			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☒ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	80		◆ ●
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	10		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☒ Y ☐ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☒ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☐ <1 acre ☒ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☒ N			●
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

WET POND PRESENT

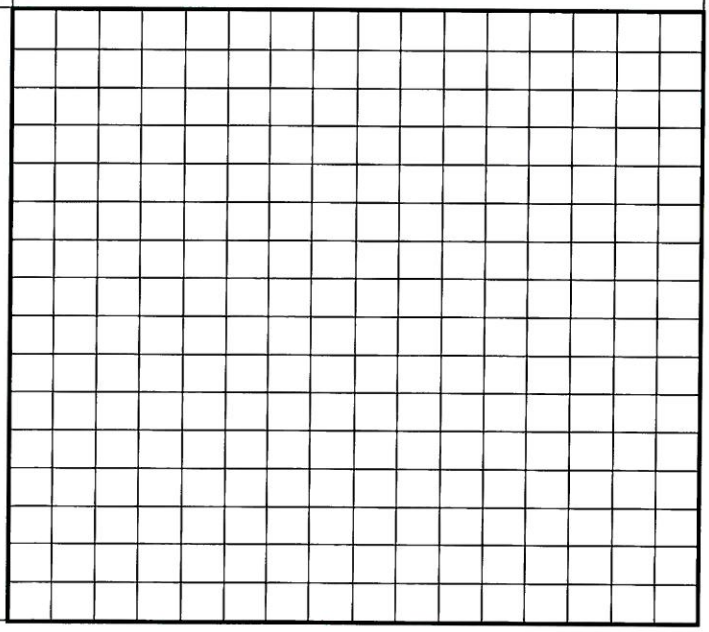
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-3	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#:901

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Residences of Summerlin Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <1/4 1/4 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 15 years | Percent of Homes with Garages: — % With Basements — % | **INDEX***

Sewer Service? ☒ Y ☐ N ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	80		
B2. % of lot with grass cover	20		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 40		●
	Med: 60		
	Low: 0		
B8. Outdoor swimming pools? ☒ Y ☐ N ☐ Can't Tell Estimated # 1			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	100		◆ ●
D2. Downspouts are directed to impervious surface			
D3. Downspouts discharge to pervious area			
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☒ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☒ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre BIORETENTION, SWALES			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			●
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

NEW APT

ABUNDANT BMPS

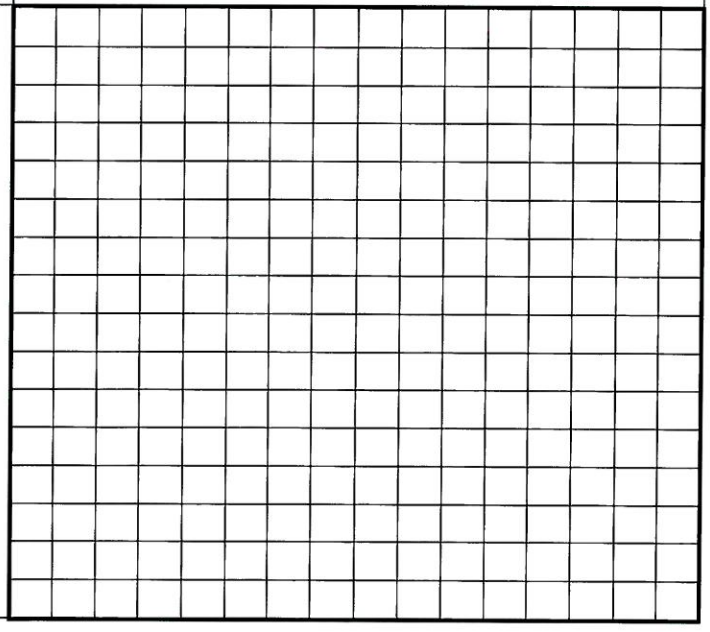
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-4	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#: 886, 887, 888, 889 Old Osprey 890, 891

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: The Osprey Apartments Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed: Cranberry Run Apartments

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <1/4 1/4 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 50 years | Percent of Homes with Garages: 0 % With Basements 0 %

	INDEX*
Sewer Service? ☒ Y ☐ N	○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%	○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	60		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 60		
	Low: 40		
B8. Outdoor swimming pools? ☒ Y ☐ N ☐ Can't Tell Estimated # ___			●
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☒ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 4 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☒ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer			◇ ○
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	90		
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty LEAVES			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			●
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

The Osprey:
ROOM BEHIND POOL FOR BMP

Cranberry Run:
ROOM AT FAR END (889)
Old Osprey Apts.
ROOM BEHIND DUMPSTERS (890, 891)

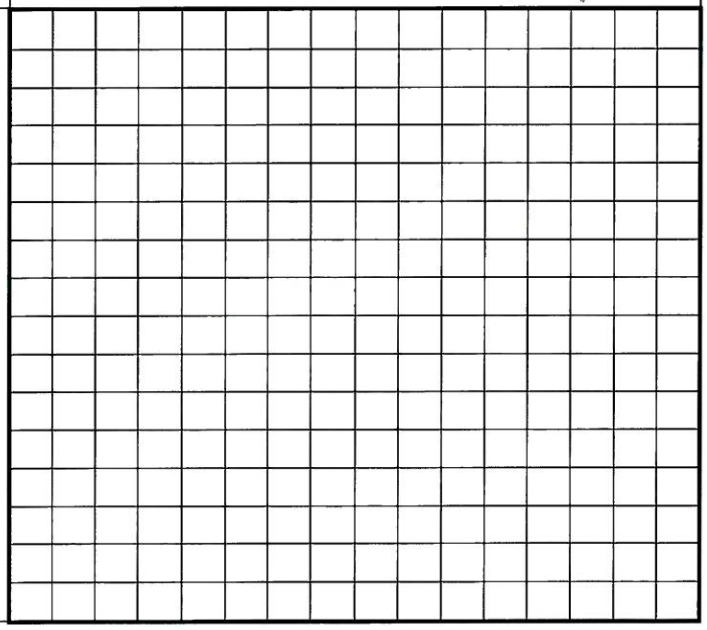
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-S	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#: 880, 881

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Pine Ridge Rental Homes Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

Homeowners Association? ☐ Y ☐ N ☒ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <⅛ ⅛ ¼ ⅓ ⅓ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 70 years	Percent of Homes with Garages: 0 % With Basements 0 %	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%		○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	40		
B2. % of lot with grass cover	60		●
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 20		
	Low: 80		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☐ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 2 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer			◇ ○
D2. Downspouts are directed to impervious surface			
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☐ Y ☒ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN GARDENS
RAIN BARRELS

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-6	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#: 882, 883, 884

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Hillside Terrace Apartments Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <1/4 1/4 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 20 years | Percent of Homes with Garages: — % With Basements — %

			INDEX*
Sewer Service? ☒ Y ☐ N			○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%			○
Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	75		
B2. % of lot with grass cover	25		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: ___		
	Low: 100		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☒ N If yes, are they on one side of street ☐ or along both sides ☐			
☐ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? _____ ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☐ N/A			○
C4. Is curb and gutter present? ☐ Y ☒ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	60		◆ ●
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	40		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☒ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☒ Y ☐ N			●
Buffers/floodplain present: ☐ Y ☒ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☒ Oil and Grease ☐ Trash/Litter ☐ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

ROOM FOR BMP AT EAST SIDE OF PARKING LOT + IN FRONT ALONG 132

REVISIT

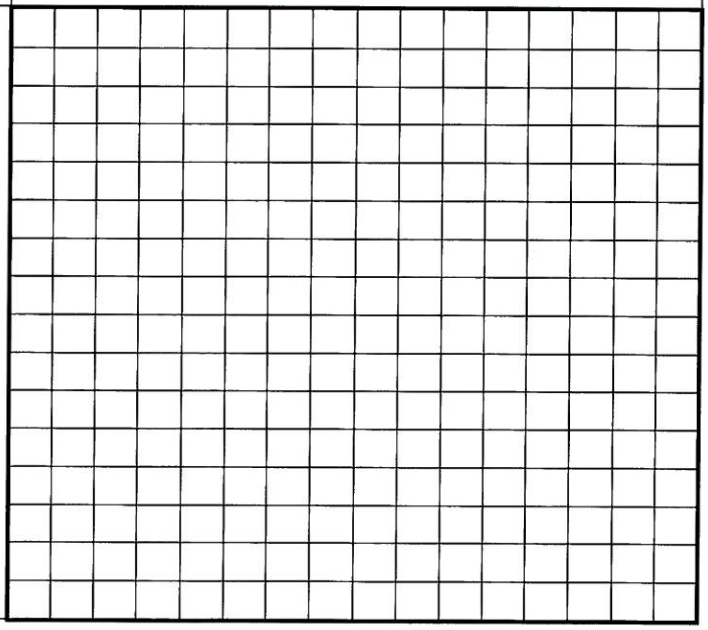
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-7	
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#: 485, 486, 487

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <¼ (¼) ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 90 years	Percent of Homes with Garages: 15 % With Basements 90%	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☐ No Evidence ☐ <5% of units ☐ 5-10% ☒ >10%		●

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	50		
B2. % of lot with grass cover	45		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 30		
	Low: 70		
B8. Outdoor swimming pools? ☒ Y ☐ N ☐ Can't Tell Estimated # 1			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☒ N If yes, are they on one side of street ☐ or along both sides ☐			
☐ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? _____ ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☐ N/A			○
C4. Is curb and gutter present? ☐ Y ☒ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	20		
D3. Downspouts discharge to pervious area	80		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☒ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☒ Oil and Grease ☒ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN BARRELS + GARDENS

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA - 8	
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#: 483161

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Chapel Glen Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed: _____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <¼ (¼) ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 20 years | Percent of Homes with Garages: 80 % With Basements 100% | **INDEX***

Sewer Service? ☒ Y ☐ N ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	INDEX*
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	25		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 20		●
	Med: 50		
	Low: 30		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	5		
D3. Downspouts discharge to pervious area	95		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☒ Y ☐ N Condition: ☒ Clean ☐ Dirty			◆
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN BARRELS
RAIN GARDENS
1 SUM POND WET POND

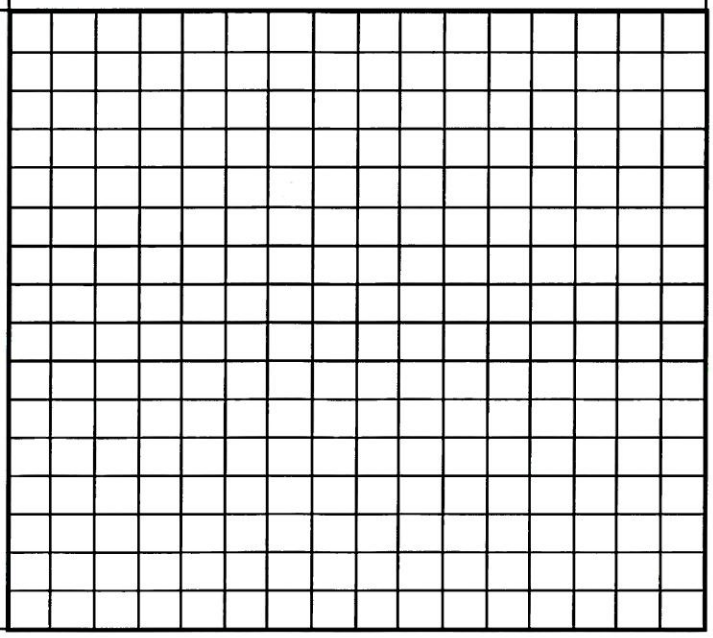
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-9	
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#: 488, 489, 490

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Fairbrooke Apartments Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 30 years | Percent of Homes with Garages: — % With Basements — % | **INDEX***

Sewer Service? ☒ Y ☐ N — ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% — ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	90		
B2. % of lot with grass cover	5		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 100		
	Low: ___		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☒ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	100		◆ ●
D2. Downspouts are directed to impervious surface			
D3. Downspouts discharge to pervious area			
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☒ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☒ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☑ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

SW POND AT BACK OF PROPERTY

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-10	
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#: 481, 482

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Attached (Duplexes, Row Homes) < (¼) acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 30 years	Percent of Homes with Garages: 0 % With Basements 100%	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%		○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	60		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 20		
	Low: 80		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up NO DRIVEWAYS			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	90		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☒ Y ☐ N Condition: ☒ Clean ☐ Dirty			◆
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre 1 BMP NOTED			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

NO ROOM FOR RAIN GARDENS OR RAIN BARRELS

1 BMP (FILTER) NOTED

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA- 11	
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#: 976, 977

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <¼ (¼) ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 110 years | Percent of Homes with Garages: 15 % With Basements 80 % | **INDEX***

Sewer Service? ☒ Y ☐ N | ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% | ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	50		
B2. % of lot with grass cover	45		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 40		
	Low: 60		
B8. Outdoor swimming pools? ☒ Y ☐ N ☐ Can't Tell Estimated # 2			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	15		
D3. Downspouts discharge to pervious area	85		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN BARRELS

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-12	
DATE: 2/20/20	ASSESSED BY:	CAMERA ID:	PIC#: 892, 893

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <1/4 (1/4) 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 70 years | Percent of Homes with Garages: 20 % With Basements 80 % | **INDEX***

Sewer Service? ☒ Y ☐ N — ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% — ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	50		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 10		○
	Med: 40		
	Low: 50		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☒ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☒ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer			◇ ○
D2. Downspouts are directed to impervious surface	25		
D3. Downspouts discharge to pervious area	75		
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN BARRELS
RAIN GARDENS

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-13	
DATE: 2/20/20	ASSESSED BY: AB, SB	CAMERA ID:	PIC#: 896, 897, 898

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <1/4 (1/4) 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 70 years	Percent of Homes with Garages: 100 % With Basements 100 %	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%		○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	40		
B2. % of lot with grass cover	50		●
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 30		●
	Med: 60		
	Low: 10		
B8. Outdoor swimming pools? ☒ Y ☐ N ☐ Can't Tell Estimated # 20			●
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	90		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

Rain gardens/Rain Barrels
No open space for trees
No room for BMPS
Remove impervious R130-P8001 (896,897)

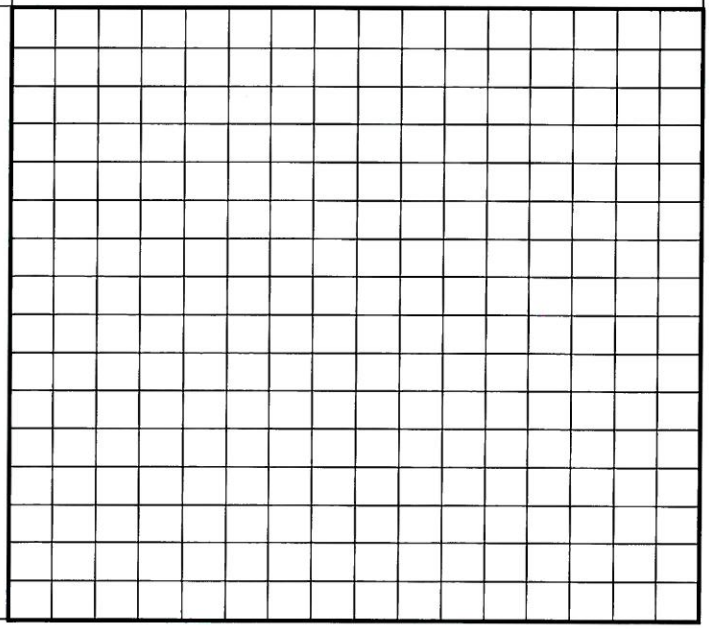
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-14	
DATE: 02/20/20	ASSESSED BY: SB, AB	CAMERA ID:	PIC#: 908, 909

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <1/4 1/4 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 40 years	Percent of Homes with Garages: 0 % With Basements 100 %	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%		○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◈
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 0		○
	Med: 30		
	Low: 70		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty leaves			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☒ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

No room for rain barrels/rain garden nor BMP

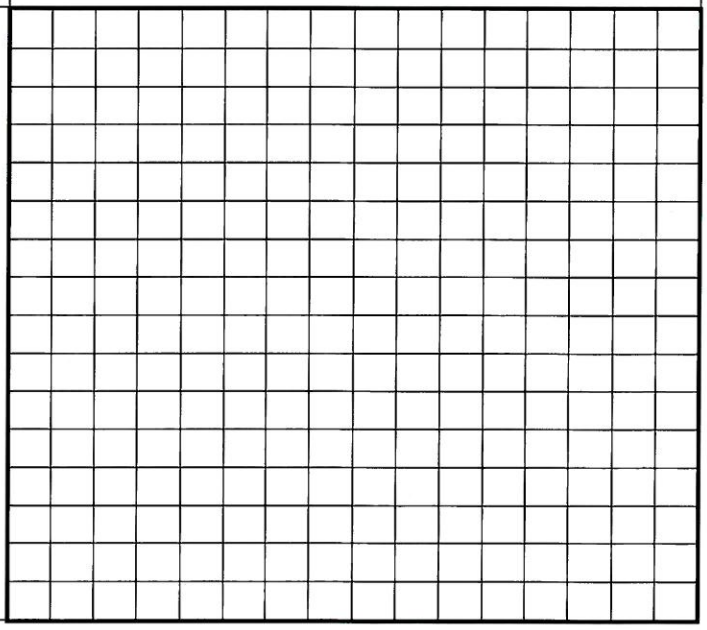
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-15	
DATE: 3/2/2020	ASSESSED BY: SB, SD	CAMERA ID:	PIC#: 910

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Burton Manor Apartments Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 30 years | Percent of Homes with Garages: 0 % With Basements 0 %

Sewer Service? ☒ Y ☐ N

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	INDEX*
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	75		
B2. % of lot with grass cover	20		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 100		
	Low: ___		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☒ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	95		◆ ●
D2. Downspouts are directed to impervious surface			
D3. Downspouts discharge to pervious area	5		
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☒ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☐ wet pond or ☒ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☐ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

REVISIT SITE

POND RETROFIT

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED:	SUBWATERSHED:	UNIQUE SITE ID: NSA-16	
DATE: 2/11/20	ASSESSED BY:	CAMERA ID:	PIC#: 425, 426

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☐ N ☒ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <¼ (¼) ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 70 years | Percent of Homes with Garages: 0 % With Basements 0 % | **INDEX***

Sewer Service? ☒ Y ☐ N | ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% | ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	30		
B2. % of lot with grass cover	60		○
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◇
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◇
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 20		
	Low: 80		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☒ N If yes, are they on one side of street ☐ or along both sides ☐			
☐ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? ____ ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☒ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	25		
D3. Downspouts discharge to pervious area	75		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☐ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☐ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☐ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☐ Y ☐ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☐ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN GARDENS
RAIN BARRELS

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-17	
DATE: 3/2/2026	ASSESSED BY: SB, SD	CAMERA ID:	PIC#: 971, 972, 975

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <¼ (¼) ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 110 years	Percent of Homes with Garages: ____% With Basements ____%	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%		○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	40		
B2. % of lot with grass cover	45		○
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◆
B4. % of lot with bare soil	5		●
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ____		○
	Med: 30		
	Low: 70		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 4 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer			◇ ○
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	90		
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☑ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☑ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☑ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☑ Y ☐ N Is it a ☑ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☑ N What is the estimated pond area? ☑ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☑ N If yes, is pet waste present? ☐ Y ☑ N dumping? ☐ Y ☑ N			○
Buffers/floodplain present: ☐ Y ☑ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☑ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☐ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

Rain barrels + rain garden

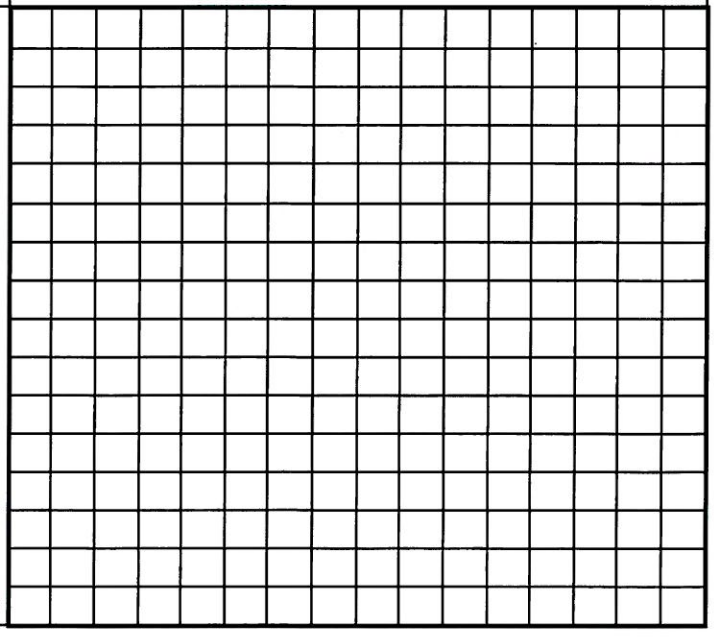
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-18	
DATE: 3/2/2020	ASSESSED BY:	CAMERA ID:	PIC# 973, 974

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Attached (Duplexes, Row Homes) < (¼) acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 50 years	Percent of Homes with Garages: 0 % With Basements 0 %	INDEX*
Sewer Service? ☒ Y ☐ N		○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%		○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 20		
	Low: 80		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			●
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☒ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer			◇ ○
D2. Downspouts are directed to impervious surface			
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.			
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☒ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☒ Trash/Litter ☐ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

NO ROOM FOR BMPS

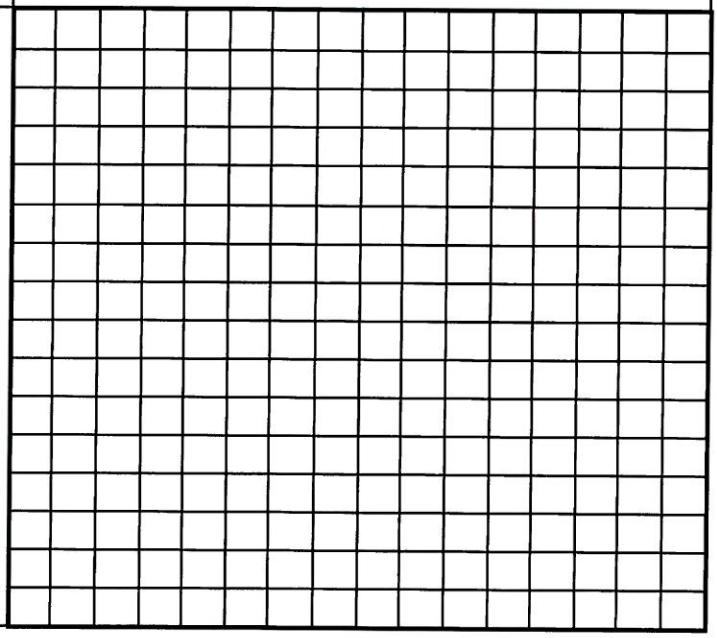
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-19	
DATE: 3/9/20	ASSESSED BY: SB, SD	CAMERA ID:	PIC#: 176, 177

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☐ N ☒ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached (<¼) ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 80 years | Percent of Homes with Garages: 0 % With Basements 0 %

			INDEX*
Sewer Service? ☒ Y ☐ N			○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%			○
Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	40		
B2. % of lot with grass cover	50		●
B3. % of lot with landscaping (e.g., mulched bed areas)	10		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 40		
	Low: 60		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			●
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☒ N If yes, are they on one side of street ☐ or along both sides ☐			
☐ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? ____ ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☒ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◆

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	20		
D3. Downspouts discharge to pervious area	80		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☒ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN GARDENS
RAIN BARRELS
CONSERVATION LANDSCAPING

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)

NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-20	
DATE: 3/9/20	ASSESSED BY: SB, SD	CAMERA ID:	PIC#: 180 181

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: The Highlands Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed: _____

Homeowners Association? ☐ Y ☐ N ☒ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Attached (Duplexes, Row Homes) < (¼) acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 20 years | Percent of Homes with Garages: 0 % With Basements 0 %

	INDEX*
Sewer Service? ☒ Y ☐ N	○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%	○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	60		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 10		○
	Med: 80		
	Low: 10		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☒ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	20		
D3. Downspouts discharge to pervious area	80		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☒ Y ☐ N Condition: ☐ Clean ☒ Dirty			◆
Catch basins inspected? ☒ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☒ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

TREATED BY 2 WET PONDS

NO ROOM FOR RAIN GARDENS / BARRELS

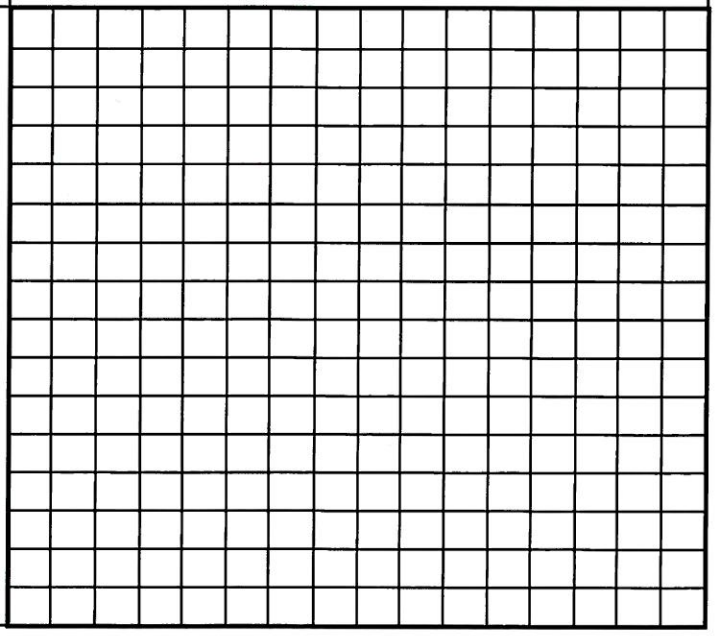
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-21	
DATE: 3/9/20	ASSESSED BY:	CAMERA ID:	PIC#: 178, 179

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: The Highlands Commons Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed: _____

Homeowners Association? ☒ Y ☐ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 60 years | Percent of Homes with Garages: 0 % With Basements 0 %

Sewer Service? ☒ Y ☐ N

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	INDEX*
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	30		○
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 30		●
	Med: 70		
	Low: ___		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☒ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☒ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☒ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☐ Y ☒ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

WATER DRAINS TO CONCRETE DITCH, ROOM FOR SWP

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)

NOTES:

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.	6		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☒ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

No room for rain barrels/ rain gardens

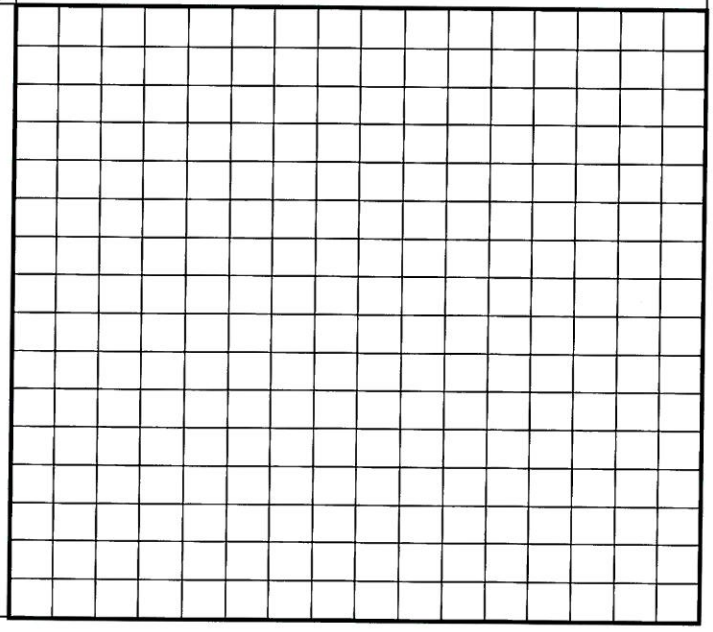
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)



NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-22	
DATE: 2/20/20	ASSESSED BY: AB, SB	CAMERA ID:	PIC#: 916, 917

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Spring Valley Estates Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed: _____

Homeowners Association? ☐ Y ☐ N ☒ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <1/4 1/4 1/2 1 >1 acre ☒ Mobile Home Park

Estimated Age of Neighborhood: 75 years | Percent of Homes with Garages: 0 % With Basements 0 % | **INDEX***

Sewer Service? ☒ Y ☐ N ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	35		
B2. % of lot with grass cover	65		●
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ____		○
	Med: 20		
	Low: 80		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☐ Y ☒ N If yes, are they on one side of street ☐ or along both sides ☐			
☐ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? _____ ft.			◇
Is pet waste present in this area? ☐ Y ☐ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☒ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◆

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-23	
DATE: 2/20/20	ASSESSED BY: AB, SB	CAMERA ID:	PIC#: 914, 915

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: Old Post Apt. Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

Homeowners Association? ☐ Y ☐ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) $<1/8$ $1/8$ $1/4$ $1/3$ $1/3$ acre ☒ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached $<1/4$ $1/4$ $1/2$ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 50 years | Percent of Homes with Garages: 0 % With Basements 0 % | **INDEX***

Sewer Service? ☒ Y ☐ N — ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% — ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**	**Comments/Notes**	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	30		✕
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 0		○
	Med: 60		
	Low: 40		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 0 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☐ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☒ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☐ Clean ☒ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☐ Y ☒ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

Revisit - potential space in open grass area / down-most gradient along Michael Lane

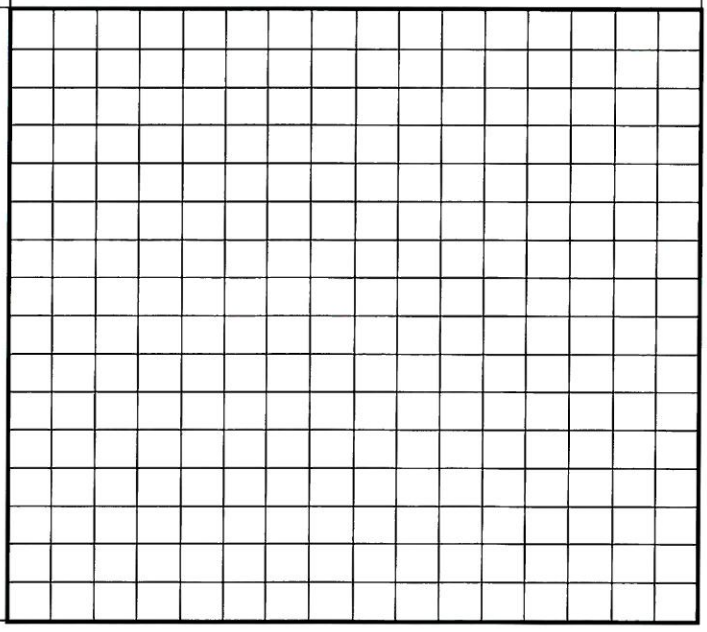
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-24	
DATE: 2/20/20	ASSESSED BY: AB, SB	CAMERA ID:	PIC#: 912, 913

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☐ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Attached (Duplexes, Row Homes) (1/8) 1/8 ¼ 1/3 ½ acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 60 years | Percent of Homes with Garages: 0 % With Basements 0 %

				INDEX*
Sewer Service? ☒ Y ☐ N				○
Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%				○
Record percent observed for each of the following indicators, depending on applicability and/or site complexity	**Percentage**		**Comments/Notes**	
B. YARD AND LAWN CONDITIONS				
B1. % of lot with impervious cover	40			
B2. % of lot with grass cover	60			●
B3. % of lot with landscaping (e.g., mulched bed areas)	0			◆
B4. % of lot with bare soil	0			○
**Note: B1 through B4 must total 100%*				
B5. % of lot with forest canopy	0			◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0			○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 0			○
	Med: 70			
	Low: 30			
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____				○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell				○
C. DRIVEWAYS, SIDEWALKS, AND CURBS				
C1. % of driveways that are impervious ☒ N/A				
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up				○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒				
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation				○
What is the distance between the sidewalk and street? 4 ft.				◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A				○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:				
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment				○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy				◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☐ wet pond or ☒ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☒ Y ☐ N If yes, is pet waste present? ☐ Y ☒ N dumping? ☐ Y ☒ N			○
Buffers/floodplain present: ☐ Y ☒ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: (*check all that apply*) ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

No room for rain barrels/rain garden

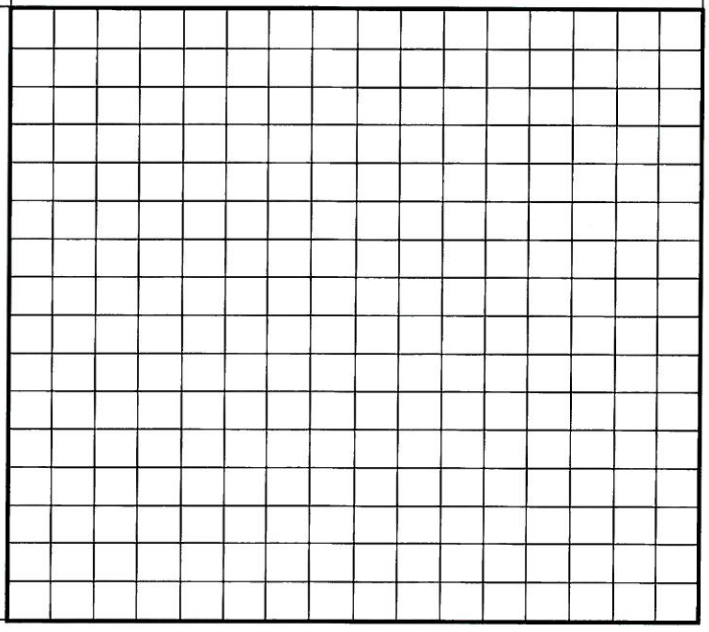
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)



NOTES:

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-25	
DATE: 2/20/20	ASSESSED BY: AB, SB	CAMERA ID:	PIC#: 910, 911

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☐ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☐ Single Family Attached (Duplexes, Row Homes) <1/8 1/8 1/4 1/3 1/3 acre ☐ Multifamily (Apts, Townhomes, Condos)

☒ Single Family Detached <1/4 (1/4) 1/2 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 70 years | Percent of Homes with Garages: 0 % With Basements 100 %

Sewer Service? ☒ Y ☐ N

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	INDEX*
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	40		
B2. % of lot with grass cover	60		●
B3. % of lot with landscaping (e.g., mulched bed areas)	0		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 10		○
	Med: 45		
	Low: 45		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☐			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	90		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☐ Y ☒ N If yes, are they stenciled? ☐ Y ☐ N Condition: ☐ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☐ wet pond or ☒ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☐ Y ☒ N If yes, is encroachment evident? ☐ Y ☐ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☒ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

No room for rain gardens
Potential for rain barrels

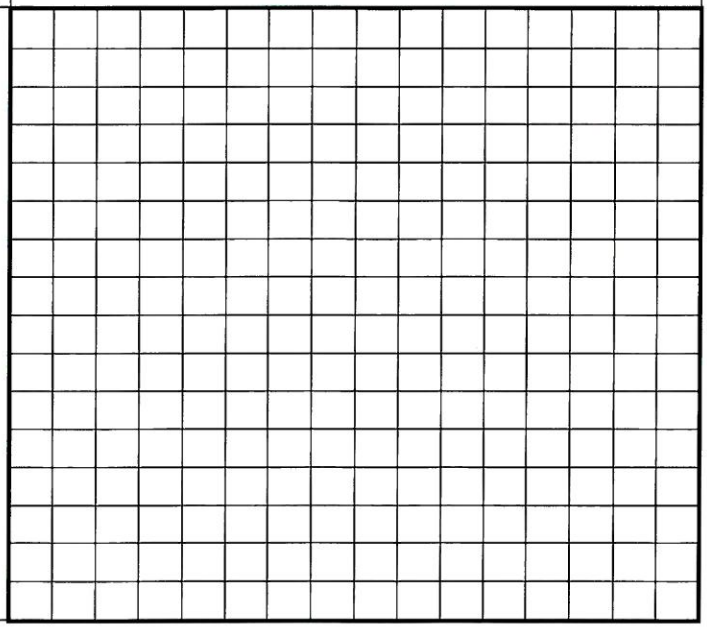
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-26	
DATE: 3/9/26	ASSESSED BY:	CAMERA ID:	PIC#: 183, 184

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☐ N ☒ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Detached <¼ (¼) ½ 1 >1 acre ☐ Mobile Home Park

☐ Single Family Attached (Duplexes, Row Homes) < ¼ acre ☐ Multifamily (Apts, Townhomes, Condos)

Estimated Age of Neighborhood: 20 years | Percent of Homes with Garages: 100 % With Basements 100% | INDEX*

Sewer Service? ☒ Y ☐ N | ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% | ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	25		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: 15		○
	Med: 70		
	Low: 15		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ____			○
B9. Junk or trash in yards? ☐ Y ☒ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☐ N/A	100		
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 2 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	0		
D3. Downspouts discharge to pervious area	100		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☒ Y ☐ N			◆
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☒ Y ☐ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☒ Y ☐ N Is it a ☒ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☒ N What is the estimated pond area? ☒ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☐ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

RAIN BARRELS
RAIN GARDENS
CONSERVATION LANDSCAPING
TREATED BY PONDS

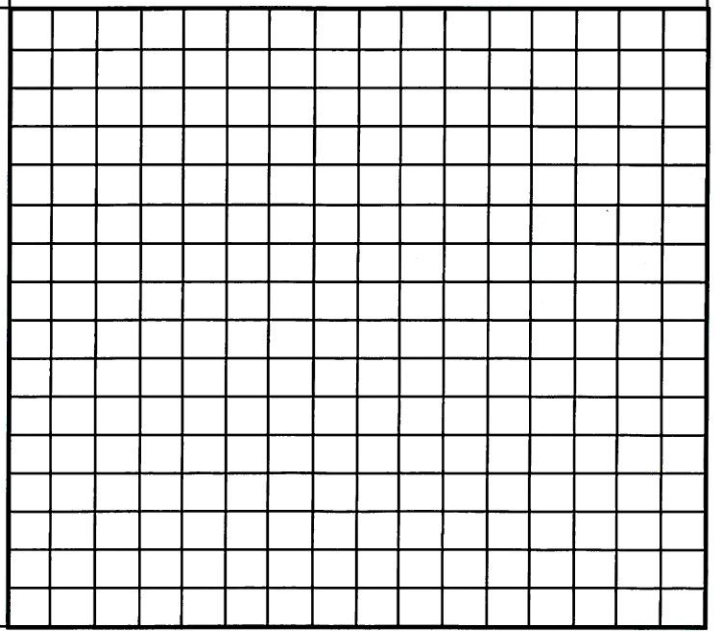
Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☑ Moderate (3-5 diamonds checked)
- ☐ Low (Fewer than 3 diamonds checked)



NOTES:

Neighborhood Source Assessment **NSA**

INSIDE

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE SITE ID: NSA-27	
DATE: 2/13/20	ASSESSED BY:	CAMERA ID:	PIC#:

A. NEIGHBORHOOD CHARACTERIZATION

Neighborhood/Subdivision Name: _____ Neighborhood Area (acres) _____

If unknown, address (or streets) surveyed:

_____

Homeowners Association? ☐ Y ☒ N ☐ Unknown If yes, name and contact information: _____

Residential *(circle average single family lot size):*

☒ Single Family Attached (Duplexes, Row Homes) < (¼) acre ☐ Multifamily (Apts, Townhomes, Condos)

☐ Single Family Detached <¼ ¼ ½ 1 >1 acre ☐ Mobile Home Park

Estimated Age of Neighborhood: 40 years | Percent of Homes with Garages: 0 % With Basements 100% | **INDEX***

Sewer Service? ☒ Y ☐ N — ○

Index of Infill, Redevelopment, and Remodeling ☒ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10% — ○

Record percent observed for each of the following indicators, depending on applicability and/or site complexity	Percentage	Comments/Notes	INDEX*
B. YARD AND LAWN CONDITIONS			
B1. % of lot with impervious cover	70		
B2. % of lot with grass cover	25		○
B3. % of lot with landscaping (e.g., mulched bed areas)	5		◆
B4. % of lot with bare soil	0		○
**Note: B1 through B4 must total 100%*			
B5. % of lot with forest canopy	0		◆
B6. Evidence of permanent irrigation or "non-target" irrigation	0		○
B7. Proportion of *total neighborhood* turf lawns with following management status:	High: ___		○
	Med: 20		
	Low: 80		
B8. Outdoor swimming pools? ☐ Y ☒ N ☐ Can't Tell Estimated # ___			○
B9. Junk or trash in yards? ☒ Y ☐ N ☐ Can't Tell			○
C. DRIVEWAYS, SIDEWALKS, AND CURBS			
C1. % of driveways that are impervious ☒ N/A			
C2. Driveway Condition ☒ Clean ☐ Stained ☐ Dirty ☐ Breaking up			○
C3. Are sidewalks present? ☒ Y ☐ N If yes, are they on one side of street ☐ or along both sides ☒			
☒ Spotless ☐ Covered with lawn clippings/leaves ☐ Receiving 'non-target' irrigation			○
What is the distance between the sidewalk and street? 3 ft.			◇
Is pet waste present in this area? ☐ Y ☒ N ☐ N/A			○
C4. Is curb and gutter present? ☒ Y ☐ N If yes, check all that apply:			
☒ Clean and Dry ☐ Flowing or standing water ☐ Long-term car parking ☐ Sediment			○
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy			◇

* INDEX: ○ denotes potential pollution source; ◇ denotes a neighborhood restoration opportunity

D. ROOFTOPS			
D1. Downspouts are directly connected to storm drains or sanitary sewer	0		◇ ○
D2. Downspouts are directed to impervious surface	10		
D3. Downspouts discharge to pervious area	90		
D4. Downspouts discharge to a cistern, rain barrel, etc.	0		
**Note: C1 through C4 should total 100%*			
D5. Lawn area present downgradient of leader for rain garden? ☐ Y ☒ N			◇
E. COMMON AREAS			
E1. Storm drain inlets? ☒ Y ☐ N If yes, are they stenciled? ☐ Y ☒ N Condition: ☒ Clean ☐ Dirty			◇
Catch basins inspected? ☐ Y ☒ N If yes, include Unique Site ID from SSD sheet: _____			○
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre			◇
E3. Open Space? ☐ Y ☒ N If yes, is pet waste present? ☐ Y ☐ N dumping? ☐ Y ☐ N			○
Buffers/floodplain present: ☒ Y ☐ N If yes, is encroachment evident? ☐ Y ☒ N			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS			
Based on field observations, this neighborhood has significant indicators for the following: *(check all that apply)* ☒ Nutrients ☐ Oil and Grease ☒ Trash/Litter ☒ Bacteria ☐ Sediment ☐ Other _____			●

Recommended Actions

Specific Action

- ☐ Onsite retrofit potential?
- ☐ Better lawn/landscaping practice?
- ☐ Better management of common space?
- ☐ Pond retrofit?
- ☐ Multi-family Parking Lot Retrofit?
- ☐ Other action(s) _____

Describe Recommended Actions:

MINIMAL ROOM FOR RAIN BARRELS

Initial Assessment

NSA Pollution Severity Index

- ☐ Severe (More than 10 circles checked)
- ☐ High (5 to 10 circles checked)
- ☑ Moderate (Fewer than 5 circles checked)
- ☐ None (No circles checked)

Neighborhood Restoration Opportunity Index

- ☐ High (More than 5 diamonds checked)
- ☐ Moderate (3-5 diamonds checked)
- ☑ Low (Fewer than 3 diamonds checked)

NOTES:

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT I-3

BEST MANAGEMENT PRACTICES DATABASE TABLES B.1.a, B.1.b, B.1.c

NOTE: Also Provided Electronically as an Email Attachment to this Report.

Table B.1.a. BMP Reporting Requirements

BMP_ID	REPORTING_YEAR	MD_NORTH	MD_EAST	PERMIT_NUM	LOCAL_BMP_ID	BMP_NAME	BMP_CLASS	BMP_TYPE	CON_PURPOSE	LAST_INSP_DATE	BMP_STATUS	MAIN_DATE	REINSP_DATE	REINSP_STATUS	GEN_COMMENTS
AB19BMP000001	2019	667724.8	1545761	13-IM-5500	AB00BMO000041	Beaver's Auto Body Shop	S	XDED	NEWD	1/21/2020	Pass	3/1/2020	3/5/2020		Pass after maintenance was performed
AB19BMP000002	2019	679996.6488	1542638.935	13-IM-5500	AB00BMO000150	Ripken Stadium	S	WSHW	NEWD	3/19/2018	Pass				
AB19BMP000003	2019	670827.5261	1547375.214	13-IM-5500	AB00BMP000030	Auto Zone	S	XOTH	NEWD	1/6/2020	Pass				
AB19BMP000004	2019	679681.9999	1540917	13-IM-5500	AB00BMP000151	Ripken Stadium Water Quality Trap #1	S	WSHW	NEWD	3/19/2018	Pass				
AB19BMP000005	2019	679464	1541067	13-IM-5500	AB00BMP000152	Ripken Stadium Water Quality Trap #2	S	WSHW	NEWD	3/19/2018	Pass				
AB19BMP000006	2019	680179.9998	1542475	13-IM-5500	AB00BMP000154	Ripken Stadium Water Quality Trap # 5	S	WSHW	NEWD	3/19/2018	Pass				
AB19BMP000007	2019	679322.0235	1541398.549	13-IM-5500	AB00BMP000193	Ripken Stadium Water Quality Trap #3	S	WSHW	NEWD	3/19/2018	Pass				
AB19BMP000008	2019	679882.8223	1542555.32	13-IM-5500	AB00BMP000194	Ripken Stadium Water Quality Trap # 4	S	WSHW	NEWD	3/19/2018	Pass				
AB19BMP000009	2019	681236	1540735	13-IM-5500	AB01BMP000118	Long Drive	S	XDED	NEWD	12/12/2018	Pass				
AB19BMP000010	2019	674304.8489	1550582.146	13-IM-5500	AB01BMP000124	North Deen Park SWM Pond	S	XDED	NEWD	3/9/2018	Pass				
AB19BMP000015	2019	666767.9499	1543693.55	13-IM-5500	AB02BMP000016	Aberdeen Stack n Store SWM	S	XDED	NEWD	3/29/2018	Pass	3/30/2018	3/30/2018		
AB19BMP000017	2019	665664.335	1543910.22	13-IM-5500	AB03BMP000012	Aberdeen Industrial Center Lot 2c (Borghi USA)	S	XDED	NEWD	1/24/2019	Pass				
AB19BMP000018	2019	676601.1799	1541901.106	13-IM-5500	AB03BMP000139	Olive Tree Plaza II	S	XOGS	NEWD	2/25/2020	Pass	4/1/2020	4/1/2020		
AB19BMP000019	2019	679057.7026	1555587.398	13-IM-5500	AB03BMP000183	Rock Glenn Business Park SWM Addendum WQv Facility #2 Retr	S	XOTH	NEWD	12/11/2018	Pass				Never constructed as a sand filter. Retrofitted GP #14-06
AB19BMP000020	2019	678474.3694	1555298.336	13-IM-5500	AB03BMP000184	Rock Glenn Business Park SWM Facility # 1	S	PMPS	NEWD	3/19/2018	Pass				
AB19BMP000021	2019	679581.0499	1555574.976	13-IM-5500	AB03BMP000186	Medline Submerged Gravel Wetland	S	MSGW	NEWD	12/11/2018	Pass				
AB19BMP000022	2019	673304.2101	1541593.89	13-IM-5500	AB04BMP000049	Chapel Glen	S	XDED	NEWD	10/4/2019	Fail				
AB19BMP000023	2019	671635.9999	1551469	13-IM-5500	AB04BMP000052	DPW Maintenance Building	S	WSHW	NEWD	2/14/2018	Pass				
AB19BMP000024	2019	671991.0002	1551540	13-IM-5500	AB04BMP000053	DPW Maintenance Building	E	XOTH	NEWD	2/14/2018	Pass				
AB19BMP000025	2019	671747	1551654	13-IM-5500	AB04BMP000054	DPW Maintenance Building	E	XOTH	NEWD	2/14/2018	Pass				
AB19BMP000026	2019	671794.9999	1551190	13-IM-5500	AB04BMP000055	DPW Maintenance Building	E	XOTH	NEWD	2/14/2018	Pass				
AB19BMP000027	2019	667235.0001	1540335	13-IM-5500	AB04BMP000082	Frito-Lay Hickory Ridge lot 2 Submerged Gravel Wetlands 1	E	MSGW	NEWD	11/2/2018	Pass				
AB19BMP000028	2019	677229.9998	1543250	13-IM-5500	AB04BMP000109	Home Depot UG Facility #1	S	ITRN	NEWD	2/22/2019	Pass	8/14/2019	8/15/2020		
AB19BMP000029	2019	677229.9998	1543470	13-IM-5500	AB04BMP000110	Home Depot UG Facility #2	S	FUND	NEWD	2/22/2019	Pass	8/14/2019	8/15/2020		
AB19BMP000030	2019	677229.9998	1543760	13-IM-5500	AB04BMP000111	Home Depot UG Facility #3	S	FUND	NEWD	2/22/2019	Pass	8/14/2019	8/15/2020		
AB19BMP000031	2019	672250	1547588	13-IM-5500	AB04BMP000115	Johnson Family Pharmacy 119 W. Bel Air Avenue	E	MSWG	NEWD	1/11/2019	Pass				
AB19BMP000032	2019	672720	1547757	13-IM-5500	AB04BMP000116	Johnson Family Pharmacy 119 W. Bel Air Avenue	E	MSWG	NEWD	1/11/2019	Pass				
AB19BMP000033	2019	676120.6431	1549113.14	13-IM-5500	AB04BMP000147	Ramsey's Crest WQ #1	S	ODSW	NEWD	12/10/2018	Pass				
AB19BMP000034	2019	675001.961	1551653.673	13-IM-5500	AB04BMP000200	400 Old Post Road	S	FBIO	NEWD	1/2/2020	Fail				
AB19BMP000035	2019	669175.4221	1546536.488	13-IM-5500	AB05BMO000144	Precision Tune (Pond)	S	XDED	NEWD	3/17/2020	Pass				
AB19BMP000036	2019	675503	1544715	13-IM-5500	AB05BMP000003	Aberdeen Corporate Park Pond	S	XDED	NEWD	7/23/2018	Pass				
AB19BMP000037	2019	672307.3319	1548237.055	13-IM-5500	AB05BMP000046	Cecil Federal Bank (kna Howard Bank)	A	IMPP	REDE	2/27/2019	Pass				
AB19BMP000038	2019	664684	1537430	13-IM-5500	AB05BMP000084	Gilmer Moving+Storage	S	XDED	NEWD	7/10/2019	Pass				
AB19BMP000039	2019	672034.5391	1548053.195	13-IM-5500	AB05BMP000102	Harford Bank	S	FBIO	NEWD	12/11/2018	Pass	7/23/2019	7/23/2019		
AB19BMP000040	2019	673282.78	1547668.01	13-IM-5500	AB05BMP000135	North Rogers Street Parking Lot	S	FSND	NEWD	10/9/2019	Pass				
AB19BMP000041	2019	667993.6279	1545150.61	13-IM-5500	AB05BMP000141	Panther Systems (Donely Construction)	S	XDED	NEWD	3/5/2019	Pass				
AB19BMP000042	2019	676012.85	1544039.118	13-IM-5500	AB05BMP000148	Ramsey's Crest WQ #2	S	ODSW	NEWD	12/10/2018	Pass				
AB19BMP000043	2019	672874.876	1550708.254	13-IM-5500	AB05BMP000167	West Deen Townhouses	S	PWED	NEWD	1/31/2017	Pass				
AB19BMP000045	2019	675754.2826	1541254.178	13-IM-5500	AB06BMP000018	Aberdeen Shopping Plaza Maintenance Bldg	S	XDED	NEWD	12/14/2018	Pass	2/1/2019	2/8/2019		Pass after maintenance performed
AB19BMP000046	2019	665069.9999	1538512	13-IM-5500	AB06BMP000020	Action Electric Lot 8	S	WQ Basin	NEWD	1/23/2019	Pass				
AB19BMP000048	2019	677456	1542705	13-IM-5500	AB06BMP000027	Applebees Redevelopment Impervious Reduction	A	IMPP	NEWD	2/27/2019	Pass				
AB19BMP000049	2019	678658.58	1542626.38	13-IM-5500	AB06BMP000045	Catholic Charities	S	XDED	NEWD	1/21/2020	Pass				
AB19BMP000050	2019	679240.0001	1546790	13-IM-5500	AB06BMP000117	Lauren's Grace	S	XDED	NEWD	3/20/2019	Pass				
AB19BMP000051	2019	673732.9999	1549418	13-IM-5500	AB06BMP000166	WaWa	S	XOTH	NEWD	4/6/2020	Pass	8/4/2020	8/6/2020		
AB19BMP000052	2019	673732.9999	1549418	13-IM-5500	AB06BMP000201	Parke Street 141#3 (All Access Fitness) 20% Reduction	S	XOTH	NEWD	1/6/2020	Pass				
AB19BMP000055	2019	665069.9999	1538512	13-IM-5500	AB06BMP000215	Action Electric Lot 8	S	ODSW	NEWD	1/23/2019	Pass				
AB19BMP000057	2019	667842.9569	1544767.177	13-IM-5500	AB07BMP000022	Aberdeen Station WQ Under Ground Facility	S	XOTH	NEWD	3/5/2019	Pass				
AB19BMP000058	2019	674611.1629	1540986.247	13-IM-5500	AB07BMP000047	Chapel Crossing Pond	S	XDED	NEWD	10/4/2019	Pass	12/5/2019	12/17/2019		
AB19BMP000059	2019	668275.1201	1545209.05	13-IM-5500	AB07BMP000085	Golden Corral (Pond)	S	XDED	NEWD	3/5/2019	Pass				
AB19BMP000060	2019	666463.9571	1540353.157	13-IM-5500	AB07BMP000086	Greenway Business Park	S	XDED	NEWD	1/31/2020	Pass				Never converted. Still a sediment basin.
AB19BMP000062	2019	677268.7019	1547908.031	13-IM-5500	AB07BMP000106	Hillcrest/Windemere	S	XDED	NEWD	3/27/2020	Fail				Defunct HOA. Never maintained.
AB19BMP000063	2019	677371.9999	1544084	13-IM-5500	AB07BMP000121	Middleton Holdings	S	WPWS	NEWD	1/14/2020	Pass				
AB19BMP000064	2019	667658.8589	1544949.764	13-IM-5500	AB07BMP000163	Walmart Pond 2	S	XDED	NEWD	3/17/2020	Pass				
AB19BMP000065	2019	667319.102	1545654.065	13-IM-5500	AB07BMP000164	Walmart Pond 3	S	XDED	NEWD	6/18/2020	Pass				
AB19BMP000066	2019	677868.41	1549066.37	13-IM-5500	AB07BMP000170	Windemere Sect 5 Pond A (1.0 acres)	S	XDED	NEWD	8/26/2020	Pass				
AB19BMP000067	2019	679040.4631	1547488.486	13-IM-5500	AB07BMP000171	Windemere Sect 5 Pond B (0.489 acres)	S	XDED	NEWD	8/26/2020	Pass				
AB19BMP000069	2019	677410.0001	1542907	13-IM-5500	AB08BMP000056	Dunkin Donuts Beards Hill Plaza	A	IMPP	NEWD	2/27/2019	Pass				
AB19BMP000072	2019	672051.5499	1549511.37	13-IM-5500	AB08BMP000131	North Post Commons SWM Facility #1	S	XDED	NEWD	11/6/2019	Pass				
AB19BMP000076	2019	682114.37	1555879.26	13-IM-5500	AB08BMP000177	Woods at Rock Glenn WQ 2	S	XDED	NEWD	8/24/2020	Pass				
AB19BMP000077	2019	681631.16	1555051.54	13-IM-5500	AB08BMP000178	Woods at Rock Glenn WQ 3	S	XDED	NEWD	8/24/2020	Pass				
AB19BMP000078	2019	673392.9202	1541845.754	13-IM-5500	AB08BMP000181	Woodland Green	S	XDPD	NEWD	10/4/2019	Pass				
AB19BMP000079	2019	681519.2541	1541629.082	13-IM-5500	AB08BMP000195	Ripken Center Yankee Stadium WQ	S	ITRN	NEWD	6/20/2018	Pass				
AB19BMP000080	2019	675824	1542823	13-IM-5500	AB09BMP000028	Ashas Hotel	S	XDED	NEWD	2/22/2019	Pass				
AB19BMP000082	2019	671948.9336	1552555.872	13-IM-5500	AB10BMP000189	AWWTP Reinforced Turf Area	S	FBIO	NEWD	3/13/2018	Pass				
AB19BMP000084	2019	672638.7774	1552843.025	13-IM-5500	AB10BMP000191	AWWTP Stormwater Bioretention Basin (BRB-1)	S	FBIO	NEWD	3/13/2018	Pass				
AB19BMP000085	2019	672610.4116	1553182.477	13-IM-5500	AB10BMP000192	AWWTP Stormseptor 450i	S	FBIO	NEWD	4/2/2018	Pass				
AB19BMP000086	2019	668096.6999	1544703.925	13-IM-5500	AB11BMP000021	Aberdeen Station (aka Happy Harry's)	S	XDED	NEWD	3/5/2019	Pass				
AB19BMP000087	2019	667386.9998	1543901	13-IM-5500	AB11BMP000061	Edmund Street Booster Station	S	XDED	NEWD	3/5/2018	Pass				
AB19BMP000088	2019	677976	1544413	13-IM-5500	AB11BMP000218	Aberdeen Station (aka Happy Harry's)	S	Swale	NEWD	3/5/2019	Pass				
AB19BMP000089	2019	670306.0731	1553193.073	13-IM-5500	AB17BMP000129	North Gate Business Park Pond 2	S	PWED	NEWD	6/30/2020	Pass				AB12BMP000129 changed to AB17BMP00012
AB19BMP000090	2019	672443.6	1547604.97	13-IM-5500	AB12BMP000208	Grace United Methodist Church Rain Garden #3	E	MRNG	NEWD	12/11/2018	Pass				
AB19BMP000091	2019	672315.96	1547546.84	13-IM-5500	AB12BMP000209	Grace United Methodist Church Rain Garden #1	E	MRNG	NEWD	12/11/2018	Pass				
AB19BMP000092	2019	667809	1546515	13-IM-5500	AB13BMO000065	Ferrell Fuel WQ Facility #1	S	FSND	NEWD	12/11/2018	Pass				
AB19BMP000093	2019	667937.0001	1546543	13-IM-5500	AB13BMP000066	Ferrell Fuel WQ Facility #2	S	FSND	NEWD	12/11/2018	Pass				
AB19BMP000094	2019	666648.96	1543359.35	13-IM-5500	AB13BMP000112	Home2 (Aberdeen Xchange Lot 4)	S	Recharge *	NEWD	7/29/2020	Pass				
AB19BMP000096	2019	680322.7699	1558257.13	13-IM-5500	AB14BMP000068	Fields at Rock Glenn Facility #2	S	XDED	NEWD	2/4/2020	Pass				
AB19BMP000097	2019	667235.0001	1540335	13-IM-5500	AB14BMP000070	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 1	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000098	2019	667235.0001	1540335	13-IM-5500	AB14BMP000071	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 2	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000099	2019	667235.0001	1540335	13-IM-5500	AB14BMP000072	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 3	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000100	2019	667373.889	1541010.695	13-IM-5500	AB14BMP000073	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 4	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000101	2019	667307.9167	1540962.778	13-IM-5500	AB14BMP000074	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 5	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000102	2019	667260.6947	1540893.333	13-IM-5500	AB14BMP000075	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 6	S	MMBR	NEWD	11/2/2018	Pass				

Table B.1.a. BMP Reporting Requirements

BMP_ID	REPORTING_YEAR	MD_NORTH	MD_EAST	PERMIT_NUM	LOCAL_BMP_ID	BMP_NAME	BMP_CLASS	BMP_TYPE	CON_PURPOSE	LAST_INSP_DATE	BMP_STATUS	MAIN_DATE	REINSP_DATE	REINSP_STATUS	GEN_COMMENTS
AB19BMP000103	2019	667227.3614	1540766.944	13-IM-5500	AB14BMP000076	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 7	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000104	2019	667246.1113	1540616.25	13-IM-5500	AB14BMP000077	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 8	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000105	2019	667414.1668	1540541.25	13-IM-5500	AB14BMP000079	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 10	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000106	2019	667235.0001	1540335	13-IM-5500	AB14BMP000080	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 11	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000107	2019	667235.0001	1540335	13-IM-5500	AB14BMP000081	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 12	S	MMBR	NEWD	11/2/2018	Pass				
AB19BMP000108	2019	673752.9999	1556036	13-IM-5500	AB14BMP000107	Highland Commons, The Village of Pond 1/Winston's Choice Por	S	XDED	NEWD	11/6/2019	Pass	4/28/2020	5/13/2020		
AB19BMP000109	2019	670735.5581	1550335.194	13-IM-5500	AB14BMP000187	Boys $ Girls Club Baseball Field Micro Bioretention	S	FBIO	NEWD	3/5/2018	Pass				
AB19BMP000110	2019	670768.7943	1550408.627	13-IM-5500	AB14BMP000196	Boys n Girls Club Non rooftop disconnect area	E	NDNR	NEWD	3/5/2018	Pass				
AB19BMP000111	2019	677676.5	1542278.02	13-IM-5500	AB14BMP000210	Firestone StormCeptor STC 450i	S	XOTH	NEWD	12/12/2018	Pass				
AB19BMP000112	2019	676031.5505	1541895.244	13-IM-5500	AB14BMP000212	Corner at Beards Hill Bioretention Facility 1	S	FBIO	NEWD	10/30/2018	Pass				
AB19BMP000113	2019	676253.3532	1541857.785	13-IM-5500	AB14BMP000213	Corner at Beards Hill Bioretention Facility 2	S	FBIO	NEWD	10/30/2018	Pass				
AB19BMP000114	2019	676750	1542250	13-IM-5500	AB15BMP000219	Chic Fil A Micro Bioretention 1	E	MMBR	NEWD	2/22/2019	Pass				
AB19BMP000115	2019	676750	1542250	13-IM-5500	AB15BMP000220	Chic Fil A Pervious Concrete 2	E	APRP	NEWD	2/22/2019	Pass				
AB19BMP000116	2019	676750	1542250	13-IM-5500	AB15BMP000221	Chic Fiil A Micro Bioretention 3	E	MMBR	NEWD	2/22/2019	Pass				
AB19BMP000117	2019	676750	1542250	13-IM-5500	AB15BMP000222	Chic Fil A Micro Bioretention 4	E	MMBR	NEWD	2/22/2019	Pass				
AB19BMP000118	2019	677858.97	1542388.56	13-IM-5500	AB16BMP000173	Windy Hill Business Park	S	XDED	NEWD	10/30/2018	Pass				
AB19BMP000119	2019	676063.9999	1544790	13-IM-5500	AB17BMP000004	Aberdeen Corporate Park Recharge Trench 1	S	ITRN	NEWD	7/23/2018	Pass				
AB19BMP000120	2019	676456.0001	1544898	13-IM-5500	AB17BMP000005	Aberdeen Corporate Park Recharge Trench 2	S	ITRN	NEWD	7/23/2018	Pass				
AB19BMP000121	2019	677999.9999	1542000	13-IM-5500	AB17BMP000050	Fairfield Inn (Comfort Suites)	S	XDED	NEWD	1/21/2020	Pass				
AB19BMP000122	2019	665757.4122	1543701.183	13-IM-5500	AB17BMP000113	Horne Construction	S	XDED	NEWD	8/3/2020	Pass				Upgrading
AB19BMP000123	2019	669579.1543	1552848.686	13-IM-5500	AB17BMP000126	North Gate Business Park Pond 1	S	XDED	NEWD	6/30/2020	Pass				Still a sediment basin.
AB19BMP000125	2019	669725.2153	1552579.556	13-IM-5500	AB17BMP000128	North Gate Business Park Pond 1 UG Recharge Trench	S	FSND	NEWD	6/30/2020	Pass				
AB19BMP000126	2019	671503.2898	1552772.42	13-IM-5500	AB17BMP000130	North Gate Business Park Pond 3	S	XDED	NEWD	6/30/2020	Pass				Still a sediment basin.
AB19BMP000127	2019	673617.6301	1549735.09	13-IM-5500	AB17BMP000174	Winston's Choice Pond 1	E	MIDW	NEWD	11/6/2019	Pass				
AB19BMP000129	2019	683371.6601	1540311.3	13-IM-5500	AB18BMP000057	Eagles Rest Pond 1	S	XDED	NEWD						Eagle's Rest Oper Break C New Development. Still Sediment basin.
AB19BMP000130	2019	684430.3801	1540263.39	13-IM-5500	AB18BMP000058	Eagles Rest Pond 2	S	XDED	NEWD	1/25/2019	Pass				
AB19BMP000131	2019	683541.8799	1540129.1	13-IM-5500	AB18BMP000059	Eagles Rest Pond 3	S	XDED	NEWD	1/25/2019	Pass				
AB19BMP000132	2019	683736.1299	1538736.73	13-IM-5500	AB18BMP000060	Eagles Rest Pond 4	S	XDED	NEWD	1/25/2019	Pass				
AB19BMP000133	2019	678945.65	1555915.12	13-IM-5500	AB18BMP000067	Fields at Rock Glenn Facility #1	S	XDED	NEWD	2/4/2020	Pass				
AB19BMP000134	2019	669195.8512	1542004.344	13-IM-5500	AB19BMP000211	Frito Lay Lot 2 Submerged Gravel Wetlands 2	E	MSGW	NEWD	11/2/2018	Pass				
AB19BMP000135	2019	670834.9998	1545002	13-IM-5500	AB75BMP000142	Parrotta Subdivision lots 1-2	S	XOTH	NEWD	8/25/2020	Pass				inlet
AB19BMP000136	2019	670938.6489	1543059.948	13-IM-5500	AB81BMP000043	Burton Manor	S	XDED	NEWD	10/9/2019	Pass				
AB19BMP000137	2019	676347.3021	1541673.083	13-IM-5500	AB85BMP000039	Beards Hill Park SWM Pond (lots 1-6)	S	XDED	NEWD	10/31/2018	Pass				
AB19BMP000138	2019	677077.8381	1543501.223	13-IM-5500	AB86BMP000040	Beards Hill Plaza	S	XDED	NEWD	2/22/2019	Pass				
AB19BMP000139	2019	669575.0001	1547020	13-IM-5500	AB87BMP000001	Aberdeen Automotive Store (NAPA)	S	ITRN	NEWD	2/22/2019	Pass				
AB19BMP000140	2019	671759.1361	1548423.83	13-IM-5500	AB89BMP000026	Amtrak/American Investment	S	ITRN	NEWD	1/14/2020	Pass				
AB19BMP000141	2019	672609.9999	1547150	13-IM-5500	AB89BMP000035	Bargainer Business Center	S	ITRN	NEWD	1/16/2020	Pass				
AB19BMP000142	2019	676250.0002	1548750	13-IM-5500	AB89BMP000036	Bar-Kess Apartments	S	XDED	NEWD	1/16/2020	PASS				
AB19BMP000143	2019	681740	1547210	13-IM-5500	AB89BMP000063	Evangelical Assembly of GOD	S	XDPD	NEWD	1/23/2019	Pass				
AB19BMP000144	2019	665590.0002	1539780	13-IM-5500	AB89BMP000091	Hardee's Ind Pk Lot 1	S	XDED	NEWD	1/23/2019	Pass				
AB19BMP000145	2019	673721	1548898	13-IM-5500	AB89BMP000114	Aberdeen Washday/Northside Liquors	S	ITRN	NEWD	1/15/2020	Pass				
AB19BMP000146	2019	667460.1539	1541973.383	13-IM-5500	AB89BMP000149	Red Roof Inn	S	XOTH	NEWD	2/27/2019	Pass				
AB19BMP000147	2019	678290	1549130	13-IM-5500	AB89BMP000172	Windemere Sect 5 WQ	S	XOTH	NEWD	8/26/2020	Pass				
AB19BMP000148	2019	678450.5076	1548387.152	13-IM-5500	AB89BMP000185	Windmere Estates Pond 1	S	XDED	NEWD	3/1/2017	Fail				Defunct HOA. Never maintained.
AB19BMP000149	2019	675288.4096	1550650.493	13-IM-5500	AB90BMP000038	Bay Country Rentals	E	MSWG	NEWD	1/16/2020	Pass				
AB19BMP000150	2019	664109.9998	1541780	13-IM-5500	AB90BMP000051	Cranberry Run Business Center	S	XDED	NEWD	10/18/2018	Pass				
AB19BMP000151	2019	678998.9999	1543189	13-IM-5500	AB90BMP000062	Eighty Four Lumber	S	XDED	NEWD	7/26/2018	Pass	2/1/2020	2/21/2020		
AB19BMP000152	2019	674485.0001	1551180	13-IM-5500	AB90BMP000125	North Deen Townhouses	S	XDED	NEWD	10/16/2019	Pass				
AB19BMP000153	2019	676377.2801	1542529.75	13-IM-5500	AB90BMP000158	Super 8 Motel	S	XDPD	NEWD	2/12/2020	Pass				
AB19BMP000154	2019	676377.2801	1542529.75	13-IM-5500	AB90BMP000197	Mars Shopping Plaza Pond # 2	S	PWET	NEWD	2/22/2019	Pass	4/4/2019	4/4/2019		
AB19BMP000155	2019	665605.4483	1543888.836	13-IM-5500	AB91BMP000011	Aberdeen Industrial Center Lot 2b (Ryder Truck Rental)	S	XOTH	NEWD	1/10/2019	Pass				
AB19BMP000156	2019	665161	1538621	13-IM-5500	AB91BMP000031	Automotive Machine Screw (Hardees Ind Park Lot 9)	S	ITRN	NEWD	1/23/2019	Pass				
AB19BMP000157	2019	675430.6399	1541740.653	13-IM-5500	AB91BMP000083	Genesis Trucking (aka Over&Sons)	S	XDED	NEWD	8/13/2020	Fail				Replaced with underground pipe storage. City Engineer getting information why the facility was filled in.
AB19BMP000158	2019	665280.0001	1538295	13-IM-5500	AB91BMP000095	Hardee's Ind Pk lot 2 (American Equipment)	S	XDED	NEWD	1/23/2019	Pass				
AB19BMP000159	2019	665204.4301	1537759.07	13-IM-5500	AB91BMP000096	Hardee's Ind Pk lot 3+6 Pond (Northcross East)	S	XDED	NEWD	1/23/2019	Pass				
AB19BMP000160	2019	665419.55	1538383.81	13-IM-5500	AB91BMP000097	Hardee's Ind Pk lot 3+6 Recharge Facility (Northcross East)	S	XOTH	NEWD	1/23/2019	Pass				
AB19BMP000162	2019	665069.9999	1537830	13-IM-5500	AB91BMP000099	Hardee's Ind Pk lot 3+ 6 Grass Swale (Northcross East)	E	MSWG	NEWD	1/23/2019	Pass				
AB19BMP000163	2019	672787.9799	1547643.91	13-IM-5500	AB91BMP000123	Mr Tire fka Western Auto	S	ITRN	NEWD	6/21/2016	Pass				
AB19BMP000164	2019	664121.53	1543232.58	13-IM-5500	AB91BMP000143	Pier One Imports	S	XDED	NEWD	3/20/2019	Pass				
AB19BMP000166	2019	665905.9999	1544278	13-IM-5500	AB92BMP000032	B&D Trucking Lot 1 + VFE	S	ITRN	NEWD	1/10/2019	Pass				
AB19BMP000167	2019	667033.1774	1540486.91	13-IM-5500	AB92BMP000069	Frito-Lay Hickory Ridge lot 2 Pond	S	IBAS	NEWD	11/2/2018	Pass				
AB19BMP000168	2019	667323.1945	1540537.083	13-IM-5500	AB92BMP000078	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 9	S	MMBR	NEWD	11/2/2018	Pass				AB92BMP000078 changed to AB14BMP000078
AB19BMP000169	2019	678942.4105	1547980.052	13-IM-5500	AB92BMP000180	Windemere Estates Sect 1 Ph 2	S	XOTH	NEWD	3/1/2017	Fail				Defunct HOA. Never maintained.
AB19BMP000170	2019	665660	1538760	13-IM-5500	AB93BMP000092	Hardee's Ind Pk Lot 1 Pond A	S	XDED	NEWD	1/23/2019	Pass				
AB19BMP000171	2019	676938.5706	1549401.565	13-IM-5500	AB93BMP000119	Meadows at Bar Kess	S	XDED	NEWD	1/16/2020	Pass				
AB19BMP000172	2019	673316.8318	1548489.374	13-IM-5500	AB93BMP000188	Aberdeen Senior Center	S	ITRN	NEWD	8/10/2018	Pass				
AB19BMP000173	2019	665541.8451	1543836.964	13-IM-5500	AB94BMP000013	Aberdeen Industrial Center Lot 3a (B.E.K. Services)	S	ITRN	NEWD	1/24/2019	Pass				
AB19BMP000174	2019	665377.9399	1541222.559	13-IM-5500	AB94BMP000044	C&S (Camden Cold Storage)AIC Sect 2	S	XDED	NEWD	12/5/2018	Pass				
AB19BMP000175	2019	673596.1321	1542814.22	13-IM-5500	AB94BMP000223	Woodland Green	S	XDED	NEWD	10/4/2019	Pass				
AB19BMP000176	2019	673270.719	1542842.479	13-IM-5500	AB94BMP000224	Woodland Green	S	PWED	NEWD	10/4/2019	Pass				
AB19BMP000178	2019	676574.5061	1543828.263	13-IM-5500	AB95BMP000157	Shell (Texaco aka Crown Station) Aberdeen Market Place	S	PWED	NEWD	7/26/2018	Pass				
AB19BMP000179	2019	666150.1129	1544078.956	13-IM-5500	AB95BMP000161	VFW Old Philadelphia Road (Aberdeen Memorial)	S	XDED	NEWD	1/10/2019	Pass				
AB19BMP000180	2019	678726.6901	1548931.696	13-IM-5500	AB95BMP000168	Windemere Estates WQ	S	XOTH	NEWD	3/1/2017	Fail				Defunct HOA. Never maintained.
AB19BMP000181	2019	677891.615	1549415.614	13-IM-5500	AB95BMP000169	Windemere Estates WQ	S	XOTH	NEWD	3/1/2017	Fail				Defunct HOA. Never maintained.
AB19BMP000182	2019	666000.3809	1543988.055	13-IM-5500	AB96BMP000033	B&D Trucking Lot 2	S	ITRN	NEWD	1/10/2019	Pass				
AB19BMP000183	2019	676655.7001	1543656.53	13-IM-5500	AB96BMP000042	Bob Evans	S	ITRN	NEWD	8/6/2018	Pass				
AB19BMP000184	2019	675497.6001	1544330.1	13-IM-5500	AB96BMP000156	Sam's Paving	S	XDED	NEWD	3/17/2020	Pass				
AB19BMP000185	2019	671394.3701	1551915.67	13-IM-5500	AB96BMP000165	Water Quality Enhancement (Step Pool)	A	SPSC	NEWD	1/7/2019	Pass				
AB19BMP000186	2019	667235.0001	1540340	13-IM-5500	AB97BMP000064	Fairbrook Senior Housing	S	XDED	NEWD	1/21/2020	Pass				
AB19BMP000187	2019	667529.2341	1541661.081	13-IM-5500	AB97BMP000104	Hickory Ridge lot 1 Pond 1b (SAKS 5th Avenue)	S	XPED	NEWD	1/25/2019	Pass				
AB19BMP000188	2019	665744.9998	1540697	13-IM-5500	AB97BMP000105	600 Hickory Ridge lot 3	S	XDED	NEWD	1/10/2020	Pass				
AB19BMP000189	2019	669887.922	1547535.232	13-IM-5500	AB97BMP000108	Hinder, Lands of	E	MSWG	NEWD	2/12/2020	Pass				

Table B.1.a. BMP Reporting Requirements

BMP_ID	REPORTING_YEAR	MD_NORTH	MD_EAST	PERMIT_NUM	LOCAL_BMP_ID	BMP_NAME	BMP_CLASS	BMP_TYPE	CON_PURPOSE	LAST_INSP_DATE	BMP_STATUS	MAIN_DATE	REINSP_DATE	REINSP_STATUS	GEN_COMMENTS
AB19BMP000190	2019	676250.0002	1549250	13-IM-5500	AB97BMP000120	Meadows of Bar Kess Townhouses	S	ITRN	NEWD	1/16/2020	Pass				
AB19BMP000191	2019	676772.6012	1544434.752	13-IM-5500	AB97BMP000159	Target Store SWM (pond and 3 Baysavers)	S	XDED	NEWD	2/22/2019	Pass				
AB19BMP000192	2019	668036.5871	1542117.863	13-IM-5500	AB98BMP000103	Hickory Ridge lot 1 Pond 1b (SAKS 5th Avenue)	S	XPED	NEWD	1/25/2019	PASS				
AB19BMP000193	2019	676881.5662	1544150.036	13-IM-5500	AB98BMP000155	Royal Farm Store	S	XOTH	NEWD	2/22/2019	Pass				
AB19BMP000194	2019	664725.9999	1541090	13-IM-5500	AB98BMP000160	T I P Facility (GE Trailer Fleet Services)	S	XDED	NEWD	1/10/2019	Pass				
AB19BMP000195	2019	673360	1548620	13-IM-5500	AB98BMP000176	Woland Dental	S	XDED	NEWD	08/13/2018	Pass				
AB19BMP000196	2019	665206.333	1544786.648	13-IM-5500	AB98BMP000204	(Comer) Aberdeen Industrial Lot 3 (Trap 1)	S	XOTH	NEWD	1/24/2019	Pass				
AB19BMP000197	2019	665124.4693	1544446.82	13-IM-5500	AB98BMP000205	(Comer) Aberdeen Industrial Lot 3 (Trap 2)	S	XOTH	NEWD	1/24/2019	Pass				
AB19BMP000198	2019	664847.6152	1544550.735	13-IM-5500	AB98BMP000206	(Comer) Aberdeen Industrial Lot 3 (Trap 3)	S	XDPD	NEWD	1/24/2019	Pass				
AB19BMP000199	2019	676212.8519	1543626.914	13-IM-5500	AB99BMP000090	Harco FCU Aberdeen Marketplace lot 5	S	XOTH	NEWD	7/26/2018	Pass				
AB19BMP000200	2019	671819.6921	1552581.632	13-IM-5500	AB10BMP000190	Aberdeen WWTP Stormwater Bioretention Basin (BRB-2)	S	FBIO	NEWD	3/13/2018	Pass				
AB19BMP000201	2019	677486.0932	1542244.679	13-IM-5500	AB09BMP000198	Walgreens Baysaver	S	XOTH	NEWD	12/14/2018	Pass				
AB19BMP000202	2019	675781.5139	1542163.589	13-IM-5500	ABXXBMP000199	Seven Eleven West Bel Air Avenue	S	XOTH	REDE	7/26/2018	Pass				
AB20BMP000001	2020	676634.2133	1541823.978	13-IM-5500	AB05BMP000230	Olive Tree Plaza 2	S	XOTH	NEWD	2/12/2020	Pass	4/1/2020	4/1/2020		
AB20BMP000002	2020	682207	1555845	13-IM-5500	AB08BMP000270	Woods at Rock Glenn WQ 1	S	XDED	NEWD	8/24/2020	FAIL				
AB20BMP000003	2020	670236.1608	1553070.448	13-IM-5500	AB17BMP000238	North Gate Stone Recharge Tremch #1	S	FSND	NEWD	6/30/2020	Pass				
AB20BMP000004	2020	670014.488	1553125.755	13-IM-5500	AB17BMP000239	North Gate Stone Recharge Trench #2	S	FSND	NEWD	6/30/2020	Pass				
AB20BMP000006	2020	677232.2469	1544056.432	13-IM-5500	AB18BMP000280	Middleton Holdings Starbuck MB1	E	MMBR	NEWD						NEW
AB20BMP000007	2020	677249.2078	1543977.716	13-IM-5500	AB18BMP000281	Middleton Holdings Starbuck MB2	E	MMBR	NEWD						NEW
AB20BMP000008	2020	677215.8719	1543919.727	13-IM-5500	AB18BMP000282	Middleton Holdings Starbuck MB3	E	MMBR	NEWD						NEW
AB20BMP000010	2020	679818.9379	1547623.899	13-IM-5500	AB88BMP000272	Windemere Farms Phase 1 WQ	S	XOTH	NEWD	3/1/2017	FAIL				Defunct HOA. Never maintained.
AB20BMP000011	2020	680030.1425	1547535.812	13-IM-5500	AB88BMP000273	Windemere Farms Phase 1 WQ	S	XOTH	NEWD	3/1/2017	FAIL				Defunct HOA. Never maintained.
AB20BMP000014	2020	669703.6	1547193.55	MDRCM04DB	AB19BMP000225	Hickory Ridge Lot 3 (UPS)	E	MMBR	NEWD	1/10/2020	PASS				NEW
AB20BMP000015	2020	669703.6	1547193.55	MDRCM04DB	AB19BMP000226	Hickory Ridge Lot 3 (UPS)	E	MMBR	NEWD	1/10/2020	PASS				NEW
AB20BMP000016	2020	669703.6	1547193.55	MDRCM04DB	AB19BMP000227	Hickory Ridge Lot 3 (UPS)	E	MMBR	NEWD	1/10/2020	PASS				NEW
AB20BMP000017	2020	669703.6	1547193.55	MDRCM04DB	AB19BMP000228	Hickory Ridge Lot 3 (UPS)	E	MMBR	NEWD	1/10/2020	PASS				NEW
AB20BMP000018	2020	669703.6	1547193.55	MDRCM04DB	AB19BMP000229	Hickory Ridge Lot 3 (UPS)	E	MMBR	NEWD	1/10/2020	PASS				NEW
AB20BMP000019	2020	666500	1543250	MDRCM00SQ	AB18BMP000269	Aberdeen Xchange SWM Wet Pond	S	WPWS	NEWD	7/22/2020	Fail				
AB20BMP000020	2020	679132.3481	1544277.541	MDRCM027I	AB18BMP000266	Summerlin SWM Pond 1	S	XDPD	NEWD	7/23/2020	Pass				NEW
AB20BMP000021	2020	679198.158	1543737.184	MDRCM027I	AB18BMP000267	Summerlin SWM Pond 2	S	XDPD	NEWD	7/23/2020	Pass				NEW
AB20BMP000022	2020	678834.722	1544300.495	MDRCM027I	AB18BMP000263	Summerlin SWM Forebay #1	S	XOTH	NEWD	7/23/2020	Pass				NEW
AB20BMP000023	2020	679226.3354	1544063.83	MDRCM027I	AB18BMP000264	Summerlin SWM Forebay #2	S	XOTH	NEWD	7/23/2020	Pass				NEW
AB20BMP000024	2020	679149.5003	1543659.064	MDRCM027I	AB18BMP000265	Summerlin SWM Forebay #3	S	XOTH	NEWD	7/23/2020	Pass				NEW
AB20BMP000025	2020	679100	1544050	MDRCM027I	AB18BMP000260	Summerlin Bioretention area 1	S	FBIO	NEWD	7/23/2020	Pass				NEW
AB20BMP000026	2020	678700	1544250	MDRCM027I	AB18BMP000261	Summerlin Bioretention area 2	S	FBIO	NEWD	7/23/2020	Pass				NEW
AB20BMP000027	2020	679150	1543400	MDRCM027I	AB18BMP000262	Summerlin Bioretention Area 3	S	FBIO	NEWD	7/23/2020	Pass				NEW
AB20BMP000028	2020	679150	1543750	MDRCM027I	AB18BMP000244	Summerlin Micro Bioretention area 1	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000029	2020	678950	1543600	MDRCM027I	AB18BMP000245	Summerlin Micro Bioretention area 2	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000030	2020	679150	1543500	MDRCM027I	AB18BMP000246	Summerlin Micro Bioretention Area 3	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000031	2020	678950	1543600	MDRCM027I	AB18BMP000247	Summerlin Micro Bioretention area 4	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000032	2020	678950	1543600	MDRCM027I	AB18BMP000248	Summerlin Micro Bioretention area 5	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000033	2020	678950	1543600	MDRCM027I	AB18BMP000249	Summerlin Micro Bioretention area 6	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000034	2020	678750	1543750	MDRCM027I	AB18BMP000250	Summerlin Landscape Infiltration Area 7	E	MILS	NEWD	7/23/2020	Pass				NEW
AB20BMP000035	2020	678950	1543950	MDRCM027I	AB18BMP000251	Summerlin Micro Bioretention Area 8	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000036	2020	678650	1543950	MDRCM027I	AB18BMP000252	Summerlin Micro Bioretention area 9	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000037	2020	679150	1543750	MDRCM0237I	AB18BMP000253	Summerlin Micro Bioretention area 10	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000038	2020	678750	1544050	MDRCM027I	AB18BMP000254	Summerlin Micro Bioretention area 11	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000039	2020	678850	1544300	MDRCM027I	AB18BMP000255	Summerlin Micro Bioretention area 12	E	MMBR	NEWD	7/23/2020	PASS				NEW
AB20BMP000040	2020	678850	1544300	MDRCM027I	AB18BMP000256	Summerlin Micro Bioretention area 13	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000041	2020	678950	1543600	MDRCM027I	AB18BMP000257	Summerlin Micro Bioretention Area 14	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000042	2020	679170.4018	1544018.719	MDRCM027I	AB18BMP000258	Summerlin Micro Bioretention area 15	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000043	2020	679150	1543750	MDRCM027I	AB18BMP000259	Summerlin Micro Bioretention area 16	E	MMBR	NEWD	7/23/2020	Pass				NEW
AB20BMP000044	2020	678800	1543900	MDRCM027I	AB18BMP000240	Summerlin Bioswale 1	E	MSWB	NEWD	7/23/2020	Pass				NEW
AB20BMP000045	2020	679100	1544000	MDRCM027I	AB18BMP000241	Summerlin Bioswale #2	E	MSWB	NEWD	7/23/2020	Pass				NEW
AB20BMP000046	2020	678800	1544000	MDRCM027I	AB18BMP000242	Summerlin Bioswale #3	E	MSWB	NEWD	7/23/2020	Pass				NEW
AB20BMP000047	2020	678800	1544000	MDRCM027I	AB18BMP000243	Summerlin Bioswale #4	E	MSWB	NEWD	7/23/2020	Pass				NEW
AB20BMP000048	2020	667729.4477	1546284.214	MDRCM03BP	AB17BMP000340	Lidl Grass Swale	E	MSWG	NEWD						NEW
AB20BMP000049	2020	668015.83	1545843.022	MDRCM03BP	AB17BMP000338	Lidl Underground Facility #1	S	FUND	NEWD						NEW
AB20BMP000050	2020	668231.3672	1546221.346	MDRCM03BP	AB17BMP000339	Lidl Underground Facility #2	S	FUND	NEWD						NEW
AB20BMP000051	2020	668027.9257	1545784.603	MDRCM03BP	AB17BMP000336	Lidl Bioretention #1	S	FBIO	NEWD						NEW
AB20BMP000052	2020	668236.1638	1546193.416	MDRCM03BP	AB17BMP000337	Lidl Bioretention Facility #2	S	FBIO	NEWD						NEW
AB20BMP000053	2020	668149.165	1545788.575	MDRCM03BP	AB17BMP000331	Lidl MB-1	E	MMBR	NEWD						NEW
AB20BMP000054	2020	667937.816	1546150.49	MDRCM03BP	AB17BMP000332	Lidl MB-3	E	MMBR	NEWD						NEW
AB20BMP000055	2020	667673.2092	1546208.667	MDRCM03BP	AB17BMP000333	Lidl MB-4	E	MMBR	NEWD						NEW
AB20BMP000056	2020	667595.3055	1546249.938	MDRCM03BP	AB17BMP000334	Lidl MB-5	E	MMBR	NEWD						NEW
AB20BMP000057	2020	667755.9555	1546144.535	MDRCM03BP	AB17BMP000335	Lidl MB-6	E	MMBR	NEWD						NEW
AB20BMP000084	2020	666921.8984	1545224.18	MDRCM03VN	AB17BMP000300	Aberdeen Logistics ESD17	E	MMBR	NEWD						NEW
AB20BMP000085	2020	665880.7342	1544579.455	MDRCM03VN	AB17BMP000301	Aberdeen Logistics ESD18	E	MMBR	NEWD						NEW
AB20BMP000086	2020	666036.1915	1544456.354	MDRCM03VN	AB17BMP000302	Aberdeen Logistics ESD19	E	MMBR	NEWD						NEW
AB20BMP000087	2020	666845.9169	1545478.399	MDRCM03VN	AB17BMP000303	Aberdeen Logistics ESD20	E	MSWB	NEWD						NEW
AB20BMP000088	2020	666715.26	1545550.571	MDRCM03VN	AB17BMP000304	Aberdeen Logistics ESD21	E	MSWB	NEWD						NEW
AB20BMP000089	2020	666422.3171	1544430.057	MDRCM03VN	AB17BMP000305	Aberdeen Logistics ESD22	E	MSWG	NEWD						NEW
AB20BMP000090	2020	665765.2055	1545209.282	MDRCM03VN	AB17BMP000298	Aberdeen Logistics Infiltration Pond #1	S	IBAS	NEWD						NEW
AB20BMP000091	2020	667036.5078	1545889.929	MDRCM03VN	AB17BMP000299	Aberdeen Logistics Detention Pond #2	S	PWED	NEWD						NEW
AB20BMP000092	2020	665644.1674	1544949.226	MDRCM03VN	AB17BMP000295	Aberdeen Logistics Pretreatment Forebay1	S	FSND	NEWD						NEW
AB20BMP000093	2020	666019.7765	1545435.167	MDRCM03VN	AB17BMP000296	Aberdeen Logistics Pretreatment Forebay2	S	FSND	NEWD						NEW
AB20BMP000094	2020	666952.3108	1545794.35	MDRCM03VN	AB17BMP000297	Aberdeen Logistics Pretreatment Forebay3	S	FSND	NEWD						NEW
AB20BMP000095	2020	665670.7533	1544817.143	MDRCM03VN	AB17BMP000283	Aberdeen Logistics ESD1	E	MMBR	NEWD						NEW
AB20BMP000096	2020	665711.681	1544875.089	MDRCM03VN	AB17BMP000284	Aberdeen Logistics ESD2	E	MMBR	NEWD						NEW
AB20BMP000097	2020	665739.8919	1544923.008	MDRCM03VN	AB17BMP000285	Aberdeen Logistics ESD3	E	MMBR	NEWD						NEW
AB20BMP000098	2020	665785.8698	1544980.907	MDRCM03VN	AB17BMP000286	Aberdeen Logistics ESD4	E	MMBR	NEWD						NEW
AB20BMP000099	2020	665821.7477	1545038.898	MDRCM03VN	AB17BMP000287	Aberdeen Logistics ESD5	E	MMBR	NEWD						NEW

Table B.1.a. BMP Reporting Requirements

BMP_ID	REPORTING_YEAR	MD_NORTH	MD_EAST	PERMIT_NUM	LOCAL_BMP_ID	BMP_NAME	BMP_CLASS	BMP_TYPE	CON_PURPOSE	LAST_INSP_DATE	BMP_STATUS	MAIN_DATE	REINSP_DATE	REINSP_STATUS	GEN_COMMENTS
AB20BMP000100	2020	665865.0862	1545084.144	MDRCM03VN	AB17BMP000288	Aberdeen Logistics ESD6	E	MMBR	NEWD						NEW
AB20BMP000101	2020	665921.2105	1545147.022	MDRCM03VN	AB17BMP000289	Aberdeen Logistics ESD7	E	MMBR	NEWD						NEW
AB20BMP000102	2020	665969.8055	1545215.039	MDRCM03VN	AB17BMP000290	Aberdeen Logistics ESD8	E	MMBR	NEWD						NEW
AB20BMP000103	2020	666010.7109	1545270.448	MDRCM03VN	AB17BMP000291	Aberdeen Logistics ESD9	E	MMBR	NEWD						NEW
AB20BMP000104	2020	666066.7892	1545328.255	MDRCM03VN	AB17BMP000292	Aberdeen Logistics ESD10	E	MMBR	NEWD						NEW
AB20BMP000105	2020	666112.8364	1545393.759	MDRCM03VN	AB17BMP000293	Aberdeen Logistics ESD11	E	MMBR	NEWD						NEW
AB20BMP000106	2020	666156.313	1545454.215	MDRCM03VN	AB17BMP000294	Aberdeen Logistics ESD12	E	MMBR	NEWD						NEW
AB20BMP000107	2020	670500	1547250	MDRCM038R	AB17BMP000279	National Tire & Battery Pervious Concrete 3	E	APRP	REDE						NEW
AB20BMP000108	2020	666710	1543746	MDRCM00SQ	AB15BMP000268	Aberdeen Xchange Lot 1 UG Filter	S	FUND	NEWD	7/28/2020	Pass				
AB20BMP000109	2020	677106.5135	1541287.566	MDRCM01F1	AB14BMP000274	Hampton Inn/La Quinta Inn Micro Bioretention 1a	E	MMBR	REDE						NEW
AB20BMP000110	2020	677148.813	1541218.763	MDRCM01F1	AB14BMP000275	Hampton Inn/La Quinta Inn Micro Bioretention 2a	E	MMBR	REDE						NEW
AB20BMP000111	2020	677266.9893	1541167.027	MDRCM01F1	AB14BMP000276	Hampton Inn/La Quinta Inn Bioswale 2b	E	MSWB	REDE						NEW
AB20BMP000112	2020	680157.85	1549077.862	1988	AB90BMP000271	Windemere Estates Pond 2	S	PWED	NEWD	3/1/2017	Fail				Defunct HOA. Never maintained.
AB20BMP000113	2020	670403.7638	1547157.308	MDRCM038R	AB17BMP000277	National Tire & Battery Pervious Concrete 1	S	APRP	REDE						NEW
AB20BMP000114	2020	670485.2686	1547235.149	MDRCM038R	AB17BMP000278	National Tire & Battery Pervious Concrete 2	S	APRP	REDE						NEW
AB20BMP000115	2020	678491.2267	1555225.92	13-IM-5500	AB03BMP000184	Rock Glenn Business Park SWM Facility # 1	S	XOTH	NEWD	9/15/2020	PASS				

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB19BMP000001	1			ACT	16.60	6.81	0.00		8/18/2000	
AB19BMP000002	1			ACT	30.85	17.08	0.50		6/1/2000	
AB19BMP000003	1			ACT	0.95	0.78	0.00		3/22/2000	
AB19BMP000004	1			ACT	3.11	0.60	N/A		6/1/2000	
AB19BMP000005	1			ACT	4.48	1.54	2.00		6/1/2000	
AB19BMP000006	1			ACT					6/1/2000	
AB19BMP000007	1			ACT	3.00	2.55	0.30		2/14/2000	
AB19BMP000008	1			ACT					2/14/2000	
AB19BMP000009	1			ACT	46.18	2.72	0.00		10/12/2001	
AB19BMP000010	1			ACT	6.63	3.13	0.00		6/1/2001	
AB19BMP000015	1			ACT	5.49	4.33	0.00		1/24/2002	
AB19BMP000017	1			ACT	2.09	1.39	0.00		12/30/2003	
AB19BMP000018	1			ACT	0.65	0.00	0.00		9/16/2003	
AB19BMP000019	1			ACT	7.25	3.99	0.00		1/24/2015	Never constructed as a sand filter. Retrofitted GP #14-06
AB19BMP000020	1			ACT	17.38	4.18	2.40		5/20/2003	
AB19BMP000021	1			ACT	10.37	6.26			1/24/2015	
AB19BMP000022	1			ACT	13.70	5.60	0.00		1/1/2004	
AB19BMP000023	1			ACT	5.23	0.52	2.60		9/9/2004	
AB19BMP000024	1			ACT	4.73	0.01	0.00		9/9/2004	
AB19BMP000025	1			ACT	0.72	0.08	0.00		9/9/2004	
AB19BMP000026	1			ACT	0.47	0.00	0.00		9/9/2004	
AB19BMP000027	1			ACT	2.69	2.30	2.70		9/1/1992	
AB19BMP000028	1			ACT	1.53	1.37	0.50			
AB19BMP000029	1			ACT	0.19	0.17	1.60			
AB19BMP000030	1			ACT	0.23	0.21	1.40			
AB19BMP000031	1			ACT					10/12/2004	
AB19BMP000032	1			ACT					10/12/2004	
AB19BMP000033	1			ACT	0.31	0.10	1.00		6/1/2004	
AB19BMP000034	1			ACT	21.61	17.24	0.00		9/2/2004	
AB19BMP000035	1			ACT		0.49			12/30/2005	
AB19BMP000036	1			ACT					7/2/1905	
AB19BMP000038	1			ACT	10.39	5.56	0.00		6/1/2005	
AB19BMP000039	1			ACT	0.66	0.65	0.20		10/10/2005	
AB19BMP000040	1			ACT	0.00	0.00			6/22/1905	
AB19BMP000041	1			ACT	0.00	0.00			6/23/1905	
AB19BMP000042	1			ACT	0.78	0.15	0.70		6/1/2005	
AB19BMP000043	1			ACT	5.38	1.21	1.50		12/15/2005	
AB19BMP000045	1			ACT		2.50			1/23/2006	
AB19BMP000046	1			ACT					1/26/2006	
AB19BMP000049	1			ACT					6/1/2006	
AB19BMP000050	1			ACT					7/5/2006	

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB19BMP000051	1			PASS					9/1/2006	
AB19BMP000052	1			ACT					12/12/2006	
AB19BMP000055	1			ACT					1/25/2006	
AB19BMP000057	1			ACT		12.44			8/1/2007	
AB19BMP000058	1			ACT					5/18/2007	
AB19BMP000059	1			ACT					6/1/2007	
AB19BMP000060	1			ACT					6/1/2007	
AB19BMP000062	1			ACT					6/18/2007	
AB19BMP000063	1			ACT	4.58				9/12/2007	
AB19BMP000064	1			ACT		4.98			12/30/2007	
AB19BMP000065	1			ACT		11.62			12/30/2007	
AB19BMP000066	1			ACT					8/10/2007	
AB19BMP000067	1			ACT					8/10/2007	
AB19BMP000072	1			ACT					1/4/2008	
AB19BMP000076	1			ACT					1/28/2008	
AB19BMP000077	1			ACT					1/28/2008	
AB19BMP000078	1			PASS					1/28/2008	
AB19BMP000079	1			ACT					4/3/2008	
AB19BMP000080	1			ACT					9/28/2009	
AB19BMP000082	1			ACT					5/28/2010	
AB19BMP000084	1			ACT					5/28/2010	
AB19BMP000085	1			ACT					5/13/2010	
AB19BMP000086	1			ACT		12.44			10/17/2011	
AB19BMP000087	1			ACT					6/1/2011	
AB19BMP000088	1			ACT		12.44			10/16/2011	
AB19BMP000089	1			ACT					1/6/2012	
AB19BMP000090										
AB19BMP000091										
AB19BMP000092	1			ACT					4/12/2013	
AB19BMP000093	1			ACT					4/12/2013	
AB19BMP000094	1			PASS					8/1/2013	
AB19BMP000096	1			ACT					8/14/2014	
AB19BMP000097	1			ACT	0.36	0.27	2.70		8/14/2014	
AB19BMP000098	1			ACT	0.33	0.27	2.70		8/14/2014	
AB19BMP000099	1			ACT	0.30	0.22	2.70		8/14/2014	
AB19BMP000100	1			ACT	0.55	0.47	2.70		8/14/2014	
AB19BMP000101	1			ACT	0.55	0.44	2.70		8/14/2014	
AB19BMP000102	1			ACT	0.37	0.25	2.70		8/14/2014	
AB19BMP000103	1			ACT	0.37	0.26	2.70		8/14/2014	
AB19BMP000104	1			ACT	0.44	0.36	2.70		8/14/2014	
AB19BMP000105	1			ACT	0.46	0.37	2.70		8/14/2014	

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB19BMP000106	1			ACT	0.45	0.39	2.70		8/14/2014	
AB19BMP000107	1			ACT	0.41	0.37	1.24		8/14/2014	
AB19BMP000108	1			ACT					12/5/2014	
AB19BMP000109	1			ACT					3/19/2014	
AB19BMP000110	1			ACT					3/19/2014	
AB19BMP000111	1									
AB19BMP000112	1			ACT						
AB19BMP000113	1			ACT						
AB19BMP000114	1			PASS		0.16			10/29/2013	
AB19BMP000115	1			PASS		0.15			10/29/2013	
AB19BMP000116	1			PASS		0.05			10/29/2013	
AB19BMP000117	1			PASS		0.05			10/29/2013	
AB19BMP000118	1			ACT	21.09				12/12/2016	
AB19BMP000119	1			ACT					4/26/2017	
AB19BMP000120	1			ACT					4/26/2017	
AB19BMP000121	1			ACT					7/20/2017	
AB19BMP000122	1			ACT	2.08				4/24/2017	
AB19BMP000123	1			ACT					12/19/2017	
AB19BMP000125	1			ACT					12/19/2017	
AB19BMP000126	1			ACT		30.08			10/23/2017	
AB19BMP000127	1			ACT					10/13/2017	
AB19BMP000129	1			ACT					1/9/2018	
AB19BMP000130	1			ACT					1/9/2018	
AB19BMP000131	1			ACT					1/9/2018	
AB19BMP000132	1			ACT					1/9/2018	
AB19BMP000133	1			ACT					4/16/2018	
AB19BMP000134	1			ACT					1/11/2019	
AB19BMP000135	1			ACT					1/1/1975	
AB19BMP000136	1			ACT					6/1/1981	
AB19BMP000137	1			ACT					6/1/1985	
AB19BMP000138	1			ACT		9.52			6/1/1986	
AB19BMP000139	1			ACT		0.42			11/1/1987	
AB19BMP000140	1			ACT		1.01			6/1/1989	
AB19BMP000141	1			ACT					8/15/1989	
AB19BMP000142	1			ACT					6/1/1989	
AB19BMP000143	1			ACT					6/1/1989	
AB19BMP000144	1			ACT		1.60			6/1/1989	
AB19BMP000145	1			ACT					6/12/1989	
AB19BMP000147	1			ACT					6/1/1989	
AB19BMP000148	1			ACT					1/27/1989	
AB19BMP000149	1			ACT					10/5/1990	

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB19BMP000150	1			ACT					2/19/1990	
AB19BMP000151	1			ACT					2/7/1990	
AB19BMP000152	1			ACT					1/6/1990	
AB19BMP000153	1			PASS					10/10/1990	
AB19BMP000154	1			ACT					2/12/1990	
AB19BMP000155	1			ACT		2.40			7/1/1991	
AB19BMP000156	1			ACT					10/2/1991	
AB19BMP000157	1			ACT					2/17/1991	
AB19BMP000158	1			ACT		0.38			6/1/1991	
AB19BMP000159	1			ACT					9/21/1991	
AB19BMP000160	1			PASS					9/21/1991	
AB19BMP000162	1			ACT					9/21/1991	
AB19BMP000163	1			ACT					5/15/1991	
AB19BMP000164	1			ACT					2/15/1991	
AB19BMP000166	1			ACT					1/10/1992	
AB19BMP000167	1			ACT					9/8/1992	
AB19BMP000168	1			ACT	0.48	0.42	2.70		9/1/1992	
AB19BMP000169	1			FAIL					4/16/1992	
AB19BMP000170	1			ACT		4.95			3/3/1993	
AB19BMP000171	1			ACT					9/30/1993	
AB19BMP000172	1			ACT					1/19/1993	
AB19BMP000173	1			ACT		5.45			12/30/1994	
AB19BMP000174	1			ACT		13.13			12/30/1994	
AB19BMP000175	1			PASS		1.28			11/3/2003	
AB19BMP000176	1			ACT		0.20			11/3/2003	
AB19BMP000178	1			ACT					12/21/1995	
AB19BMP000179	1			ACT					2/28/1995	
AB19BMP000180	1			ACT					7/31/1995	
AB19BMP000181	1			ACT					7/31/1995	
AB19BMP000182	1			ACT					3/31/1996	
AB19BMP000183	1			ACT					6/6/1996	
AB19BMP000184	1			ACT					9/12/1996	
AB19BMP000186	1			ACT					6/5/1997	
AB19BMP000187	1			ACT					6/6/1997	
AB19BMP000188	1			ACT					6/6/1997	
AB19BMP000189	1			ACT		0.72			12/30/1997	
AB19BMP000190	1			ACT					5/30/1997	
AB19BMP000191	1			ACT					9/12/1997	
AB19BMP000192	1			PASS					3/19/1998	
AB19BMP000193	1			PASS		0.59			1/16/1998	
AB19BMP000194	1			ACT					12/17/1998	

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB19BMP000195	1			ACT					6/1/1998	
AB19BMP000196	1			PASS					3/19/1998	
AB19BMP000197	1			ACT					3/19/1998	
AB19BMP000198	1			ACT					3/19/1998	
AB19BMP000199	1			ACT		0.72			12/30/1999	
AB19BMP000200	1			ACT					5/28/2010	
AB19BMP000201	1								9/5/2017	
AB19BMP000202	1			PASS					3/30/1993	
AB20BMP000109	1	ON		ACT	0.66	0.22	1.40	5/7/2015		
AB20BMP000110	1	ON		ACT	0.65	0.27	1.20	5/7/2015		
AB20BMP000111	1	ON		ACT	0.83	0.33	1.01	5/7/2015		
AB20BMP000107	1	ON		ACT		0.04		6/18/2017	7/18/2017	
AB20BMP000095	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000096	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000097	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000098	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000099	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000100	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000101	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000102	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000103	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000104	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000105	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000106	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000084	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000085	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000086	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000087	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000088	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000089	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000060	1	ON		ACT	0.27	0.16		7/11/2018	8/22/2018	
AB20BMP000061	1	ON		ACT	0.46	0.41		7/11/2018	8/22/2018	
AB20BMP000062	1	ON		ACT	0.46	0.35		7/11/2018	8/22/2018	
AB20BMP000063	1	ON		ACT	0.45	0.32		7/11/2018	8/22/2018	
AB20BMP000064	1	ON		ACT	0.46	0.37		7/11/2018	8/22/2018	
AB20BMP000065	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000066	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000067	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000068	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000069	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000070	1	ON		ACT	0.45	0.36		7/11/2018	8/22/2018	

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB20BMP000071	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000072	1	ON		ACT	0.43	0.37		7/11/2018	8/22/2018	
AB20BMP000073	1	ON		ACT		0.32				
AB20BMP000074	1	ON		ACT						
AB20BMP000075	1	ON		ACT	0.19	0.11		7/11/2018	8/22/2018	
AB20BMP000076	1	ON		ACT	0.45	0.35		7/11/2018	8/22/2018	
AB20BMP000077	1	ON		ACT	0.44	0.37		7/11/2018	8/22/2018	
AB20BMP000078	1	ON		ACT	0.42	0.37		7/11/2018	8/22/2018	
AB20BMP000079	1	ON		ACT	0.44	0.29		7/11/2018	8/22/2018	
AB20BMP000080	1	ON		ACT	0.37	0.23		7/11/2018	8/22/2018	
AB20BMP000081	1	ON		ACT	0.40	0.16		7/11/2018	8/22/2018	
AB20BMP000082	1	ON		ACT	0.38	0.25		7/11/2018	8/22/2018	
AB20BMP000083	1	ON		ACT	0.32	0.26		7/11/2018	8/22/2018	
AB20BMP000053	1	ON		ACT	0.50	0.33	2.00	3/30/2018	5/4/2018	
AB20BMP000054	1	ON		ACT	0.54	0.13	2.60	3/30/2018	5/4/2018	
AB20BMP000055	1	ON		ACT	0.86	0.19	1.80	3/30/2018	5/4/2018	
AB20BMP000056	1	ON		ACT	0.54	0.22	2.60	3/30/2018	5/4/2018	
AB20BMP000057	1	ON		ACT	0.25	0.23	2.40	3/30/2018	5/4/2018	
AB20BMP000048	1	ON		ACT	0.60	0.11	0.30	3/30/2018	5/4/2018	
AB20BMP000044	1	ON		ACT	11981.00			2/11/2016	12/16/2018	
AB20BMP000045	1	ON		ACT	6037.00			2/11/2016	12/16/2018	
AB20BMP000046	1	ON		ACT	12465.00			2/11/2016	12/16/2018	
AB20BMP000047	1	ON		ACT	6889.00			2/11/2016	12/16/2018	
AB20BMP000028	1	ON		ACT	12384.00			2/11/2016	12/16/2018	
AB20BMP000029	1	ON		ACT	10837.00			2/11/2016	12/16/2018	
AB20BMP000030	1	ON		ACT	3133.00			2/11/2016	12/16/2018	
AB20BMP000031	1	ON		ACT	3382.00			2/11/2016	12/16/2018	
AB20BMP000032	1	ON		ACT	1737.00			2/11/2016	12/16/2018	
AB20BMP000033	1	ON		ACT	1737.00			2/11/2016	12/16/2018	
AB20BMP000034	1	ON		ACT	6192.00			2/11/2016	12/16/2018	
AB20BMP000035	1	ON		ACT	25822.00			2/11/2016	12/16/2018	
AB20BMP000036	1	ON		ACT	6248.00			2/11/2016	12/16/2018	
AB20BMP000037	1	ON		ACT	12300.00			2/11/2016	12/16/2018	
AB20BMP000038	1	ON		ACT	6184.00			2/11/2016	12/16/2018	
AB20BMP000039	1	ON		ACT	5084.00			2/11/2016	12/16/2018	
AB20BMP000040	1	ON		ACT	4826.00			2/11/2016	12/16/2018	
AB20BMP000041	1	ON		ACT	6573.00			2/11/2016	12/16/2018	
AB20BMP000042	1	ON		ACT	6164.00			2/11/2016	12/16/2018	
AB20BMP000043	1	ON		ACT	10485.00			2/11/2016	12/16/2018	
AB20BMP000006	1	ON		ACT	0.32			8/15/2018	9/18/2018	
AB20BMP000007	1	ON		ACT	0.16			8/15/2018	9/18/2018	

Table B.1.b. Reporting Requirements for ESD and Structural Practices

BMP_ID	NUM_BMPS	ON_OFF_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
AB20BMP000008	1	ON		ACT		0.14		8/15/2018	9/18/2018	
AB20BMP000014	1	ON		PASS		14423.00	2246 cf	3/15/2019	4/18/2019	
AB20BMP000015	1	ON		PASS		19886.00	3188 cf	3/15/2019	4/18/2019	
AB20BMP000016	1	ON		PASS		14176.00	2504 CF	3/15/2019	4/18/2019	
AB20BMP000017	1	ON		PASS		16998.00	3220 cf	3/15/2019	4/18/2019	
AB20BMP000018	1	ON		PASS		17547.00	2828 cf	3/15/2019	4/18/2019	
AB20BMP000001	1	ON		PASS						
AB20BMP000002	1	ON		ACT					1/27/2008	
AB20BMP000019	1	ON	2017	ACT		5.52				
AB20BMP000020	1	ON		ACT				2/11/2016	12/16/2018	
AB20BMP000021	1	ON		ACT						
AB20BMP000025	1	ON				28732.00		2/11/2016	12/16/2018	
AB20BMP000026	1	ON		ACT		22572.00		2/11/2016	12/16/2018	
AB20BMP000027	1	ON		ACT		20733.00		2/11/2016	12/16/2018	
AB20BMP000049	1	ON		ACT	2.04					
AB20BMP000050	1	ON		ACT	2.01			3/30/2018	5/4/2018	
AB20BMP000051	1	ON		ACT	1.58	1.16	1.80	3/30/2018	5/4/2018	
AB20BMP000052	1	ON		ACT	2.01	1.25	1.80	3/30/2018	5/4/2018	
AB20BMP000090	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000091	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000092	1	ON		ACT		25.86		10/19/2018	1/3/2019	
AB20BMP000093	1	ON		ACT		26.86		10/19/2018	1/3/2019	
AB20BMP000094	1	ON		ACT		27.86		10/19/2018	1/3/2019	
AB20BMP000108	1	ON								
AB20BMP000112	1	ON								1988
AB20BMP000113	1	ON								2017
AB20BMP000114	1	ON								2017
AB20BMP000115	1				0.92	0.40	1.00	2002		

Table B.1.c Reporting Requirements for Alternative BMPs

BMP_ID	PROJECT_DESC	PROJECT_LENGTH	ACRES_SWEPT	TIMES_SWEPT	ACRES_PLANTED	IMP_ACR_ELIM	EQU_IMP_ACR	INSTALL_DATE	IMPL_COMP_YR	GEN_COMMENTS
AB19BMP000037						0.09				
AB19BMP000048						0.22				
AB19BMP000069						0.04				
AB19BMP000185										

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT I-4

PHASE II MS4 RESTORATION ACTIVITY SCHEDULE

NOTE: Also Provided Electronically as an Email Attachment to this Report.

Phase II MS4 Restoration Activity Schedule

Total Acreage (988.51); Impervious Acre Baseline (968.12); 20% Restoration Target (193.62 acres)

Type of Restoration Project	BMP Code[1]	BMP ID (Optional)	Cost ($K)[2]	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status[3]	Year Complete or Projected Implementation Year (by 2025)	MD Grid Coordinates (Northing/Easting)	
					193.624				
Stream Restoration	STRE	SR_2	2,888,823	77.12	116.504	P	2025	206954.018	470254.858
Tree Planting	FPU	TP_4	23,207	2.46	114.044	P	2025	204004.485	471344.683
Tree Planting	FPU	TP_5	4,954	0.54	113.504	P	2025	204387.721	472530.133

[1] See Appendix B, Tables B.1.a,b, and c, Urban BMP Database. BMP codes are identified under "MDE BMP Classification"
[2] Provide cost at project completion
[3] Project Status: Enter P for planning and design, UC for under construction, and C for complete

Enter Impervious Acreage Baseline	968.12
20% Impervious Acre Target Calulated	193.624

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT II-MCM 2

PUBLIC INVOLVEMENT AND PARTICIPATION

- **PAMPHLETS:**
  - Illicit Discharge/Dumping Door Hanger
  - Stormwater Brochure/Flyer
- **WORKSHOP PRESENTATIONS:**
  - Best Management Practices
  - Conservation Landscaping
  - Grants Funding
  - Illicit Discharge
  - Rain Barrels
  - Stormwater 101
  - NPDES Training

Stormwater runoff is water from rain or snow-melt that flows over the ground. As it flows, it can pick up litter, leaves, oil, fertilizer, detergent, and animal feces and deposit them into a storm drain system or waterbody.

Remember:

Only Rain Down the Storm Drain!

To keep the stormwater that leaves your home or workplace clean, follow these simple guidelines:

- √ Use pesticides and fertilizers sparingly.
- √ Repair auto leaks.
- √ Dispose of household hazardous wastes, used auto fluids (antifreeze, oil, etc.), and batteries at designated recycling locations.
- √ Clean up after your pet.
- √ Use a commercial car wash or wash your car on a lawn or other unpaved surface.
- √ Avoid sweeping or blowing grass clippings or leaves into the streets or storm drains.
- √ Clean paint brushes in a sink, not outdoors. Properly dispose of excess paints through a household hazardous waste collection program.
- √ Sweep up and properly dispose of construction debris such as concrete and mortar.



If you have any information regarding this or any other illegal dumping of pollutants, please call the Department of Public Works at 410-272-1600.

Illegal Dumping Found in Your Area!

This is not a citation.

Date: _____

This is to inform you that our staff found the following illegal pollutants in the storm drain system in your neighborhood.

This storm drain leads directly to:

_____

- ☐ Motor oil and filter
- ☐ Antifreeze and transmission fluid
- ☐ Paint
- ☐ Solvent and degreaser
- ☐ Cooking grease
- ☐ Home improvement waste (concrete)
- ☐ Pet waste
- ☐ Yard waste (leaves, grass, mulch)
- ☐ Excessive dirt and gravel
- ☐ Trash
- ☐ Pesticides and fertilizers
- ☐ Other _____

The pollutants were found at:

_____

Aberdeen
Home of Opportunity

Storm drains and roadside ditches lead directly to our streams, rivers, lakes and bays. So, any pollutants like oil, pet waste, leaves, grass clippings, trash, or dirty water from washing your car, or other outside activities that enter a storm drain eventually get into our state's precious waters.

How can You help? Follow these Simple Tips to help keep our water clean.

- Never dump anything down a storm drain.
- Keep grass clippings off of sidewalks and streets.
- Use fertilizers and pesticides sparingly and sweep up any excess.
- Check your car for leaks,and recycle used motor oil.
- Take your car to a car wash, instead of washing it in your driveway.
- Pick up after your pet.
- Compost your yard waste.

Report illegal dumping or evidence of discharge of pollutants into storm drains:

Call: 410-272-1600
or
Email: dpw@aberdeenmd.gov

Brought to you by the City of Aberdeen

Aberdeen
Home of Opportunity

Protecting our state's precious water begins with YOU...





Image: UMCES

Stormwater

Best Management Practices (BMPs)

Kelsey Brooks
Regional Watershed Restoration Specialist
09/19/19
Aberdeen Workshop Series

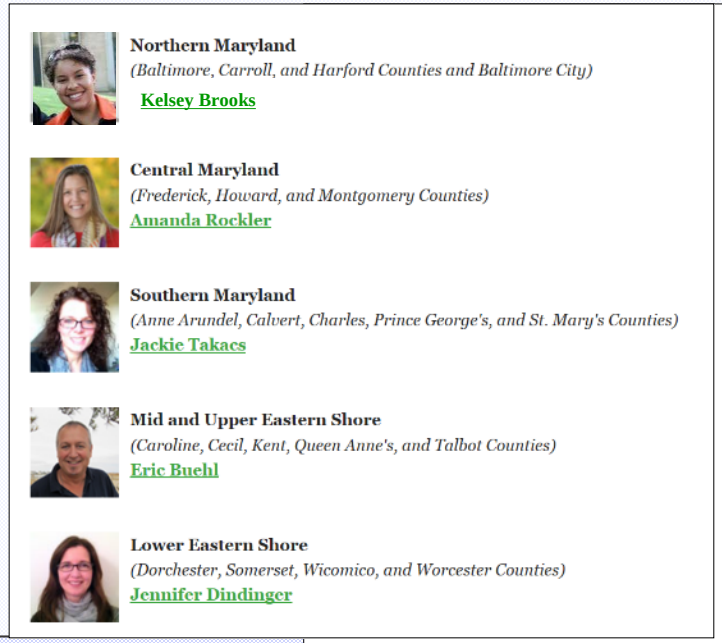
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UNIVERSITY OF MARYLAND EXTENSION

Sea Grant Maryland

Watershed Protection & Restoration Program

- WPRP goal: build programs to assist local governments and non-profits in achieving measureable improvements in water quality.
- What we do:
  - Capacity building
  - Grants assistance
  - Project implementation
  - Education & outreach



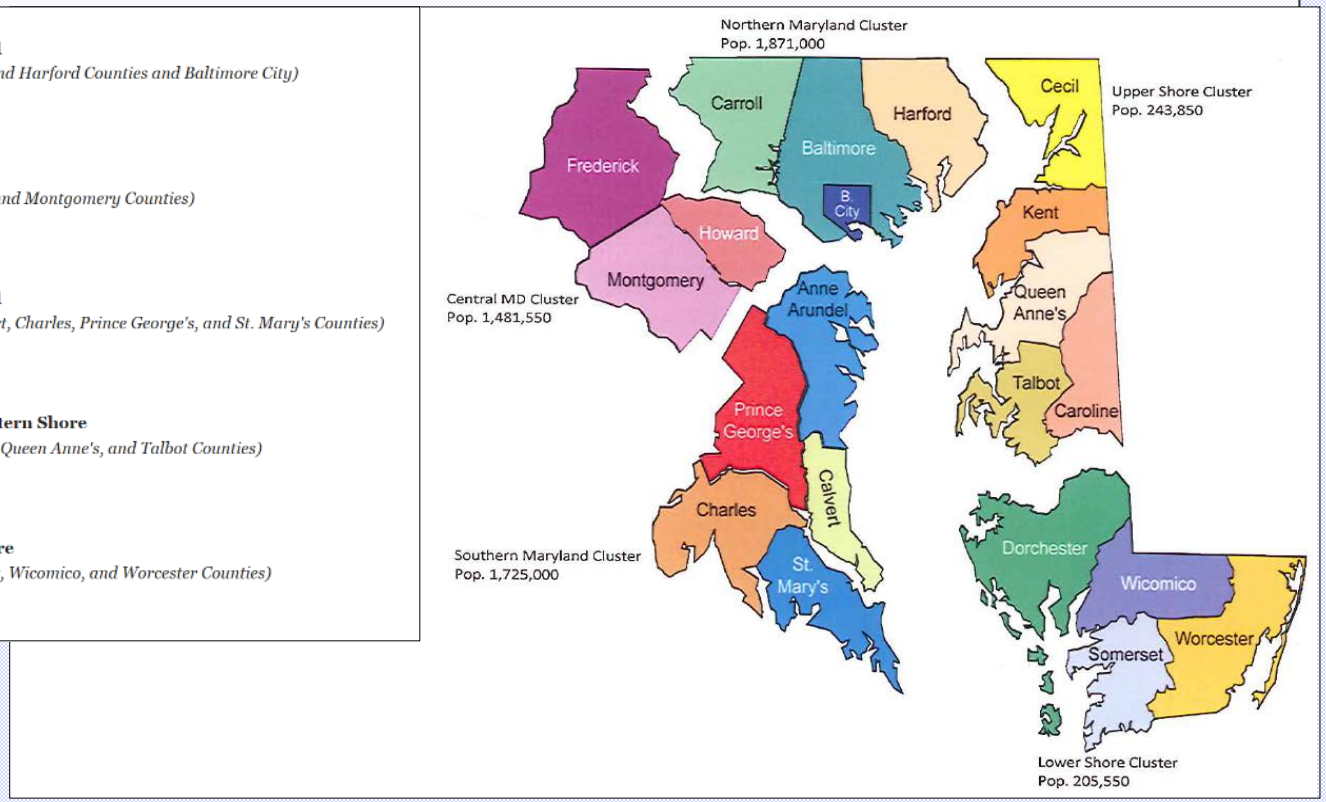
Northern Maryland
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Kelsey Brooks

Central Maryland
(Frederick, Howard, and Montgomery Counties)
Amanda Rockler

Southern Maryland
(Anne Arundel, Calvert, Charles, Prince George's, and St. Mary's Counties)
Jackie Takacs

Mid and Upper Eastern Shore
(Caroline, Cecil, Kent, Queen Anne's, and Talbot Counties)
Eric Buehl

Lower Eastern Shore
(Dorchester, Somerset, Wicomico, and Worcester Counties)
Jennifer Dindinger



BACKGROUND

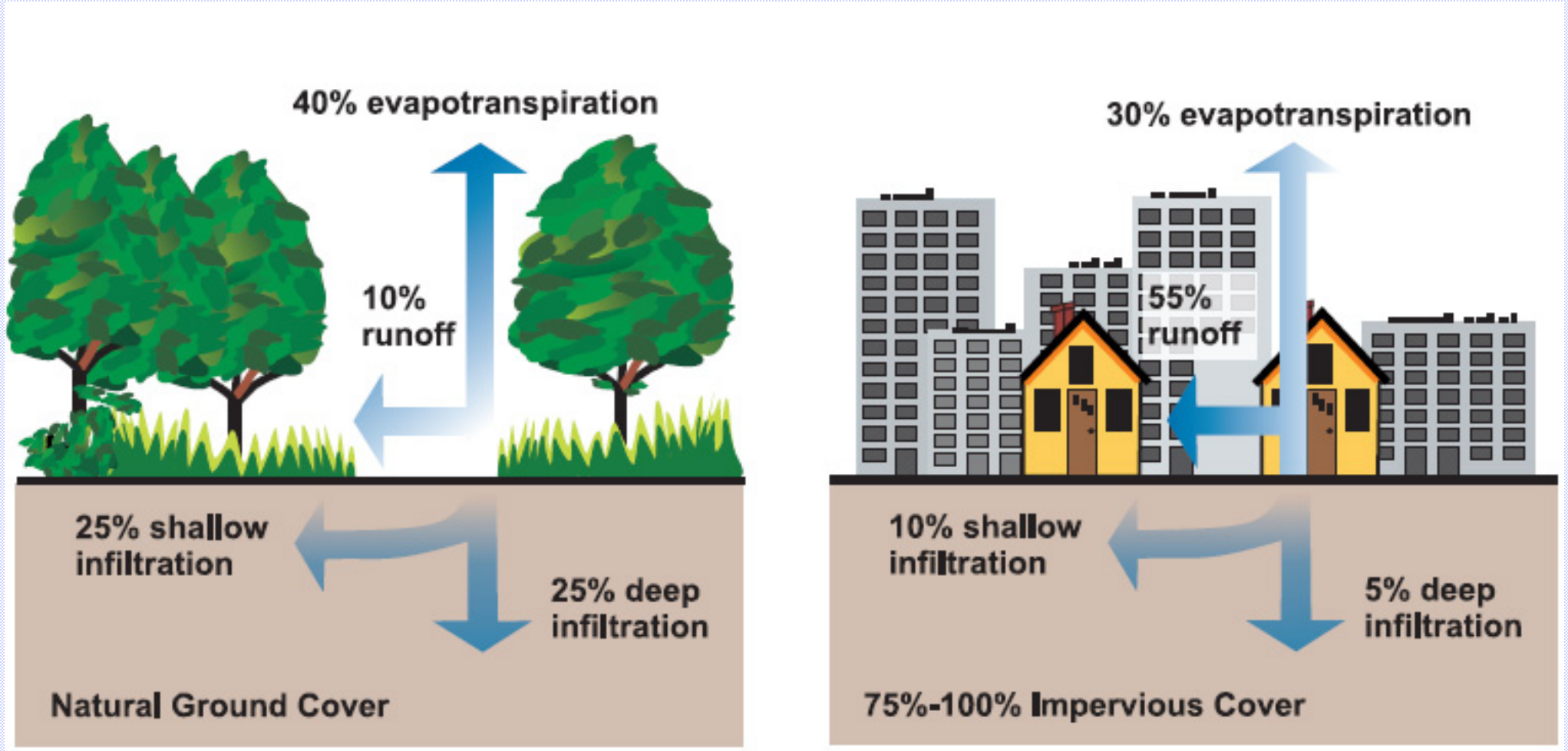
Overview

- Background
- Large Scale Practices
- Small Scare Practices
- Non-Structural
- Maintenance
- Co-Benefits

Background



Photo: Wikimedia



Source: US EPA

STORMWATER MANAGEMENT

Water Quantity



STORMWATER MANAGEMENT

Water Quality

- Nutrients (Nitrogen, Phosphorous)
- Sediment
- Bacteria (*E. coli,* Fecal Coliform)
- Trash (Plastic)
- Toxins
- Temperature

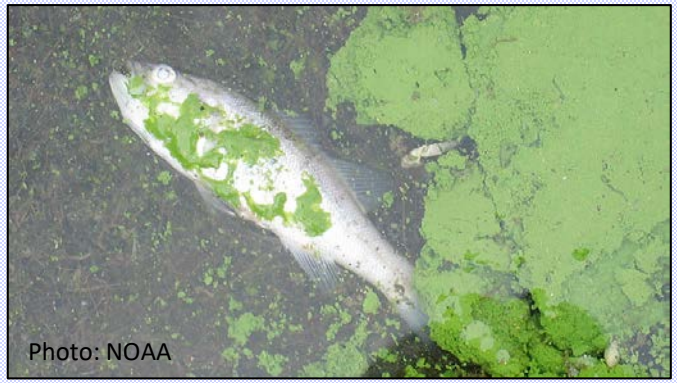

Photo: NOAA



Photo: King County, WA


Photo: PBS


Photo: Arlington County, VA

Large Scale Practices



Photo: Wikimedia

LARGE SCALE PRACTICES

Dry Ponds

Photo: Montgomery County, MD



LARGE SCALE PRACTICES

Wet Ponds



LARGE SCALE PRACTICES

Stream Restoration



LARGE SCALE PRACTICES

Regenerative Stormwater Conveyance (RSC)



Small Scale Practices

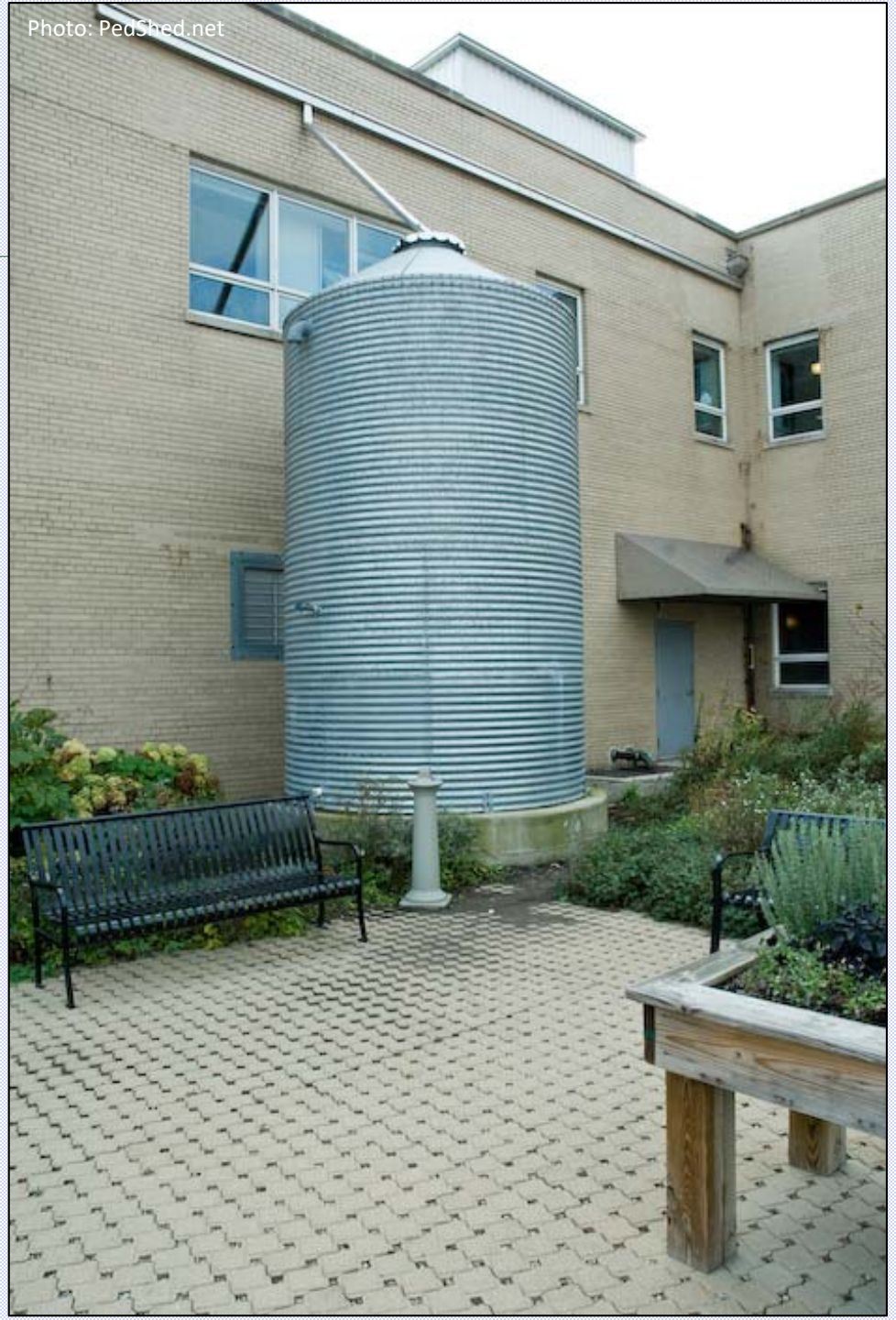


Photo: Wikimedia

SMALL SCALE PRACTICES

Rain Barrels and Cisterns



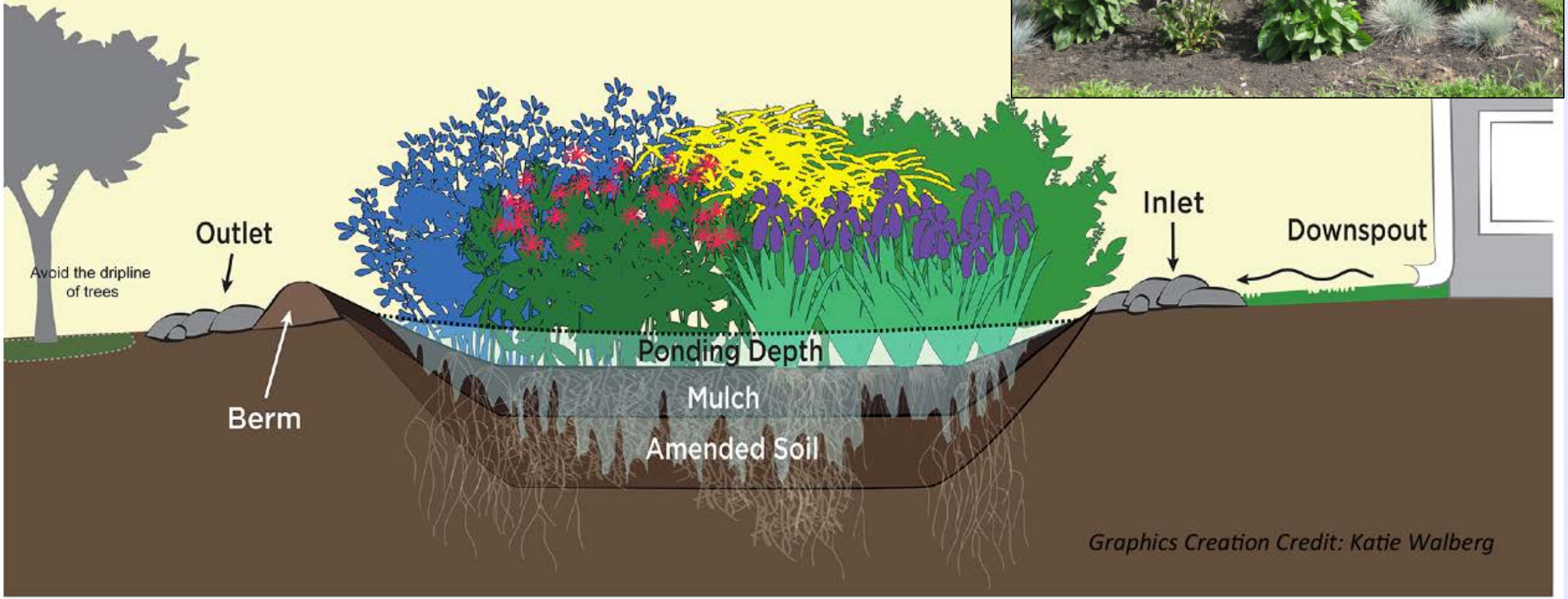


SMALL SCALE PRACTICES

Rain Gardens


Photo: UNH Extension

Image: University of Tennessee – Institute of Agriculture



SMALL SCALE PRACTICES

Bioretention



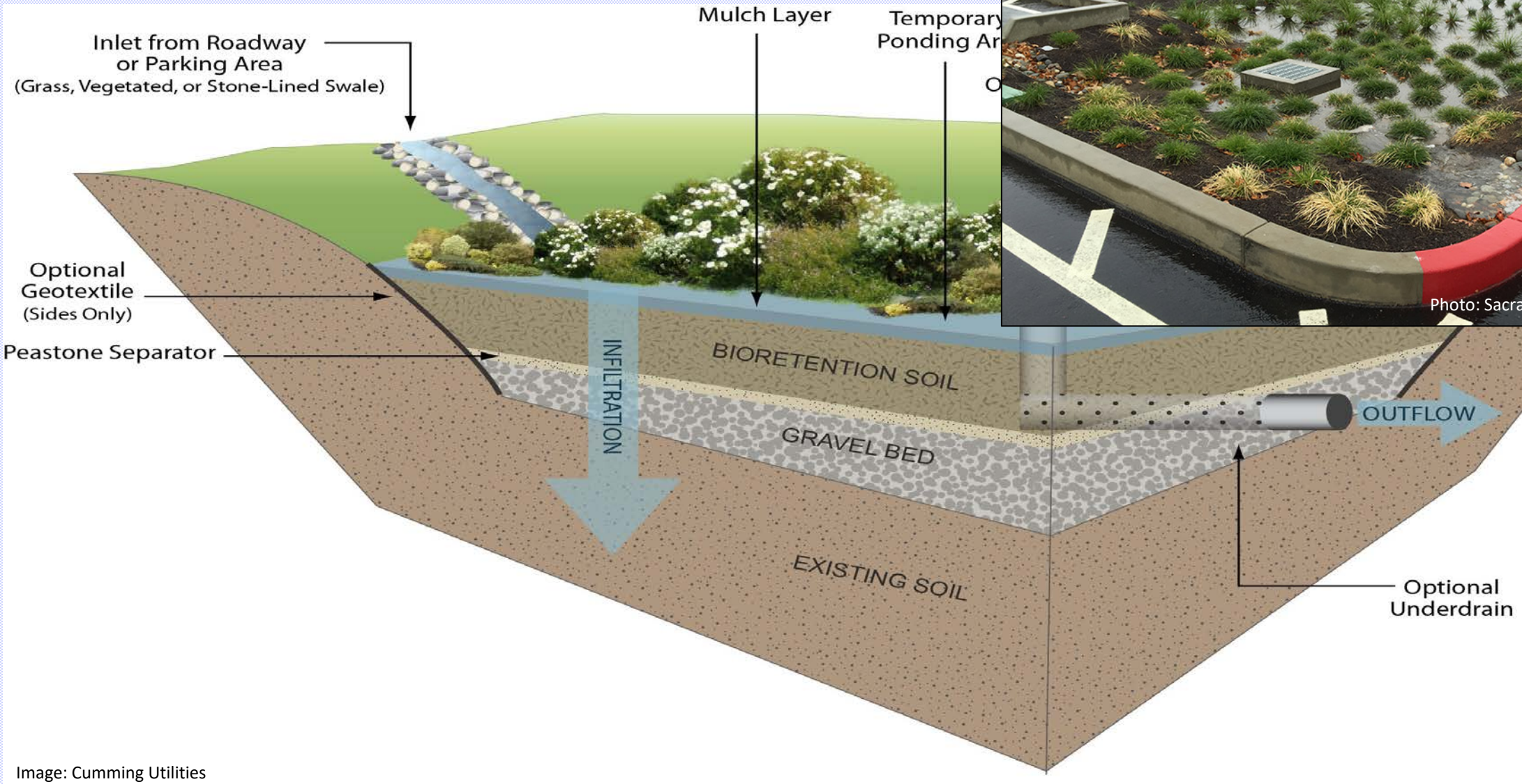


Image: Cumming Utilities

SMALL SCALE PRACTICES

Conservation Landscaping



SMALL SCALE PRACTICES

Tree Planting

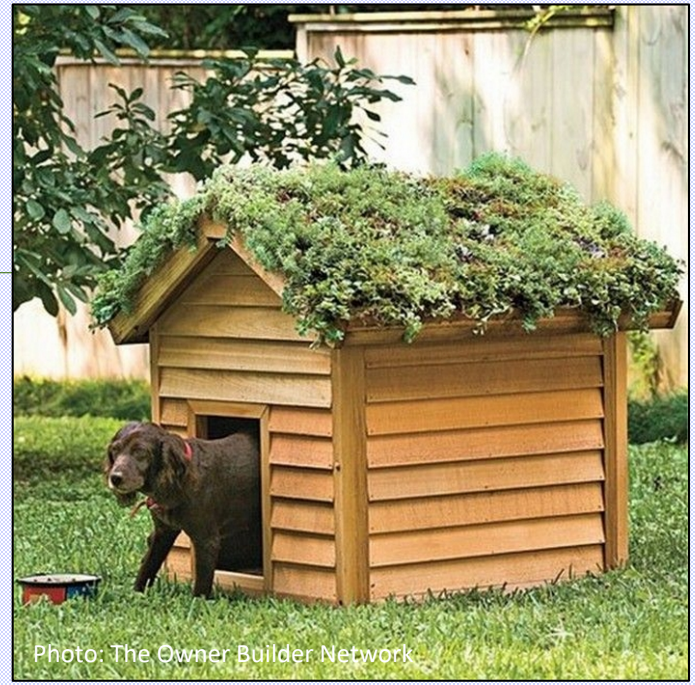


Photo: Howard County

SMALL SCALE PRACTICES

Green Roof







SMALL SCALE PRACTICES

Permeable Hardscapes



Photo: WEF



Photo: Santa Monica Public Works

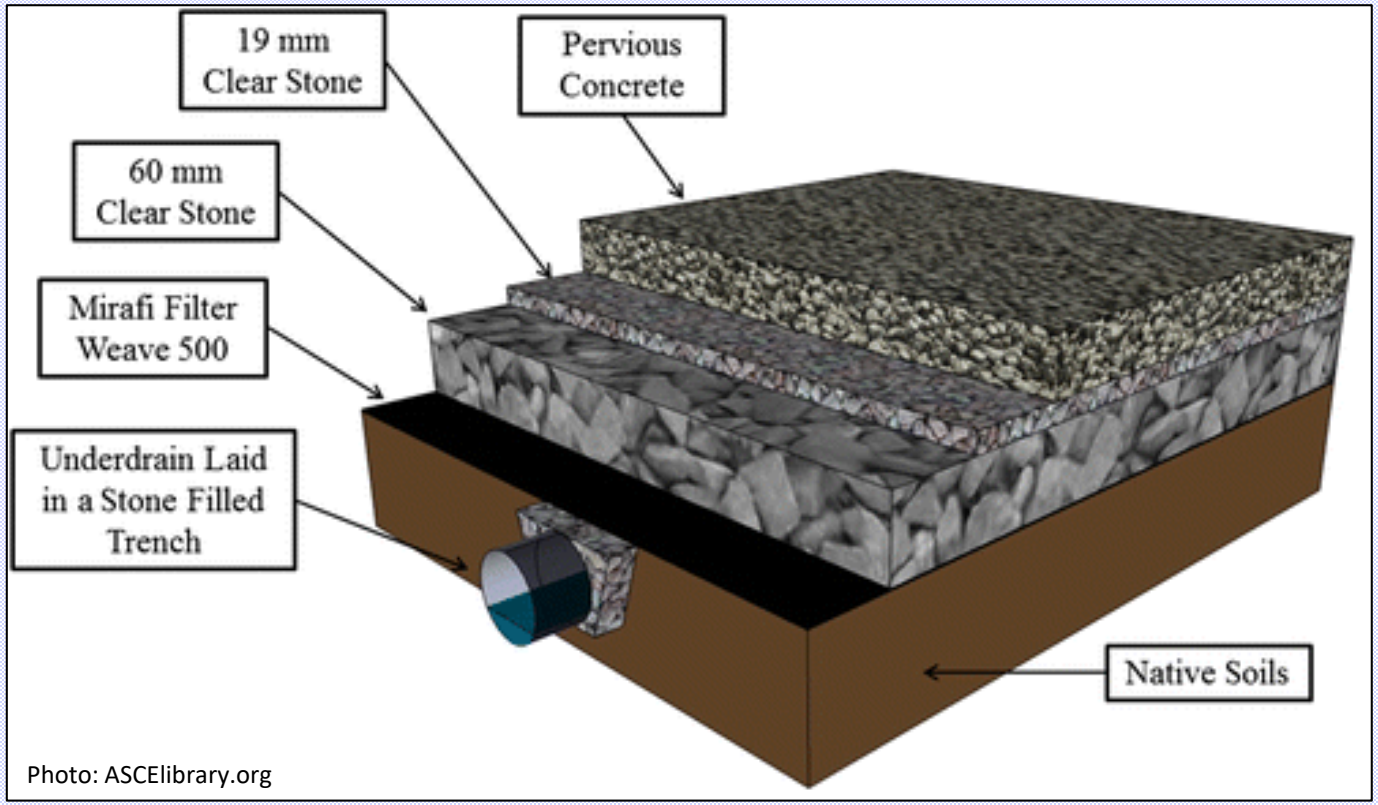


Photo: ASCElibrary.org

SMALL SCALE PRACTICES

Impervious Cover Removal





Photo: DOEE

Non-Structural



Photo: Wikimedia

NON-STRUCTURAL

Best Practices for Water Quality

- Street Sweeping
- Catch Basin Cleanout
- Education
  - Pet waste pickup
  - Littering
  - Smart fertilizer use
  - Reduction in pesticide use
  - “Only Rain Down the Drain”



Photo: San Francisco Public Utilities Commission

Maintenance



Photo: Wikimedia

MAINTENANCE

The Elephant In The Room



Co-Benefits

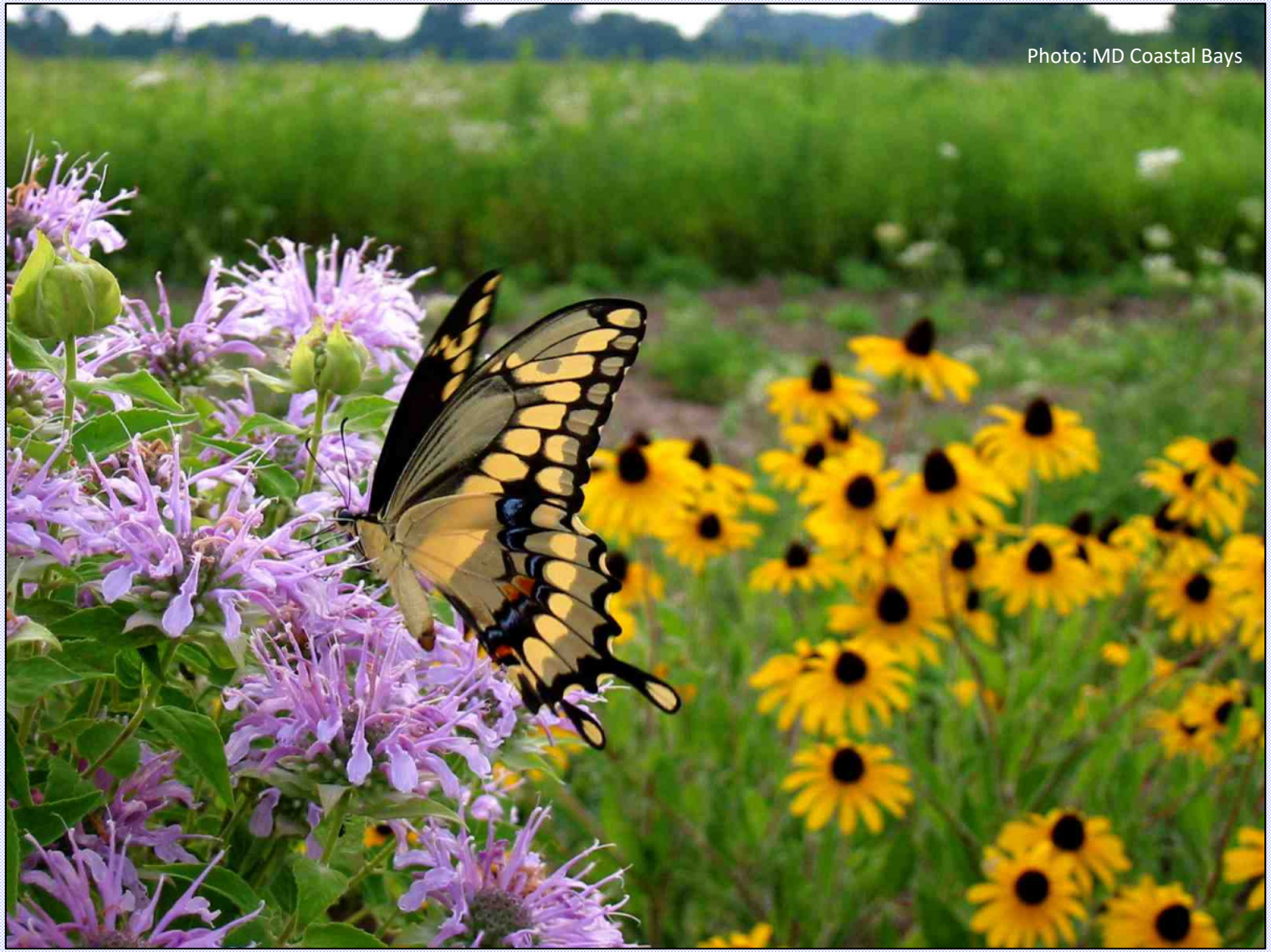


Photo: Wikimedia

CO-BENEFITS

Environmental

- Habitat
  - Pollinators
  - Birds
- Air Quality
- Biodiversity
- Carbon Sequestration



CO-BENEFITS

Social

- Health
  - Urban Heat Island
  - Air Quality
- Mental Health/Wellbeing
- Safety



Image: Bungalower.com

CO-BENEFITS

Economic

- Flood Impact Reduction
- Aquatic Industry Protection
  - Aquaculture
  - Tourism
  - Etc.
- Tourism
- Quantifying the other benefits?



Photo: thecityfix.com

Questions?

kebrooks@umd.edu

https://go.umd.edu/ENRTEACH



Image: UMCES

Conservation Landscaping
Planting for Water Quality

Kelsey Brooks
Regional Watershed Restoration Specialist
11/21/19
Aberdeen Workshop Series

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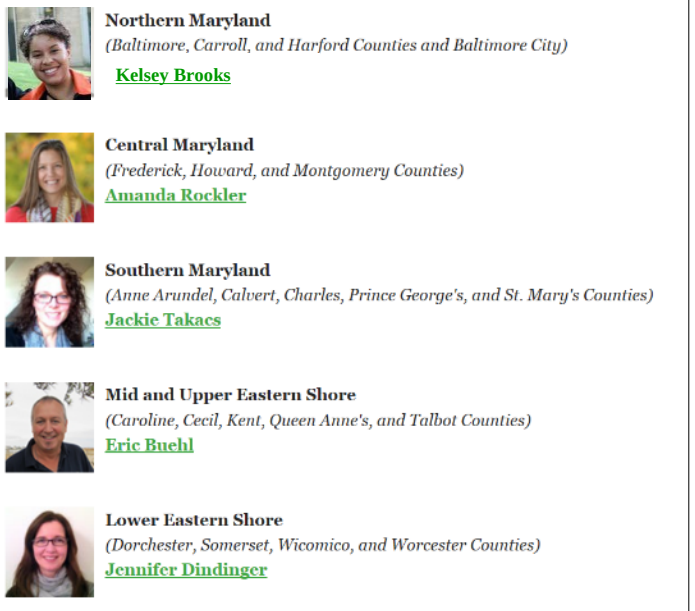
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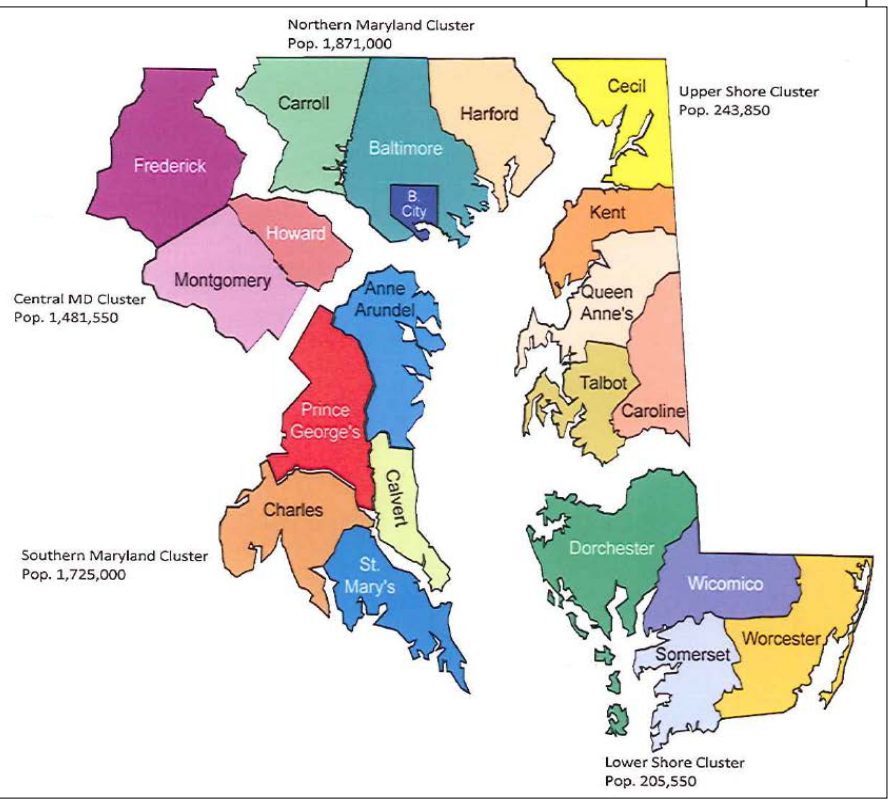
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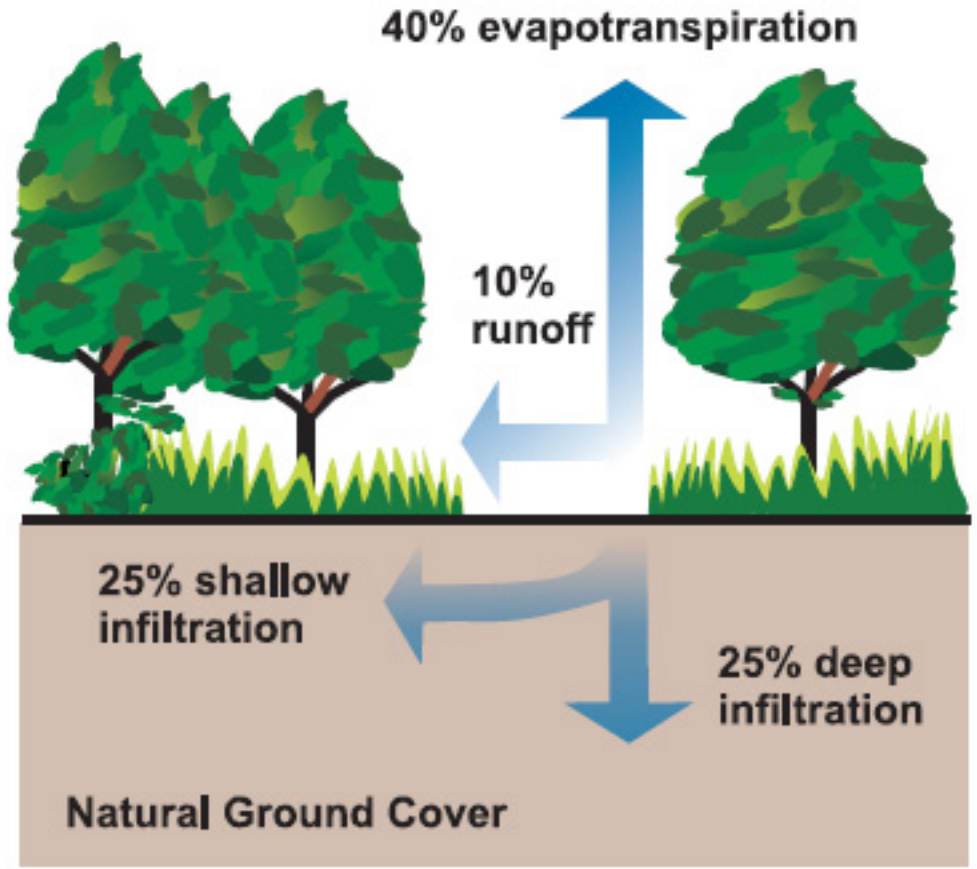
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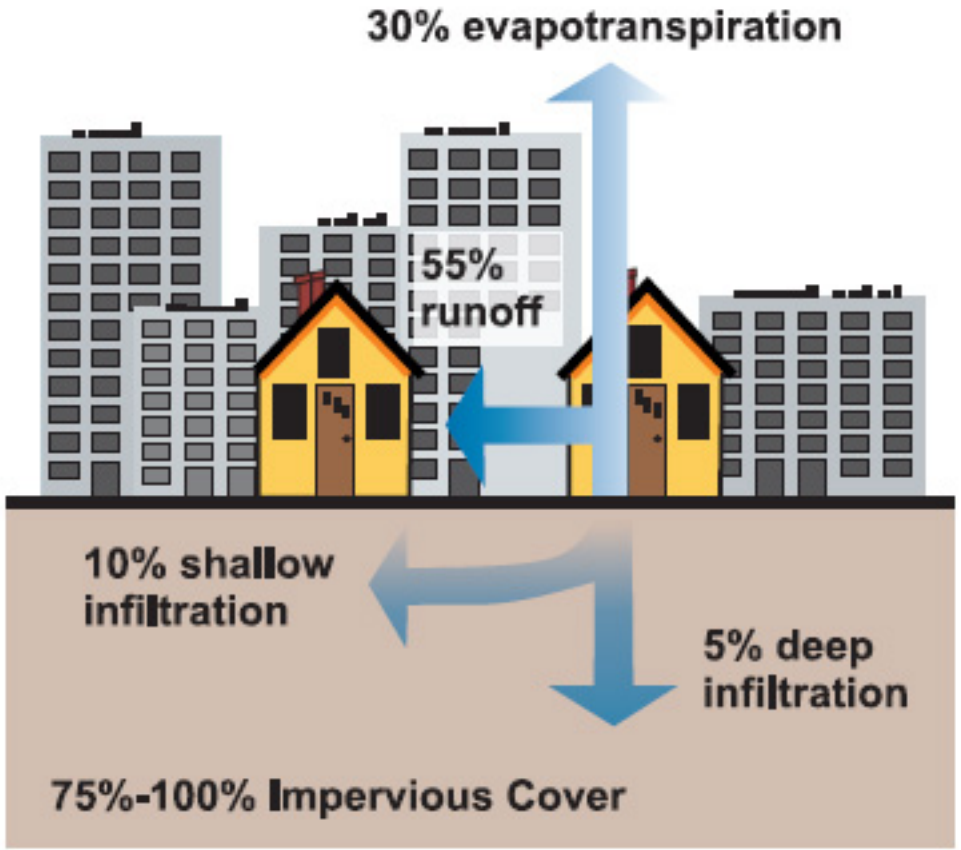
- Background
- Rain Gardens
- Conservation Landscaping
- Tree Planting

Background



Photo: Wikimedia





Source: US EPA

CONSERVATION LANDSCAPING

Water Quantity



Photo: SarahBalt42



Photo: ArcGIS.com

CONSERVATION LANDSCAPING

Water Quality

- Nutrients (Nitrogen, Phosphorous)
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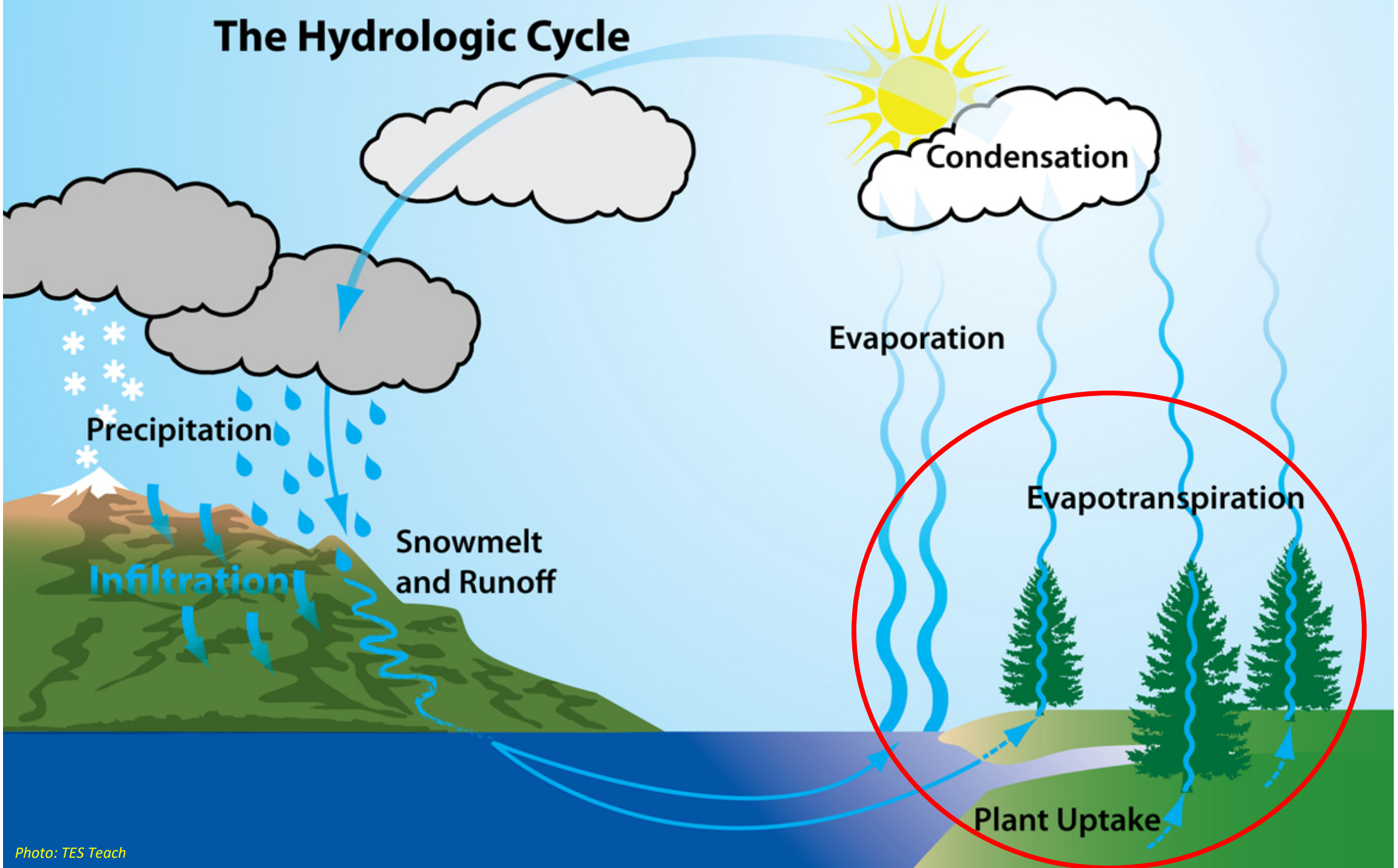

Photo: NOAA



Photo: King County, WA


Photo: PBS


Photo: Arlington County, VA


The Hydrologic Cycle
Condensation
Evaporation
Precipitation
Evapotranspiration
Snowmelt
and Runoff
Infiltration
Plant Uptake
Photo: TES Teach

CONSERVATION LANDSCAPING

Evapotranspiration

- **EVAPOTRANSPIRATION** – water transferred from the land to the atmosphere through evaporation & transpiration by plants
- **TRANSPIRATION** – the water plants lose through their stomata
- Transpiration rates are dependent on several factors
  - Temperature
  - Relative humidity
  - Wind and air movement
  - Soil-moisture availability
  - Type of plant
- Surface Area is positively correlated to transpiration rate
  - A large oak tree can transpire 40,000 gallons a year (source: USGS)

CONSERVATION LANDSCAPING

Which transpires more?

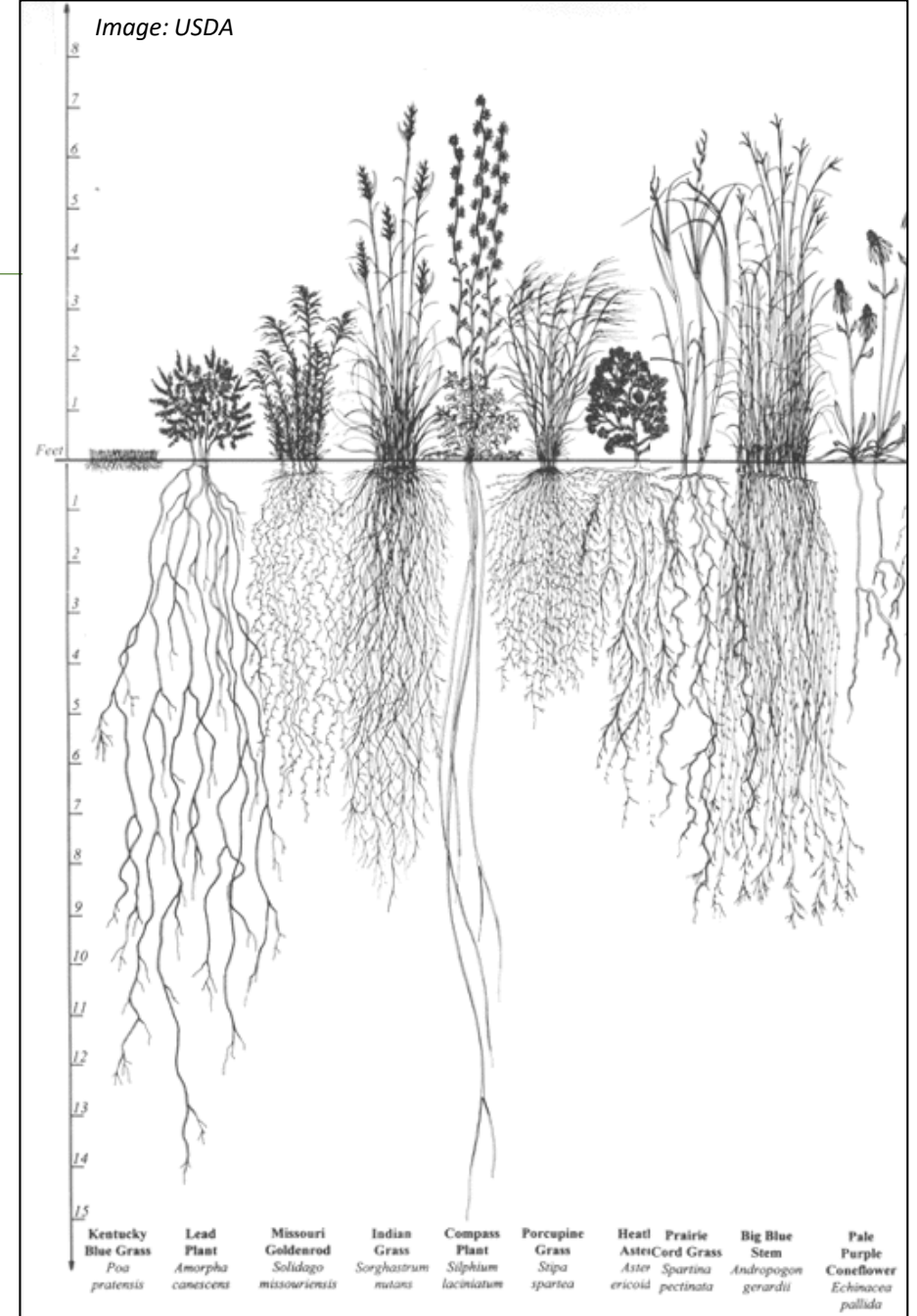


Photo: Georgia Landscaper Network



Photo: Van Berkum Nurseryv

Image: USDA



Root Systems of Prairie Plants

Overall Benefits

- Water Quantity
  - Encourage infiltration into the ground
  - Increased evapotranspiration relative to impervious cover/turf
- Water Quality
  - Traps/Uses/Cycles “pollutants”
- Provides habitat for birds, bees, etc. – “Ecological Uplift”
- Beautification
- Reduce potable water, fertilizer use

Rain Gardens



Photo: Wikimedia

Rain Gardens

I have a wet spot in my backyard. That would be a great spot for a rain garden, right?

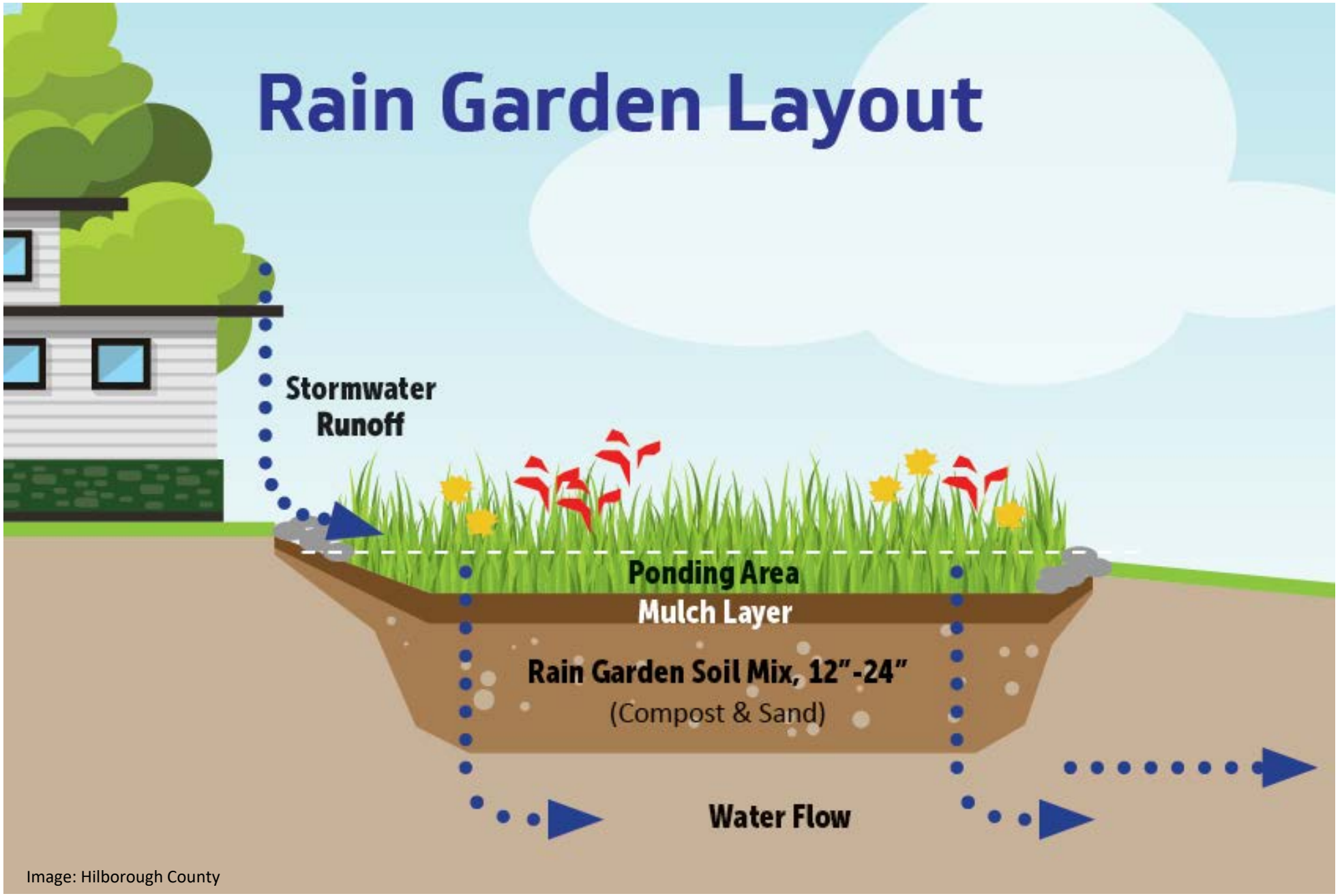


Image: Hilborough County



Rain Garden Constraints

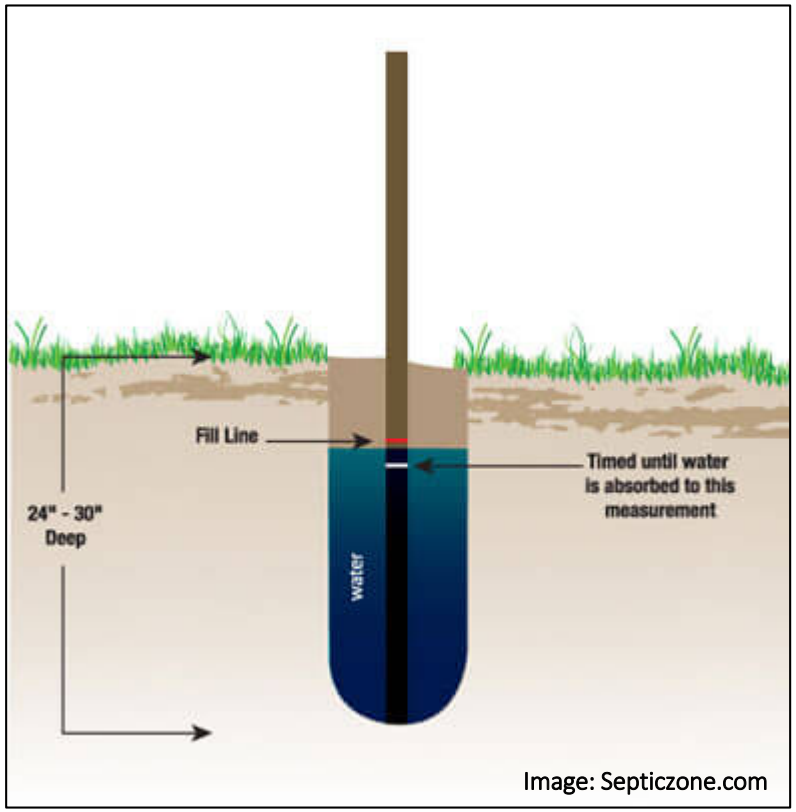
- More constraints than **CONSERVATION LANDSCAPING** or **TREE PLANTING**

- Slope
  - ≤5% ideally, 8% maximum

- Set backs
  - 10 ft from foundation, 25 ft from septic, 50 ft from a confined well, 100ft from an unconfined well

Constraints

- Soils
  - Generally Hydrologic soil groups (HSG) **A** or **B**, if **C** additional design criteria shall be considered
  - Should infiltrate within 24 – 48 hours
  - Percolation Test (Perc Test)



Conservation Landscaping

If a rain garden is not the right choice - what should I do with that wet spot?



Conservation Landscaping

Photo: Wikimedia

CONSERVATION LANDSCAPING

Definition

- Planting of **NATIVE** perennials in place of impervious surface or turf grass
- Similar to planting a landscape bed
- On a large scale might be called “conversion to meadow”



Image: Chesapeakelandscape.org



Implementation

Photo: Wikimedia

Planning your Conservation Landscaping

- Evaluate your property's sunlight, soil, and moisture conditions to help you choose the **right plants** for the **right place**
- Consider your yard aesthetics and usage. Color, texture, and seasonability of plants should be weighed in planting choices
- **Check with your local jurisdiction for local ordinances or requirements**

CONSERVATION LANDSCAPING

Plant your Conservation Landscape

- Outline planned garden with spray paint or a string/flags
- Remove sod with sod cutter or a shovel/spade
- De-compact 9” of soil
- Add 2” of compost/topsoil to mix



Plant your Conservation Landscape

- Plant your native plants
  - Seeds
  - Plugs
  - Quarts, etc.
- Cover ground with 3” of mulch
- Water deeply

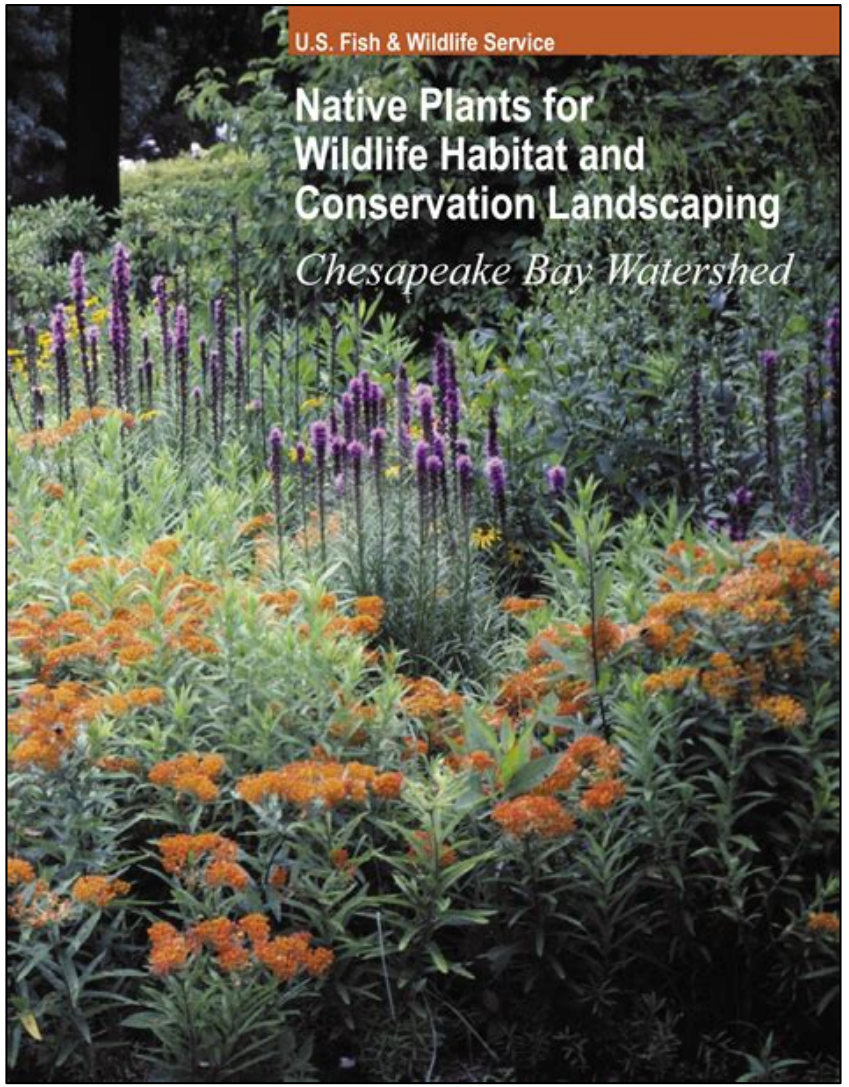


Image: Mill Creek Gardens Ohio

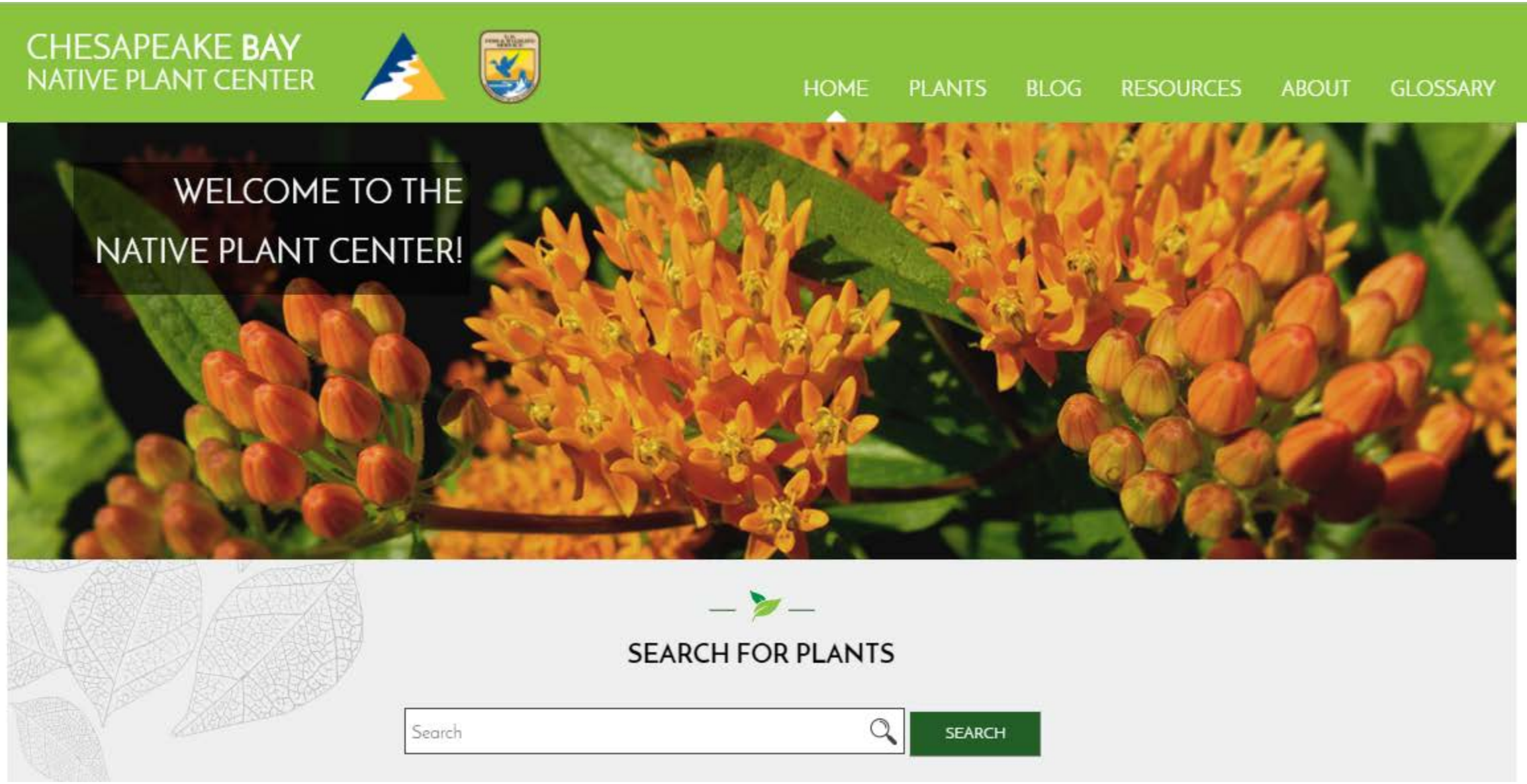
CONSERVATION LANDSCAPING

Native Plant Resources

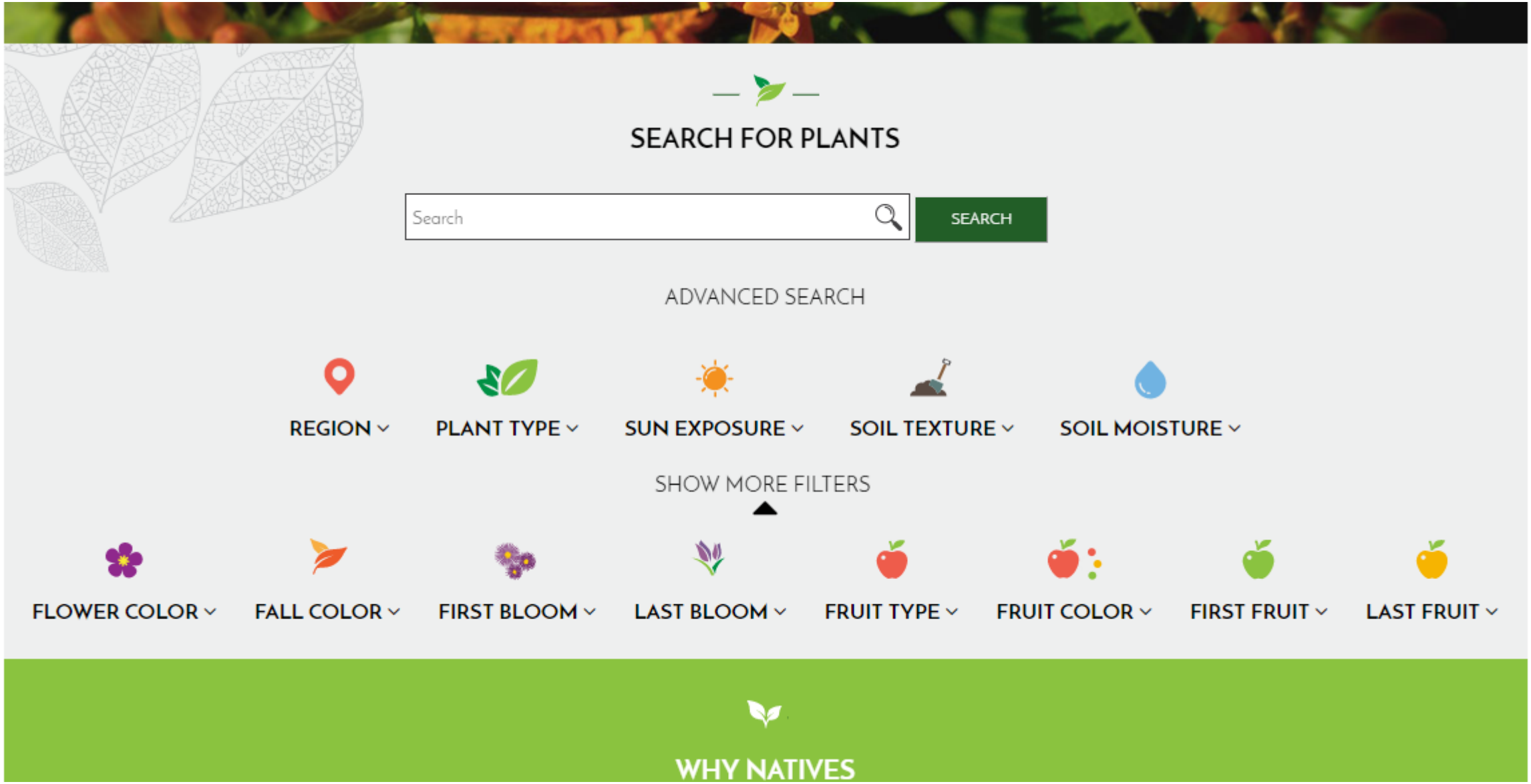
- US Fish and Wildlife Services
- USDA
- Native Plant Nurseries
- Master Gardeners



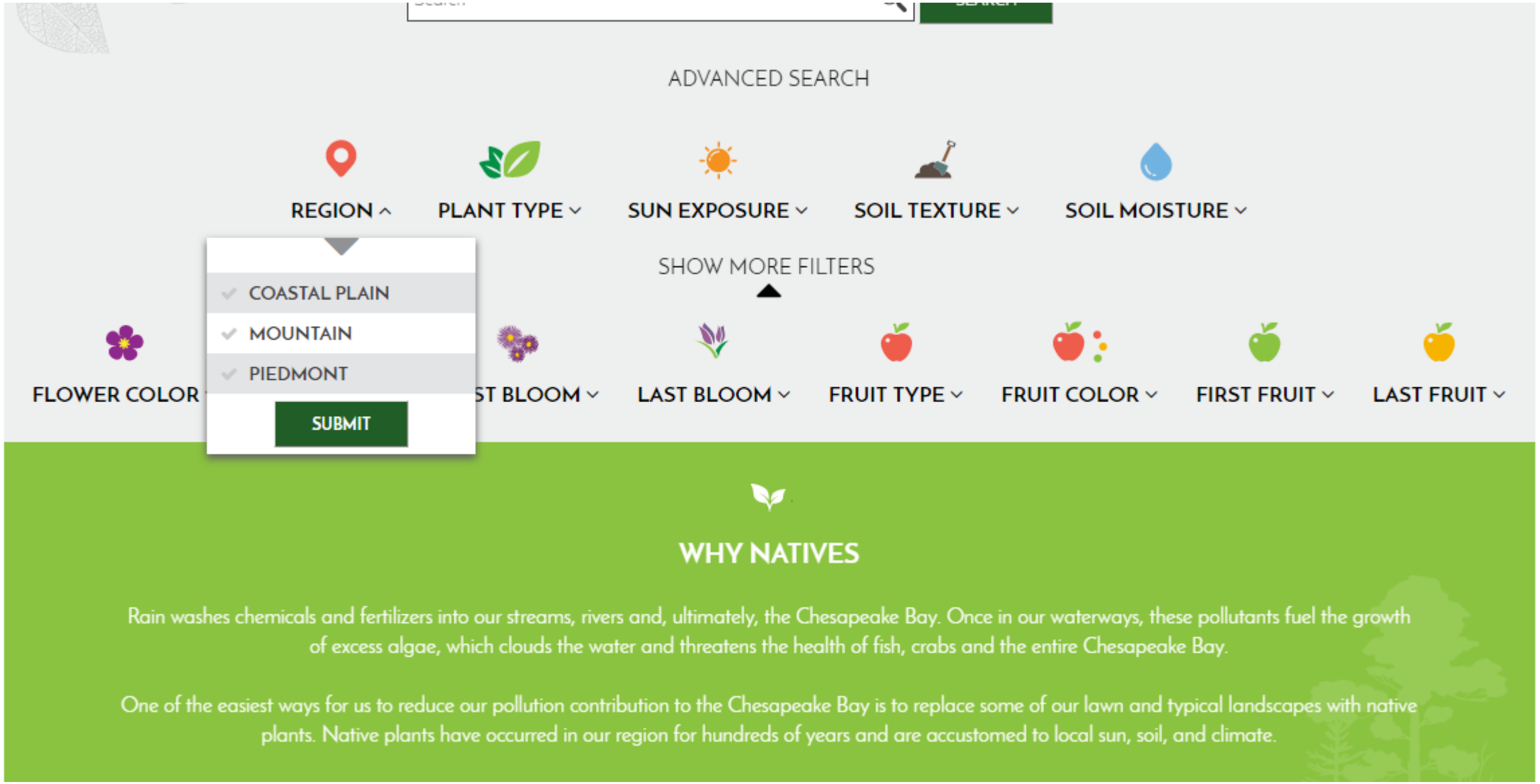
nativeplantcenter.net

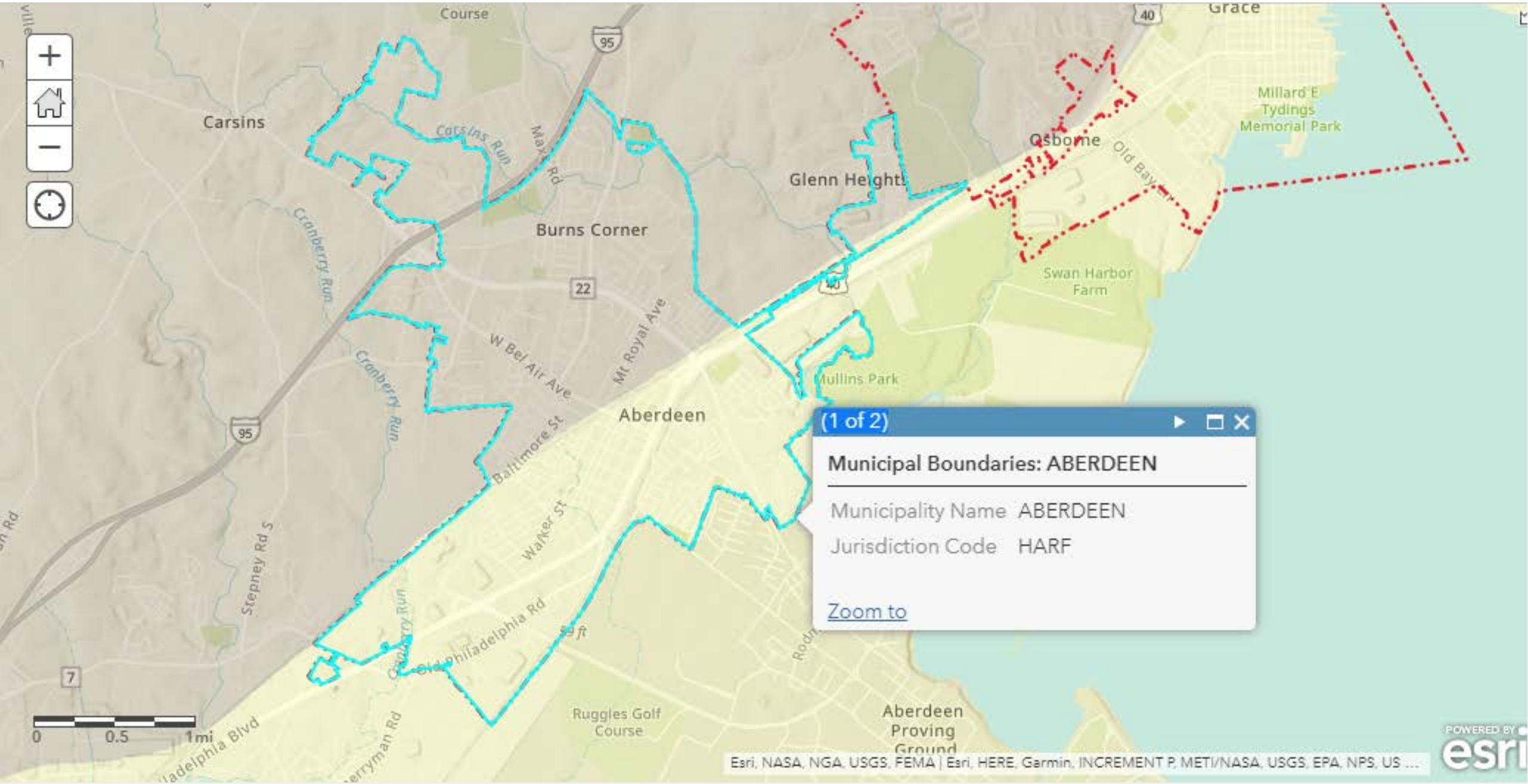


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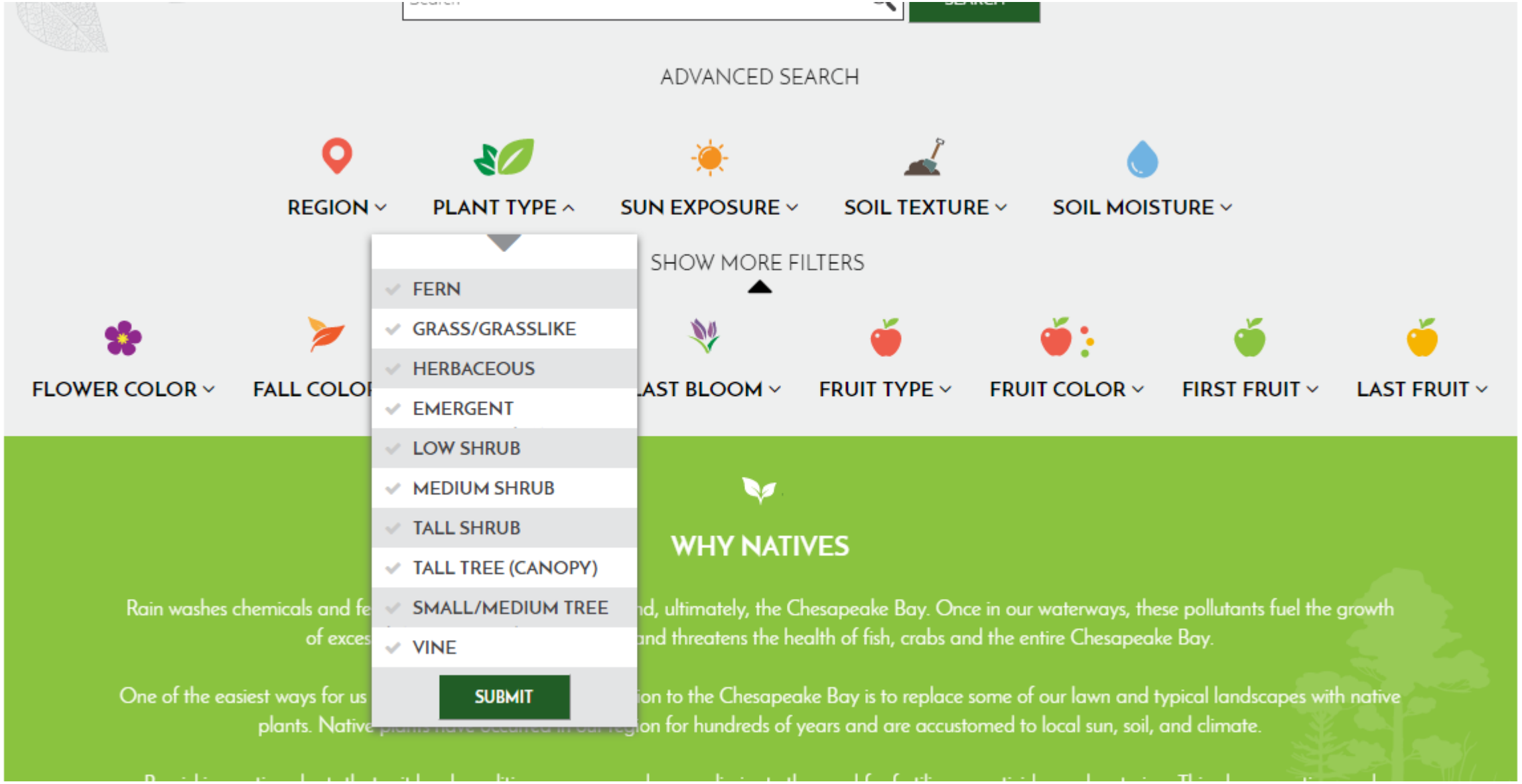


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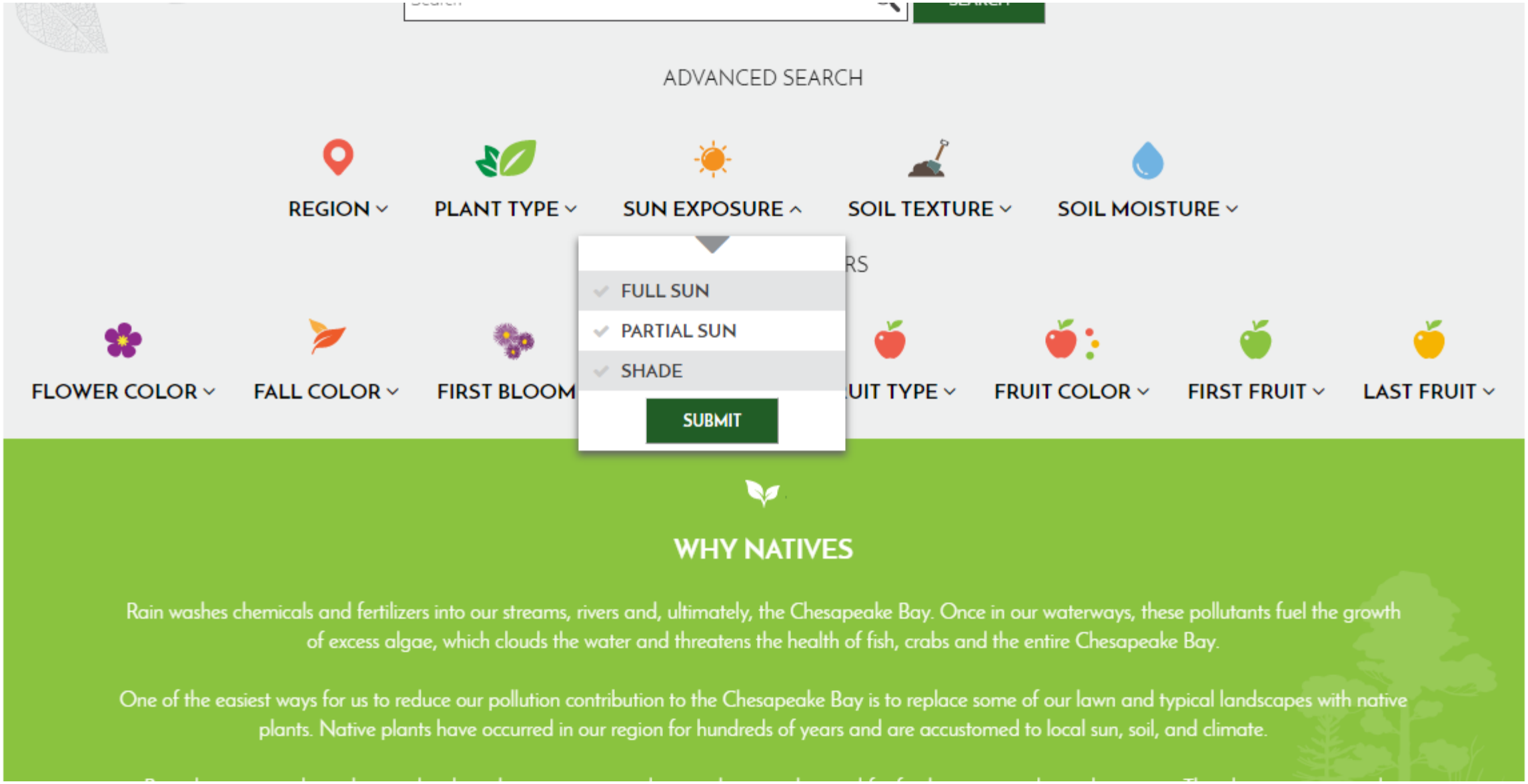



Course
Grace
Carsins
Carsins Run
Glenn Heights
Osborne
Millard E Tydings Memorial Park
Old Bay Rd
Burns Corner
Cranberry Run
Swan Harbor Farm
W Bel Air Ave
Mt Royal Ave
Mullins Park
Aberdeen
Baltimore St
Walker St
Stepney Rd S
Philadelphia Rd
Ruggles Golf Course
Aberdeen Proving Ground
(1 of 2)
Municipal Boundaries: ABERDEEN
Municipality Name ABERDEEN
Jurisdiction Code HARF
Zoom to
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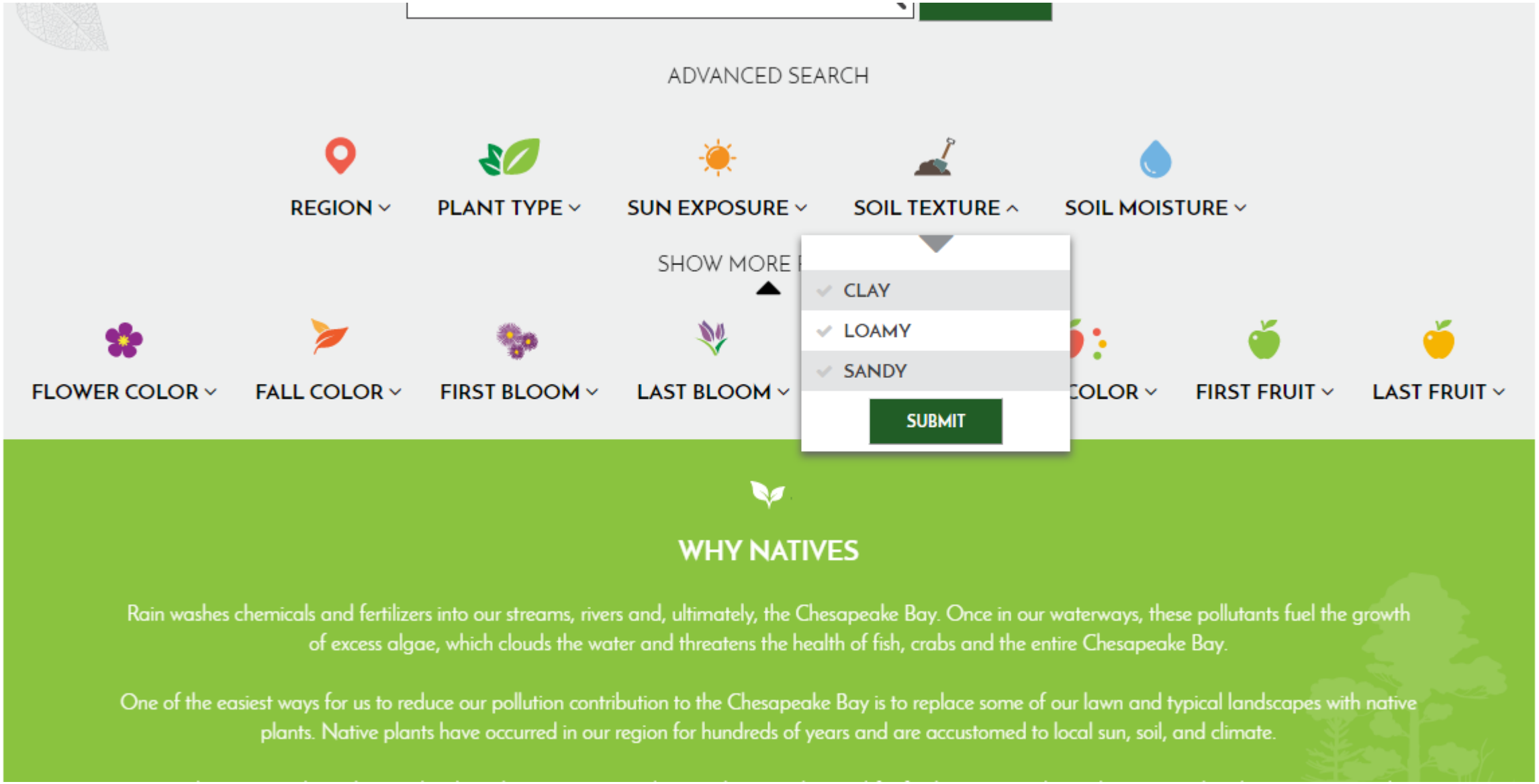
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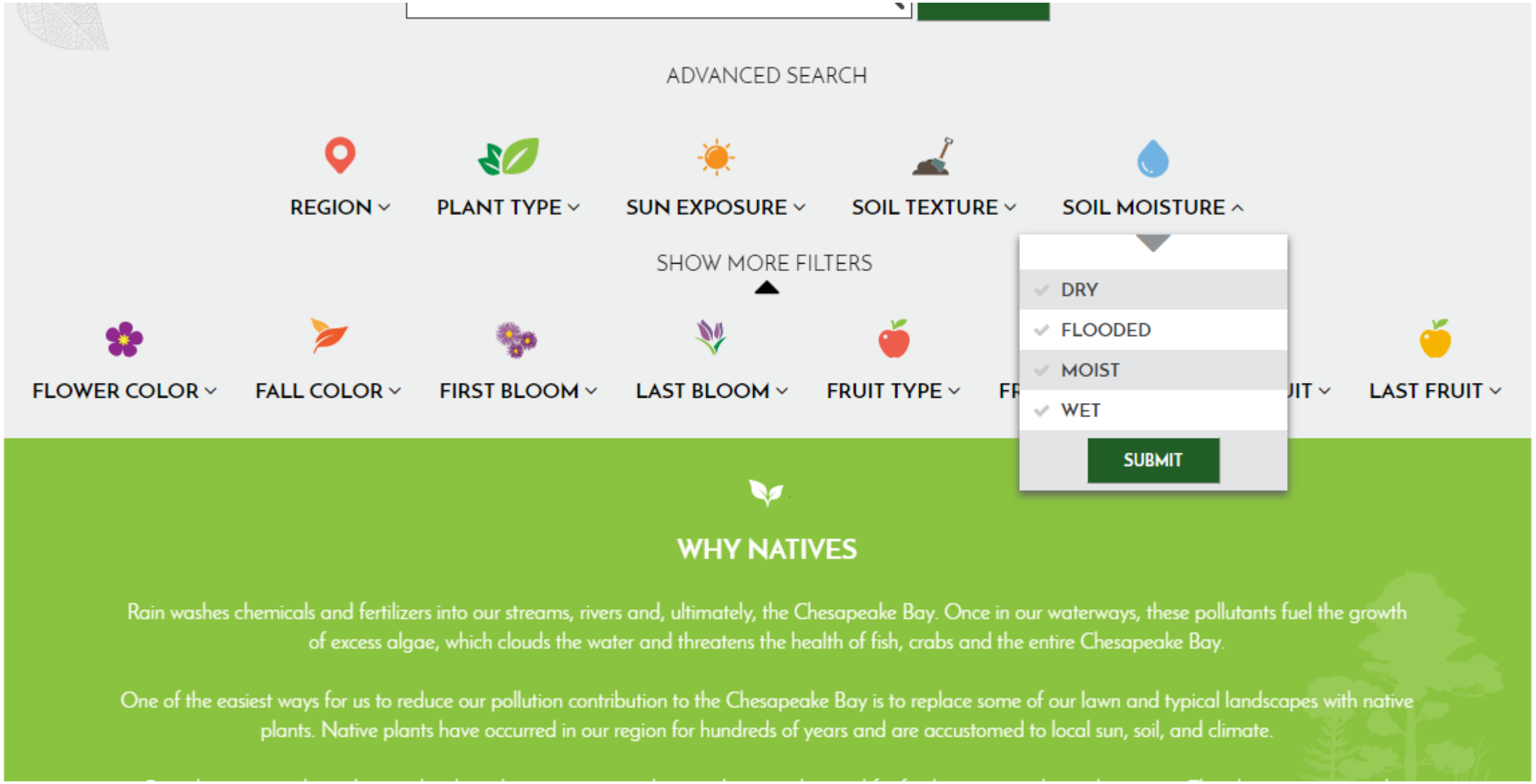
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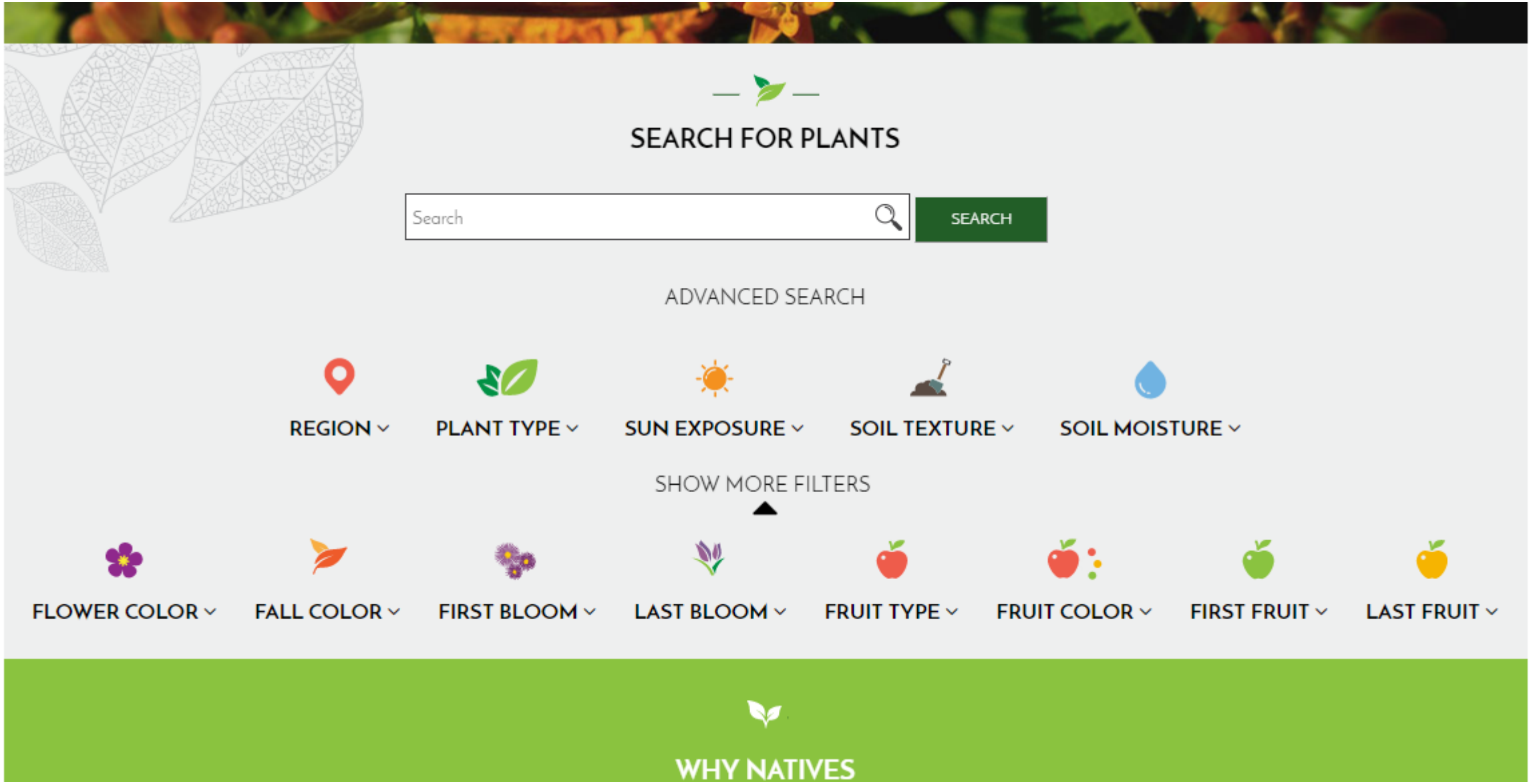
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SEARCH FOR PLANTS

Search

SEARCH

ADVANCED SEARCH

REGION

PLANT TYPE

SUN EXPOSURE

Region: Piedmont | Plant Type: Herbaceous | Sun Exposure: Full Sun | Soil Texture: Clay | Soil Moisture: Wet

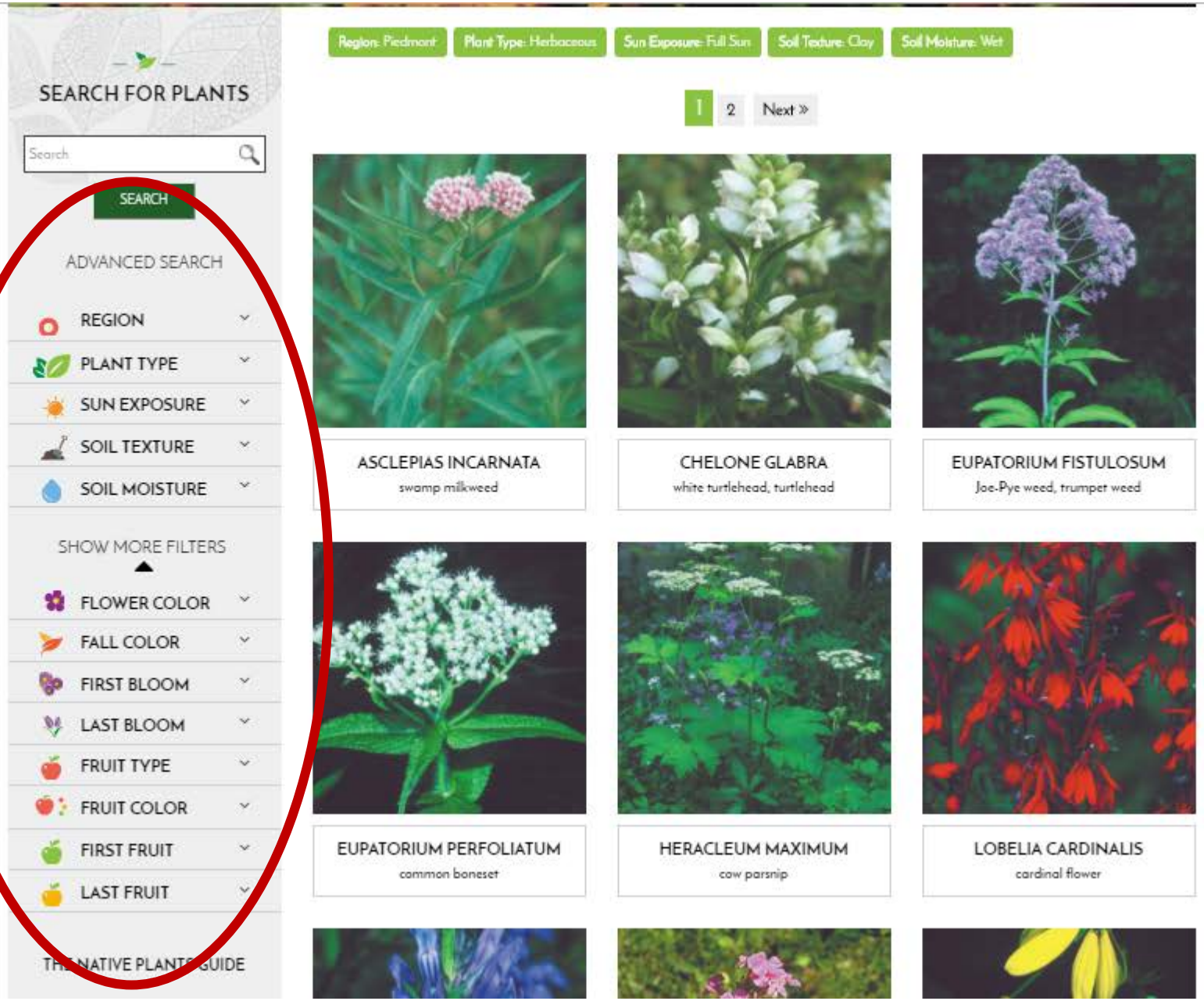
1 2 Next »







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SEARCH FOR PLANTS

Search

SEARCH

ADVANCED SEARCH

REGION

PLANT TYPE

SUN EXPOSURE

SOIL TEXTURE

SOIL MOISTURE

SHOW MORE FILTERS

THE NATIVE PLANTS GUIDE

Lobelia cardinalis

6 votes | average 3.7 stars

cardinal flower

Suggest an error in the plant data



Family: Campanulaceae

Regions: Coastal Plain, Mountain, Piedmont

States: DE, DC, MD, NY, PA, VA, WV

Plant Types: Emergent Herbaceous (Can grow with roots in water), Herbaceous

Height: 2 - 4ft;

Flower Color: red

;

Sun Exposure: Full Sun, Partial Sun

Soil Texture: Clay, Loamy

Soil Moisture: Moist, Wet

Blooms: July - October

Habitat: fresh tidal and nontidal marshes, wooded swamps, seeps; banks of ponds, rivers, streams

Notes: long bloom time; biennial, must reseed

nativeplantcenter.net

SEARCH FOR PLANTS

Search

SEARCH

ADVANCED SEARCH

REGION

PLANT TYPE

SUN EXPOSURE

SOIL TEXTURE

SOIL MOISTURE

SHOW MORE FILTERS

THE NATIVE PLANTS GUIDE

Phlox maculata

1 votes | average 3 stars

phlox, meadow phlox, wild sweet William

Suggest an error in the plant data





Family: Polemoniaceae

Regions: Coastal Plain, Mountain, Piedmont

States: DE, PA, VA, WV

Plant Types: Herbaceous

Height: 1 - 3ft;

Flower Color: rose, pink, purple, rarely white

Fruit: Capsule;

Sun Exposure: Full Sun, Partial Sun, Shade

Soil Texture: Clay, Loamy

Soil Moisture: Moist, Wet

Blooms: May - September

Habitat: wet meadows, stream banks, thickets

Notes: aromatic; showy flowers; a frequent escapee from cultivation

9:50 PM
11/20/2019

Maintenance



Photo: Wikimedia

Maintenance

- Water during periods of low rainfall (3 weeks), especially until plants are established
- Remove weeds and invasive species
- Replace mulch as needed
- Pruning (as desired)



Tree Planting

Photo: Wikimedia

Tree Planting Constraints

- Setbacks
  - Underground utilities
  - Septic
  - Power lines
  - Driveways
  - Sidewalks
- Site Conditions
  - Soil type
  - Moisture level


Image: Blue Water Baltimore

SOIL MOISTURE

DRIER ← → **WETTER**

Chestnut Oak	*American Wild Plum*	*Alternate-leaf Dogwood*	*Loblolly Pine*	*Atlantic White Cedar*
Common Persimmon	*Chinquapin Oak*	*American Beech*	*Pin Oak*	*Bald Cypress*
Eastern Chinkapin	*Eastern Redbud*	*American Holly*	*Red Maple*	*Black Gum*
Eastern Red Cedar	*Eastern White Pine*	*Choke Cherry*	*Serviceberry*	*River Birch*
Pitch Pine	*Pignut Hickory*	*Common Hackberry*	*Silver Maple*	*Swamp Cotttonwood*
Southern Red Oak	*Slippery Elm*	*Sugar Maple*	*Sweet Gum*	*Swamp White Oak*
Virginia Pine	*White Oak*	*Tulip Poplar*	*Willow Oak*	*Sweetbay Magnolia*

Questions?

kebrooks@umd.edu

https://go.umd.edu/ENRTEACH



Image: UMCES

Grants for Gardens

Funding Stormwater Management

Kelsey Brooks
Regional Watershed Restoration Specialist
02/20/20
Aberdeen Workshop Series

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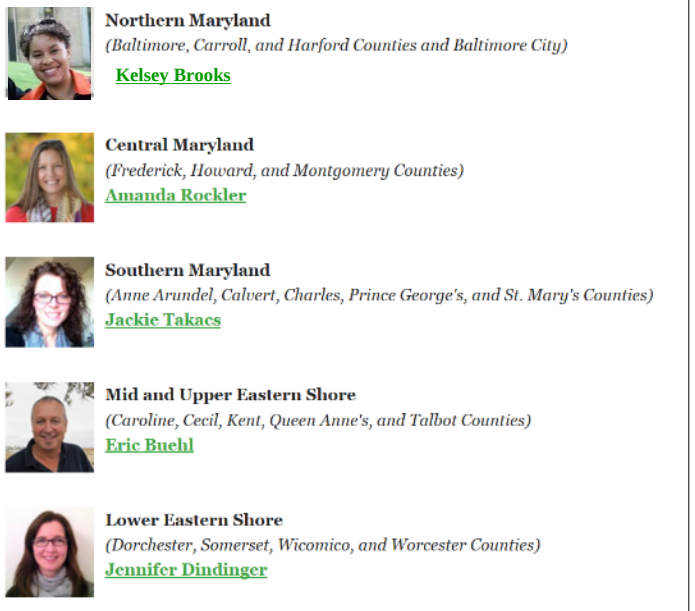
UNIVERSITY OF MARYLAND EXTENSION

Sea Grant Maryland

Watershed Protection & Restoration Program

- WPRP goal: build programs to assist local governments and non-profits in achieving measureable improvements in water quality.

- What we do:
  - Capacity building
  - Grants assistance
  - Project implementation
  - Education & outreach



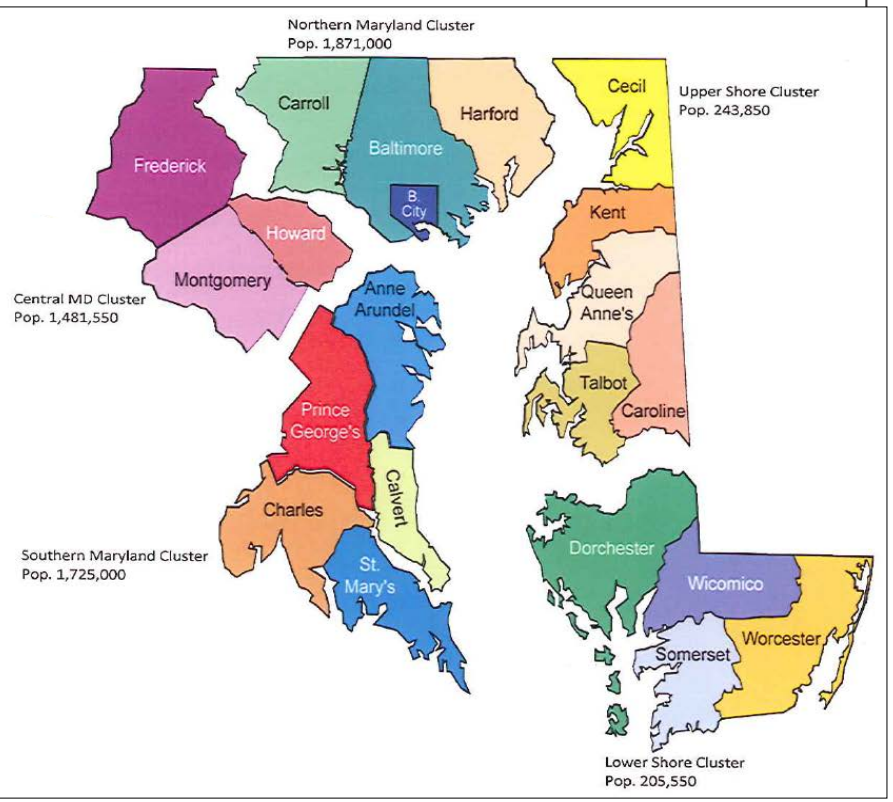
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GRANTS

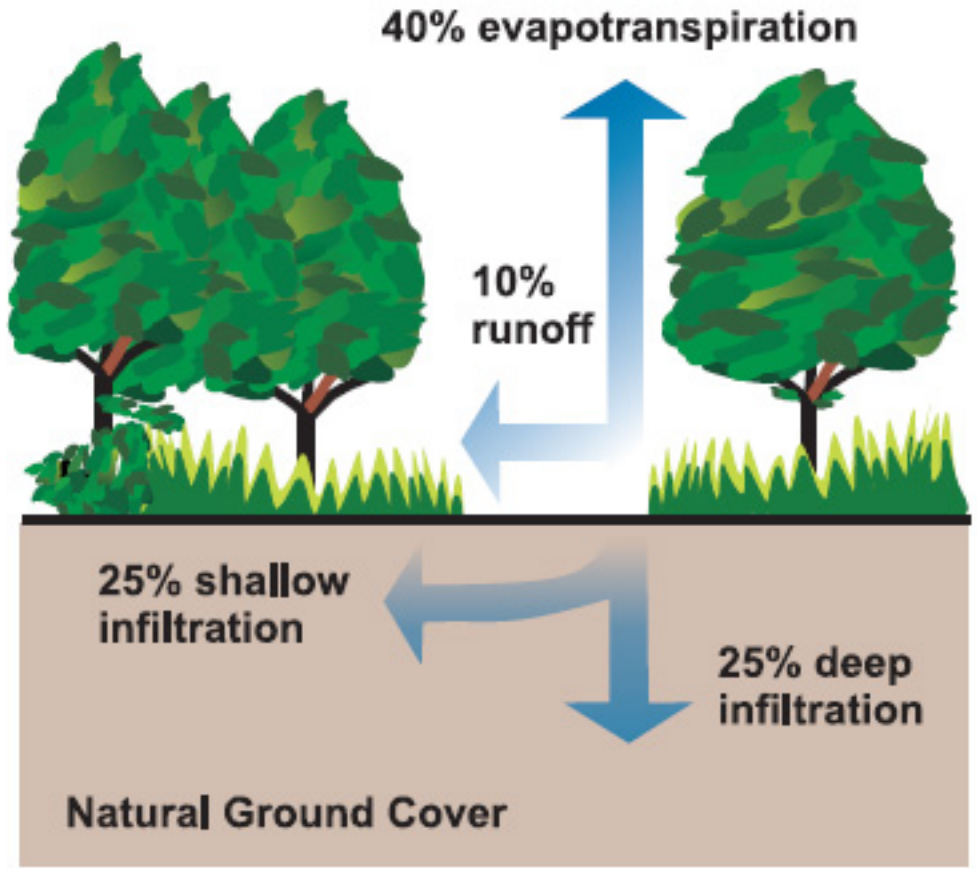
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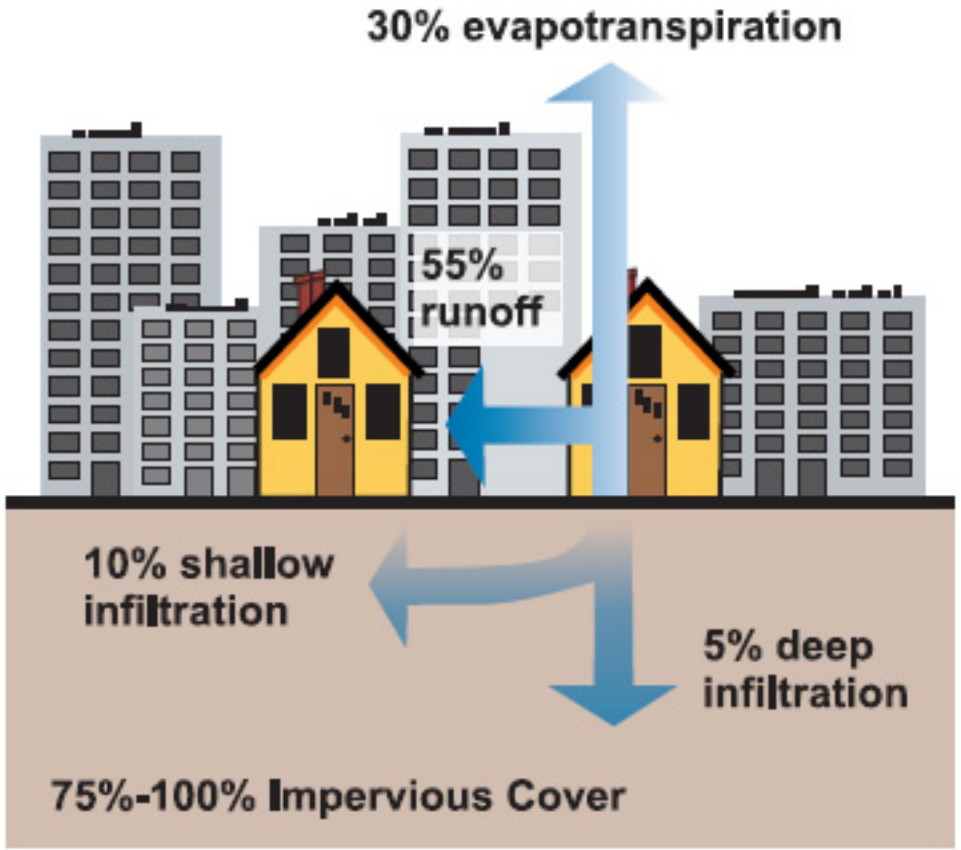
- Background
- Available
  - Chesapeake Bay Trust
- Grant Writing
- Finding Assistance

Background



Photo: Wikimedia





Source: US EPA

GRANTS

Water Quantity



GRANTS

Water Quality

- Nutrients (Nitrogen, Phosphorous)
- Sediment
- Bacteria (*E. coli,* Fecal Coliform)
- Trash (Plastic)
- Toxins
- Temperature


Photo: NOAA



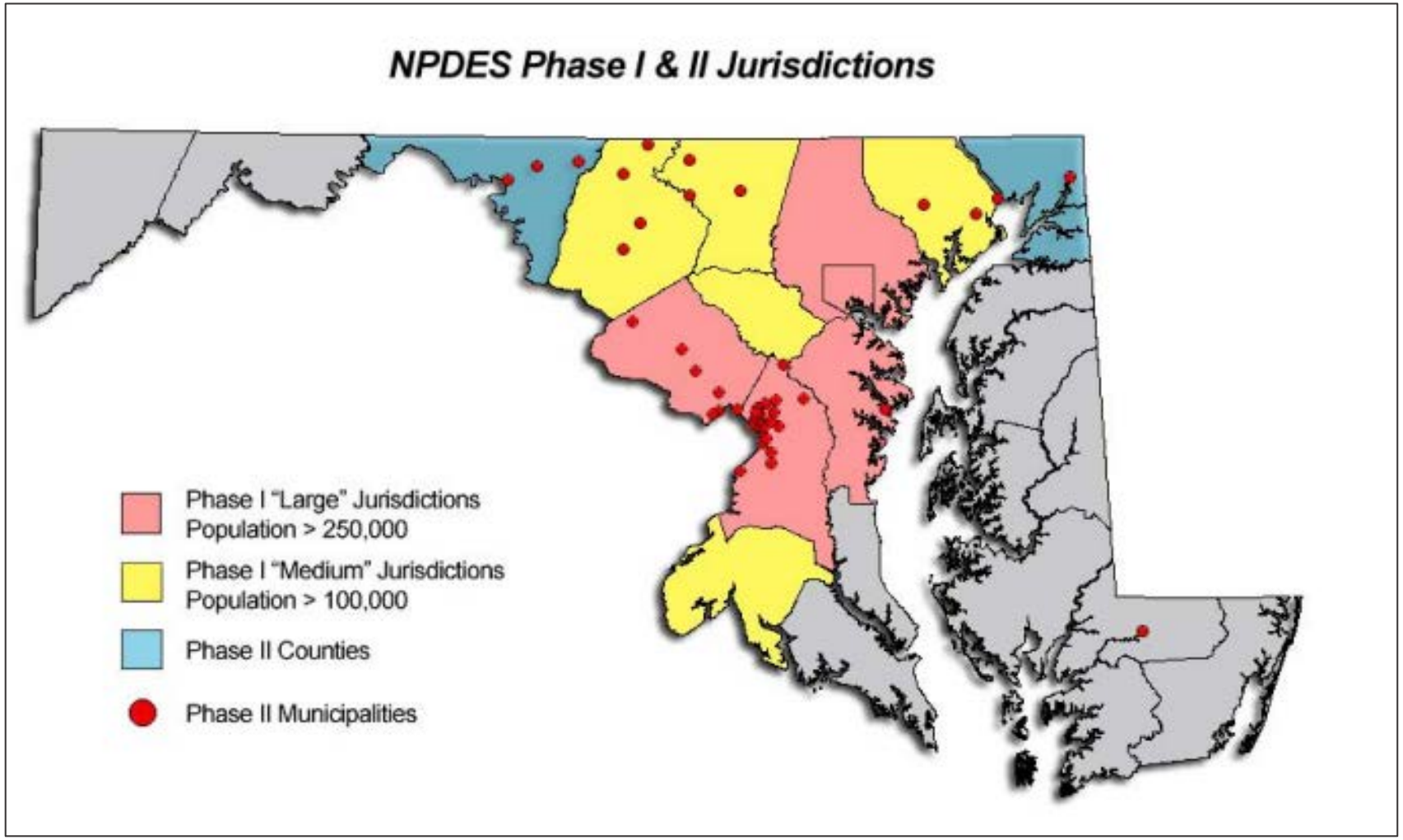
Photo: King County, WA


Photo: PBS


Photo: Arlington County, VA

GRANTS

Who has a permit?



Map: MDE

GRANTS

What's Missing



Photo: Baltimore Sun



Grants for Gardens

Photo: Wikimedia

GRANTS

Many Available Funding Sources

Chesapeake Bay Trust - Community Engagement Mini Grant $

Chesapeake Bay Trust - Outreach and Restoration Grant $

Bay Watershed Education and Training (B-WET) $ T

Fund for Wild Nature Grant $

EPA Environmental Education Grant $

Pollution Prevention (P2) Grant $

Maryland Urban and Community Forestry Committee (MUCFC) Grant $

Chesapeake Bay Trust - Environmental Education Mini Grant $

Explore and Restore Maryland Streams T

Environmental Sustainability

Forest Landowner Income Tax Modification Program $

Levinson Foundation $

Walmart Local Community Grants $

Prince Charitable Trusts Washington DC Program $

Erosion Control

Conservation Innovation Grants (CIG) $

Habitat Restoration and Conservation T

Winter Cover Crop Program $

F

Fish & Wildlife

Aquatic Resources Education Grant $

Bring Back the Natives (BBN) $

FishAmerica Foundation $ T

Maryland Waterfowl Restoration Program $

North American Wetlands Conservation Act (NAWCA) Standard and Small Grants $

Chesapeake Bay Comprehensive Plan T

Saltonstall-Kennedy Grant $

Forest Management

Chesapeake Bay Implementation Grant (CBIG) $ T

Chesapeake Bay Trust - Green Streets, Green Jobs, Green Towns $

https://www.mdseagrant.org/wra/

Chesapeake Bay Trust

- Chesapeake Bay Trust – The Bay License Plate People
  - Do not require match
  - Do not require cash-on-hand

- Eligibility
  - Must be a non-profit - i.e. 501(c)3, faith based organizations, HOA, Community associations, schools, etc.



Chesapeake Bay Trust – Mini Grant

- Chesapeake Bay Trust Community Engagement Mini-Grant
  - Up to $5,000
  - Rolling deadline. Replenished annually on July 1
  - May receive up to 3 grants
  - Easier to manage

STORMWATER MANAGEMENT

Chesapeake Bay Trust – Mini Grant

- Eligible Items:
  - Personnel
  - Advertising materials
  - Supplies
    - Soil, mulch
    - Plants
    - Craft/Art supplies
    - Gloves, trash bags, shovels, tools



Photo: Roanoke Times

Chesapeake Bay Trust – Mini Grant

- Eligible Items:
  - Contractual
    - Education or Restoration specialist.
    - Event speaker
  - Room rental, food
  - Signage



STORMWATER MANAGEMENT

Chesapeake Bay Trust – Outreach & Restoration

- Deadline: September
- Potential Project Ideas:
  - Installing Street Trees
  - Constructing rain gardens, bioretention cells, or rain barrels
  - Removing hard surfaces like asphalt and replacing with pervious features or practices Promoting environmentally responsible communities through behavior change program development
  - Educating community residents about natural resources and stormwater improvement practices

Chesapeake Bay Trust – Outreach & Restoration

Track 1:

- $5,001 - $30,000 for Education and Awareness Building Projects
  - Raise awareness of challenges and solutions to restoring rivers and bays
  - Measurably increase knowledge within a given target audience
  - Justify methodology used to deliver messages to audience
- $5,001 - $50,000 for Behavior Change Projects
  - Target a specific change in behavior within a specific target audience
  - Plan based on formative research and engagement of target audience
  - Yr-1 – formative research and behavior change plan development
  - Yr-2 – plan implementation

Chesapeake Bay Trust – Outreach & Restoration

Track 2

- $5,001 - $50,000 for Restoration and Implementation Projects
- Accomplish on-the-ground restoration projects improving a Maryland natural resource (enhanced habitat, improved water quality, etc)
- Complete all design work within a $5,000 design budget
- Clearly outline the quantifiable outcomes (number of trees planted, drainage/impervious area treated, pollutants reduced, etc)
- Define partnerships for the project to engage the surround communities (schools, Green Teams, etc)
- Describe the long-term maintenance plan (who is maintaining the project and how)

Chesapeake Bay Trust – Outreach & Restoration

Track 3

- Up to $75,000
- Projects must consider all criteria and guidelines listed under Track 1: Awareness Projects and Track 2: Restoration projects. Projects do not have to consider criteria and guidelines listed under Track 1: Behavior Change Projects.
- Projects should describe how the restoration components of the project will be leveraged for demonstration and education in order to measurably build knowledge within the community served.

Chesapeake Bay Trust – Watershed Assistance Grant

- Deadline: September

- This program, in partnership w/ DNR & MDE, funds the design of watershed restoration and protection projects or planning and programmatic development projects.

- Generally less than $75,000

Chesapeake Bay Trust – Watershed Assistance Grant

Track 1 - Design

Funding to create buildable designs for specific watershed restoration projects

Examples:

- bioretention cells, large-scale rain gardens, other low impact development stormwater techniques
- environmental site designs
- stream restoration
- wetland and marsh creation

Best Practices



Photo: Wikimedia

GRANTS

Best Practices

- Read all RFP Guidelines and Criteria carefully
  - Consider budgets, qualifications of partners, funders' priorities, etc.
- Show project in context of larger picture: WIP, neighborhood efforts, sustainability, other projects in area?
- Seek Partnerships



Page 1 of 8

CBTRUST
Chesapeake Bay Trust

2019-2020 Community Engagement Mini Grant Program
Application Package

AT A GLANCE

Program:
This grant program is designed to engage a diverse array of organizations in activities in Maryland that both benefit communities and raise public awareness of and engagement in natural resources issues.

Funding:
Grant requests up to $5,000

Eligible Applicants:
Only applicants who have received three grants or fewer from the Trust in the past are eligible to apply. Applications are particularly

Program Goals and Importance of Inclusion

Through this funding opportunity, the Trust seeks to engage new applicants and organizations from a diverse array of communities in small-scale projects that enhance communities, engage residents, and, ultimately, improve natural resources.

One of the Trust's core values is *Inclusion*: We feel that a broad range of communities can benefit from healthy natural resources, even if their primary focus is on other issues. Human health, the economy, jobs, community livability, education and our children are all connected with a healthy environment.

Best Practices

- Co-Benefits
  - Environmental/Ecological – Pollinators, Habitat for birds, Water quantity reduction, etc.
  - Social – Beautification, economic, etc.
  - Health – Trash pick-ups can reduce mosquito habitat, plants can reduce urban heat island effect, etc.


Photo: UMD

GRANTS

Best Practices

- Keep deadlines in mind and apply early especially for rolling programs with set funding amounts
- Keep in mind where project is located. If proposing implementation, have “Letters of Support” from landowner and other relevant groups/partners
- Ask for help!



Finding Assistance

Photo: Wikimedia

GRANTS

University of Maryland Extension (UME)

- Site Assessment
- Grants Assistance, connection to other resources
- Project implementation assistance
- Workshop assistance



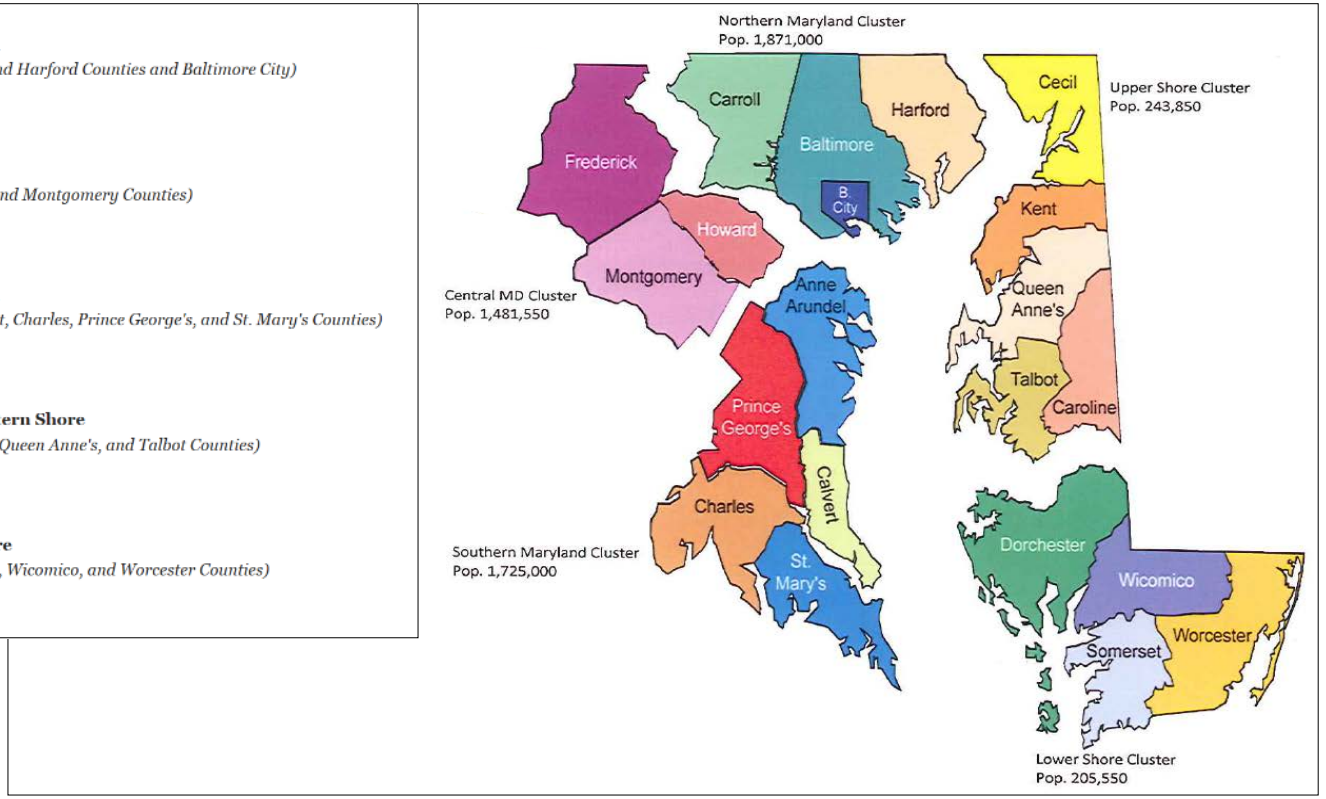
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GRANTS

Watershed Stewards Academy

- Harford Watershed Stewards Academy is a county volunteer program
- Steward volunteers go through ~60 hours of classroom and hands on training
- Can assist with similar activities as UME



GRANTS

Interfaith Partners for the Chesapeake

- Assists faith based organizations
- Grants assistance
- Connections to additional resources



GRANTS

Grantor

- Grantor is usually available to also offer assistance
- CBT will also do site visits to provide project input
- Also willing to give advice over the phone

Questions?

kebrooks@umd.edu

https://go.umd.edu/ENRTEACH

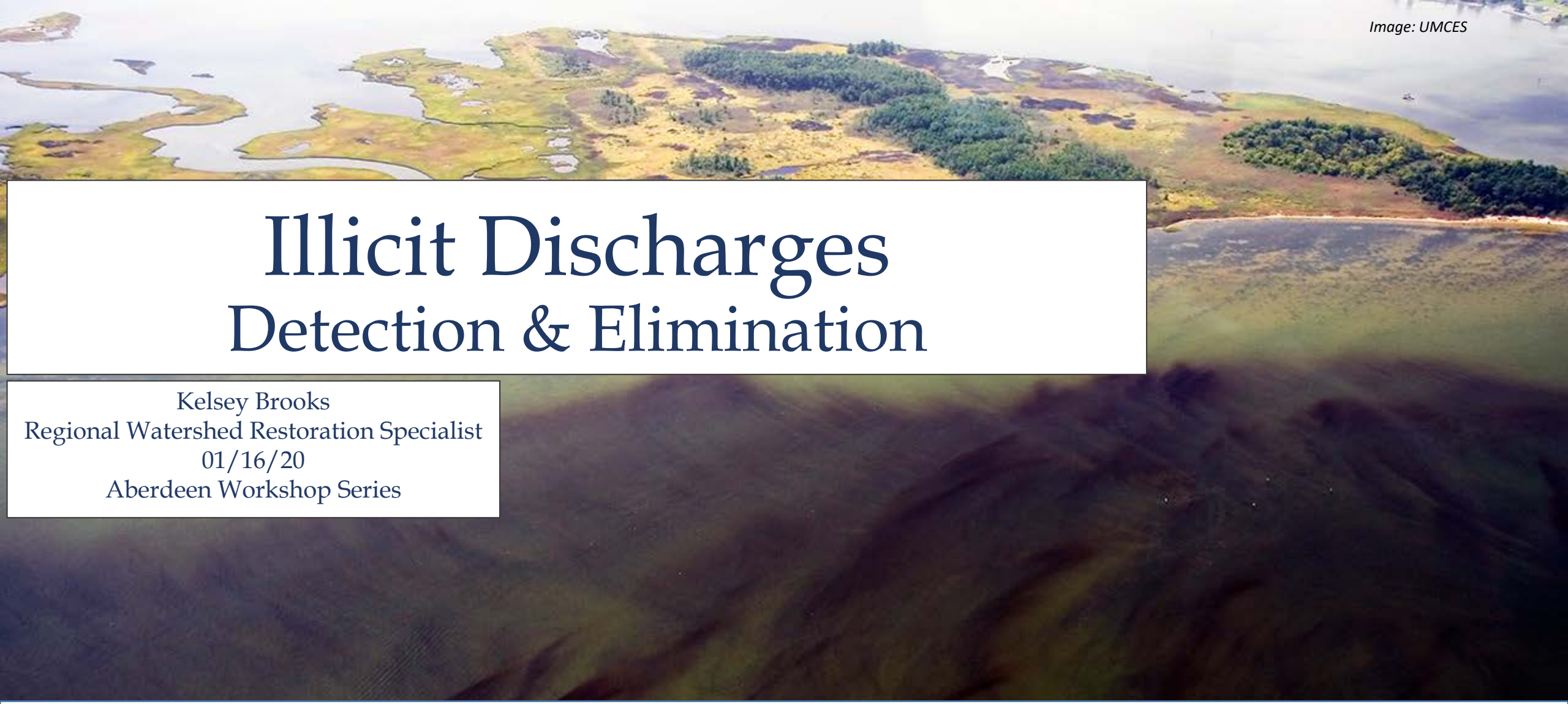


Image: UMCES

Illicit Discharges
Detection & Elimination

Kelsey Brooks
Regional Watershed Restoration Specialist
01/16/20
Aberdeen Workshop Series

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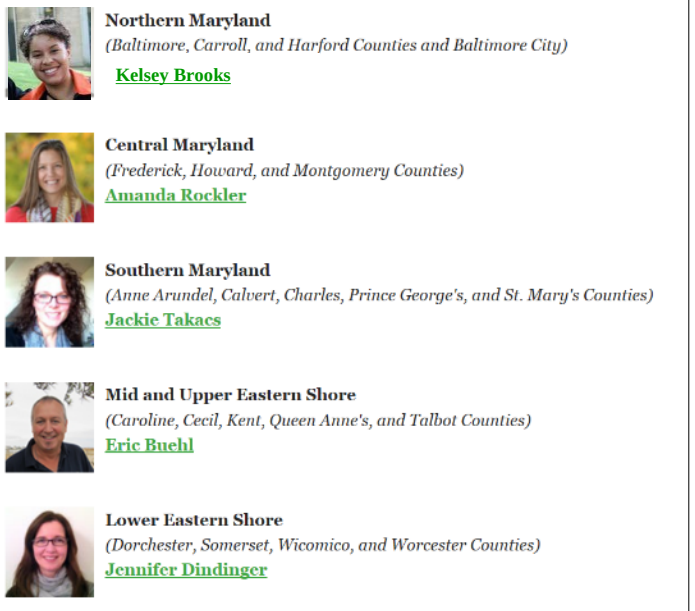
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Sea Grant Maryland

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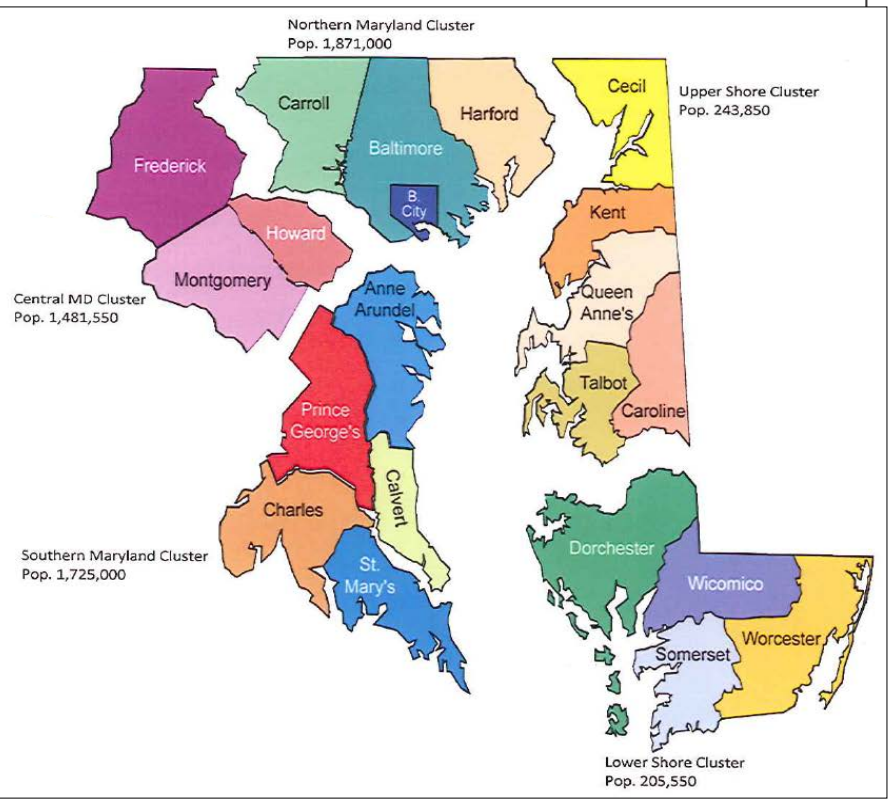
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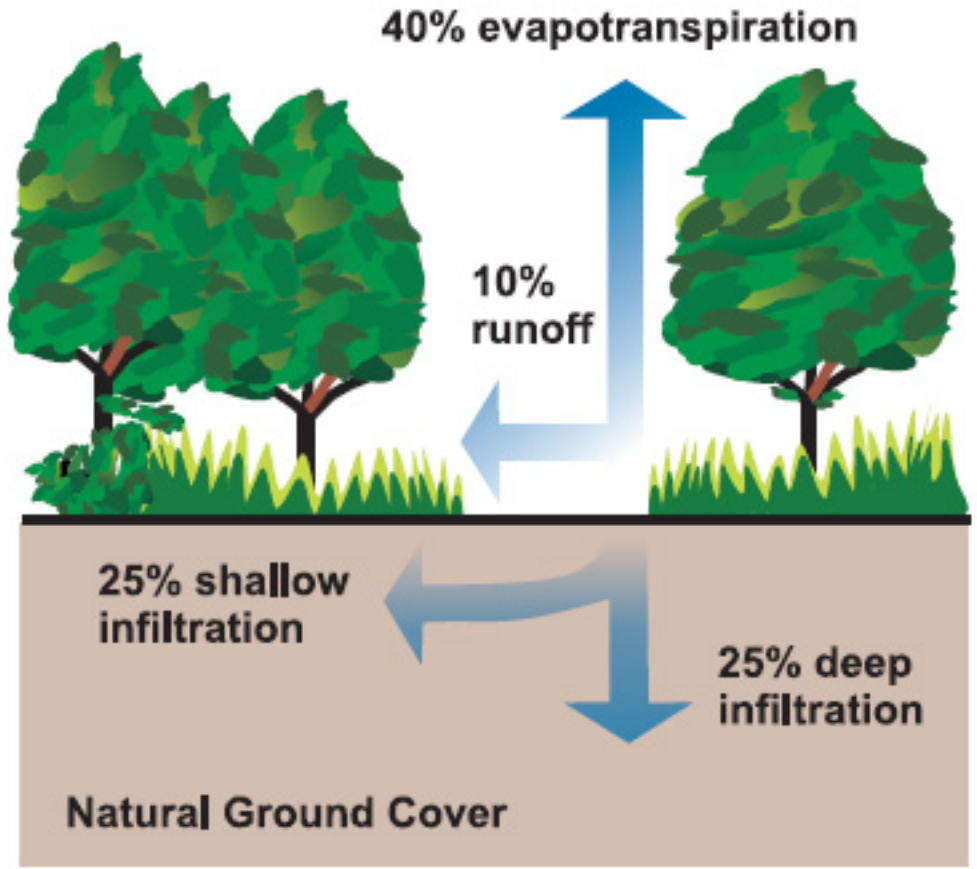
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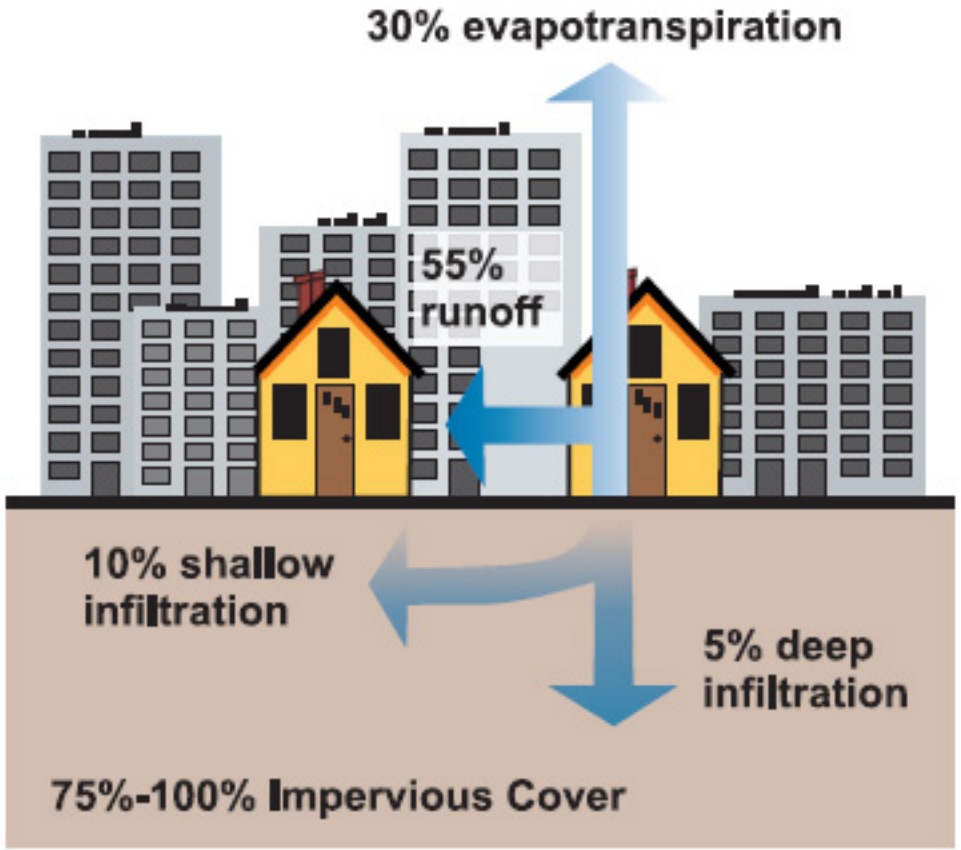
- Background
- What is an illicit discharge?
- Common types of illicit discharges
- Illicit discharge detection & elimination
- MS4 requirements
- How citizens can help

Background



Photo: Wikimedia





Source: US EPA

IDDE

Water Quantity



Photo: SarahBalt42



Photo: ArcGIS.com

IDDE

Water Quality

- Nutrients (Nitrogen, Phosphorous)
- Sediment
- Bacteria (*E. coli,* Fecal Coliform)
- Trash (Plastic)
- Toxins
- Temperature


Photo: NOAA



Photo: King County, WA


Photo: PBS


Photo: Arlington County, VA

IDDE

Permitted Entities

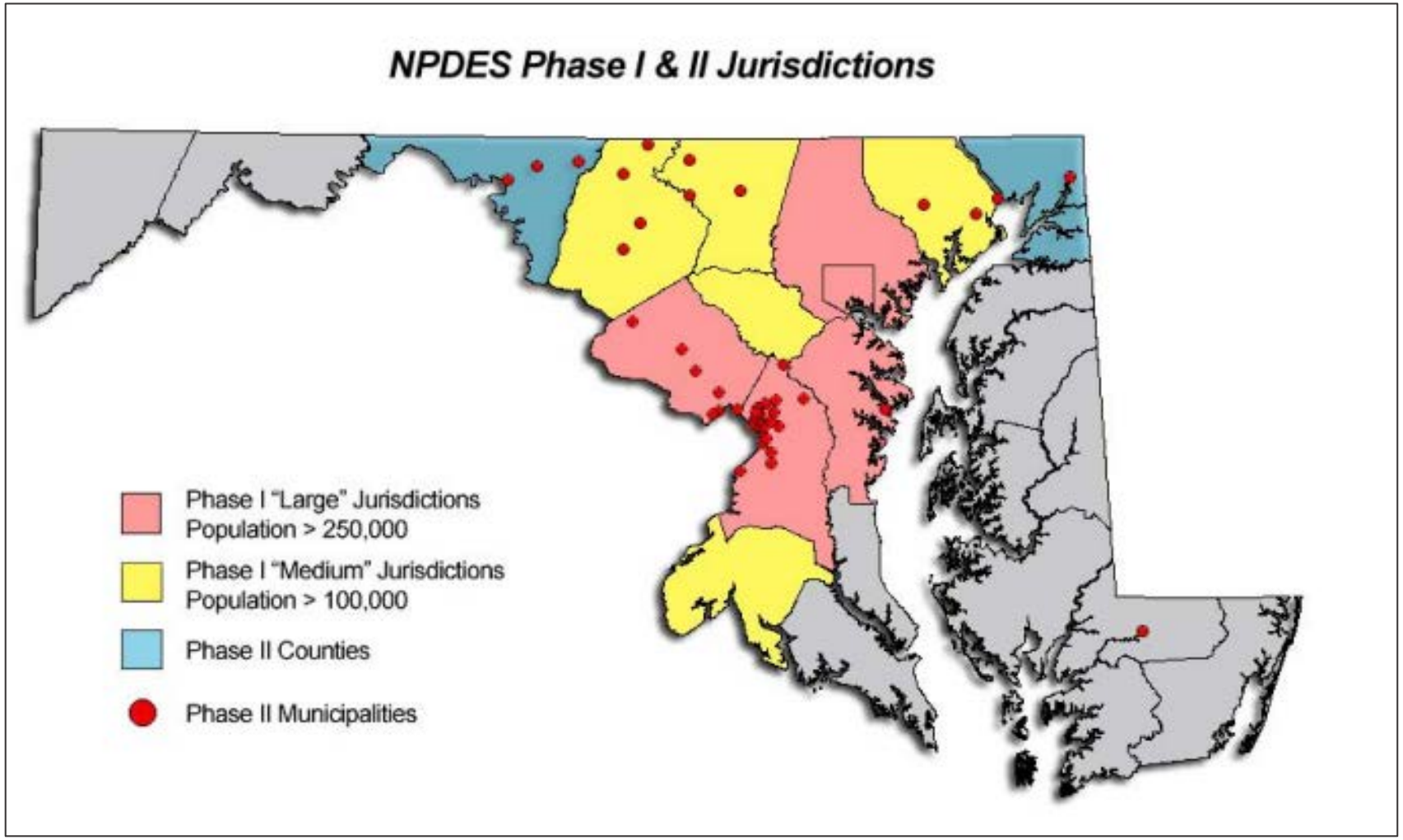
- MS4 is a type of National Pollution Discharge Elimination System (NPDES) permit. Permit allows discharges.
- “Point” source is the network of outfalls and conveyances that discharge to waters of the US
- Permittee is responsible for controlling pollutants that enters those conveyances
  - Overland runoff
  - Direct discharges
  - Sanitary connections/leaks
- MEP – Maximum Extent Practicable



Source: NY DEC (http://www.dec.ny.gov/lands/71190.html)

IDDE

Who is permitted?



Map: MDE

IDDE

Permitted Entities

- 6 Minimum Control Measures (MCMs)
  - Public Education and Outreach
  - Public Involvement and Participation
  - Illicit Discharge Detection & Elimination
  - Construction Site Stormwater Runoff Control
  - Post Construction Stormwater Management
  - Pollution Prevention and Good Housekeeping

- Pollutant reductions to improve water quality in impaired waterbodies (TMDLs)

What is an Illicit Discharge?

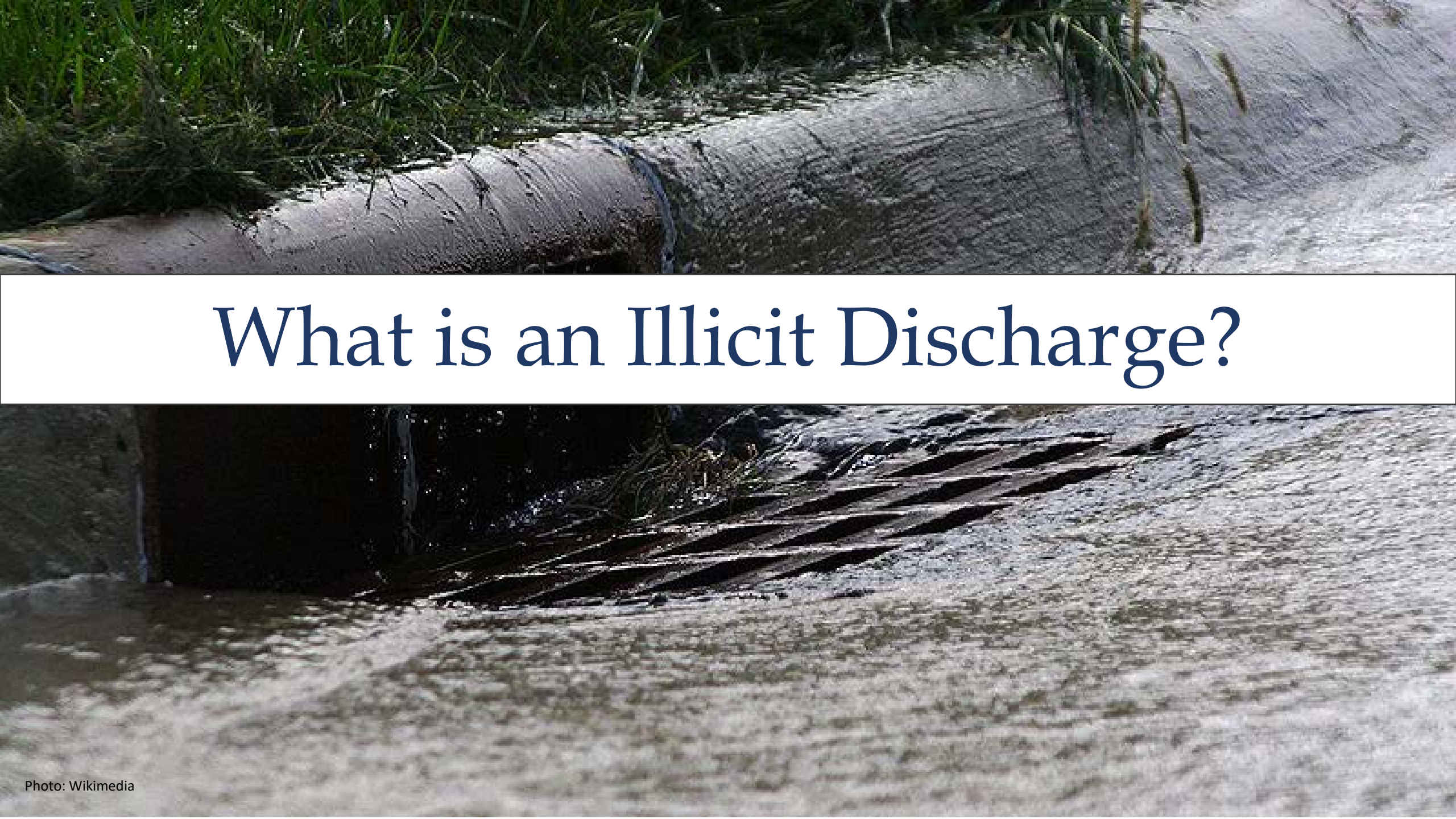


Photo: Wikimedia

IDDE

What is an illicit discharge?

- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Requires the permittee to address the following categories of non-storm water discharges or flows (*i.e.,* illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the small MS4:
    - Water line flushing
    - Landscape irrigation
    - Diverted stream flows
    - Rising ground waters
    - Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(b)(20))

Source: 40 CFR § 122.34(b)(3)

IDDE

What is an illicit discharge?

- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- flows from riparian habitats and wetlands
- dechlorinated swimming pool discharges, and;
- street wash water

Source: 40 CFR § 122.34(b)(3)

What is an illicit discharge?

- Does *not* include
  - discharges or flows from firefighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters of the United States.

Source: 40 CFR § 122.34(b)(3)

IDDE

What does it look like?

- Arlington, VA

Source: Washington Post

IDDE

What does it look like?



IDDE

What does it look like?



IDDE

What does it look like?



Source: Durham NC

Common Types of IDs



Photo: Wikimedia

IDDE

Nutrients & Sediment



Photo: Durham, NC



Photo: Annapolis, MD


Photo: Durham, NC

IDDE

Trash, Toxins, Soaps







IDDE

FOGs



Photo: Fairfax County, VA



Photo: New Brighton, MN

IDDE

Pet/Human Waste







Illicit Discharge Detection & Elimination



Photo: Wikimedia

IDDE

How are discharges found?

- Monitoring
- Outfall Screening (hot spots)
  - Dry Weather Screening
    - Visual inspection
    - Chemical testing
    - Walking lines to determine source
- Reports
  - Locality may receive reports of polluted streams, or illicit behavior. Can be difficult to investigate if not an ongoing discharge


Photo: City of Phoenix

IDDE

How are discharges found?





MS4 Requirements



Photo: Wikimedia

IDDE

What are municipalities required to do?

- A permittee will satisfy this MCM by field screening outfalls, inspecting the MS4 to identify sources of illicit discharges, eliminating illegal connections or illicit discharges, and enforcing penalties where appropriate. The illicit discharge program must also address illegal dumping and spills.

Source: MD Phase II GP

IDDE

What are municipalities required to do?

- Develop and maintain an updated map of the MS4 that identifies all stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges;
- Adopt an ordinance or other regulatory means that prohibits illicit discharges into the MS4;
- Establish and document legal means for gaining access to private property to investigate and eliminate illicit discharges (e.g., ordinance, easements);

Source: MD Phase II GP

IDDE

What are municipalities required to do?

- Develop and implement written standard operating procedures (SOPs) that specify the following:
  1. An inspection checklist describing how outfalls are screened for dry weather flows (see Figure B.2 of Appendix B for an example of an outfall screening checklist);
  2. Screening of 20% of total outfalls per year, up to 100 outfalls;
  3. Procedures for identifying the source, and eliminating spills, illegal dumping, and other suspected illicit discharges;
  4. Identification of priority areas for illicit discharge screening based on pollution potential;
  5. Enforcement and penalty procedures;
  6. Procedures to inform employees, businesses, and the general public of the issues relating to illegal discharges and improper waste disposal; and
  7. Coordination with adjacent/interconnected MS4 operator(s).

Source: MD Phase II GP

IDDE

What are municipalities required to do?

- Submit SOPs to MDE for review and approval within two years of permit issuance.
- Document results of illicit discharge screening efforts, including a description of how screening locations were prioritized and any necessary follow-up investigations, enforcement, and remediation measures implemented to address any suspected discharge.
- Maintain complete records of IDDE program investigations and make available to MDE during field reviews of the permittee's MS4 program.

Source: MD Phase II GP



How Can Residents Help?

Photo: Wikimedia

IDDE

Only Rain Down the Drain

- Be aware of your activities – anything that enters a drain will likely end up in a stream

- Spread awareness – many people still do not understand that stormdrain lead to streams



Photo: The Black & White

IDDE

Report Recurring Issues

- If you suspect or witness illegal dumping or notice any water pollution in our streams or stormwater inlets call 410-272-1600 or email dpw@aberdeenmd.gov

Questions?

kebrooks@umd.edu

https://go.umd.edu/ENRTEACH



Image: UMCES

Rain Barrels
Installation & Maintenance

Kelsey Brooks
Regional Watershed Restoration Specialist
10/17/19
Aberdeen Workshop Series

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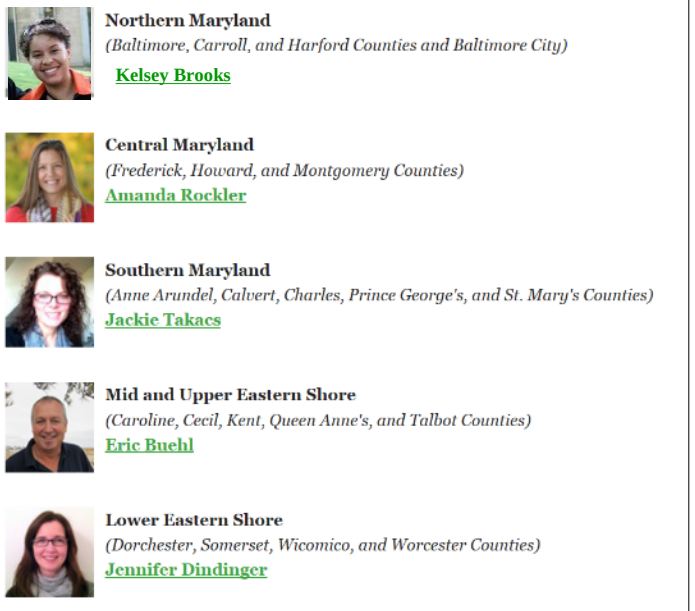
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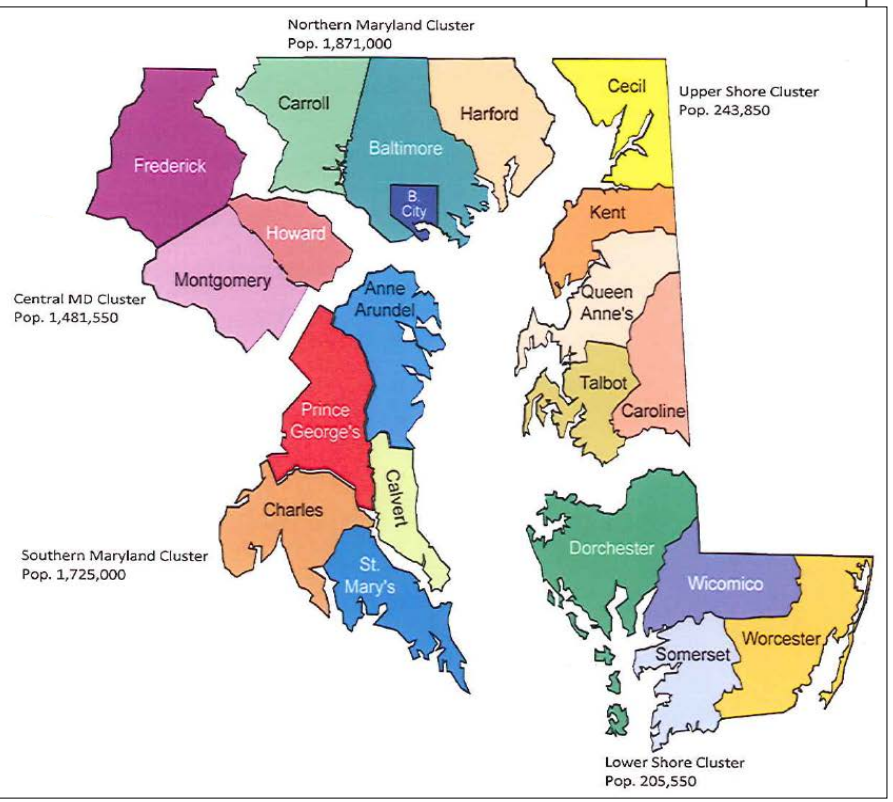
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BACKGROUND

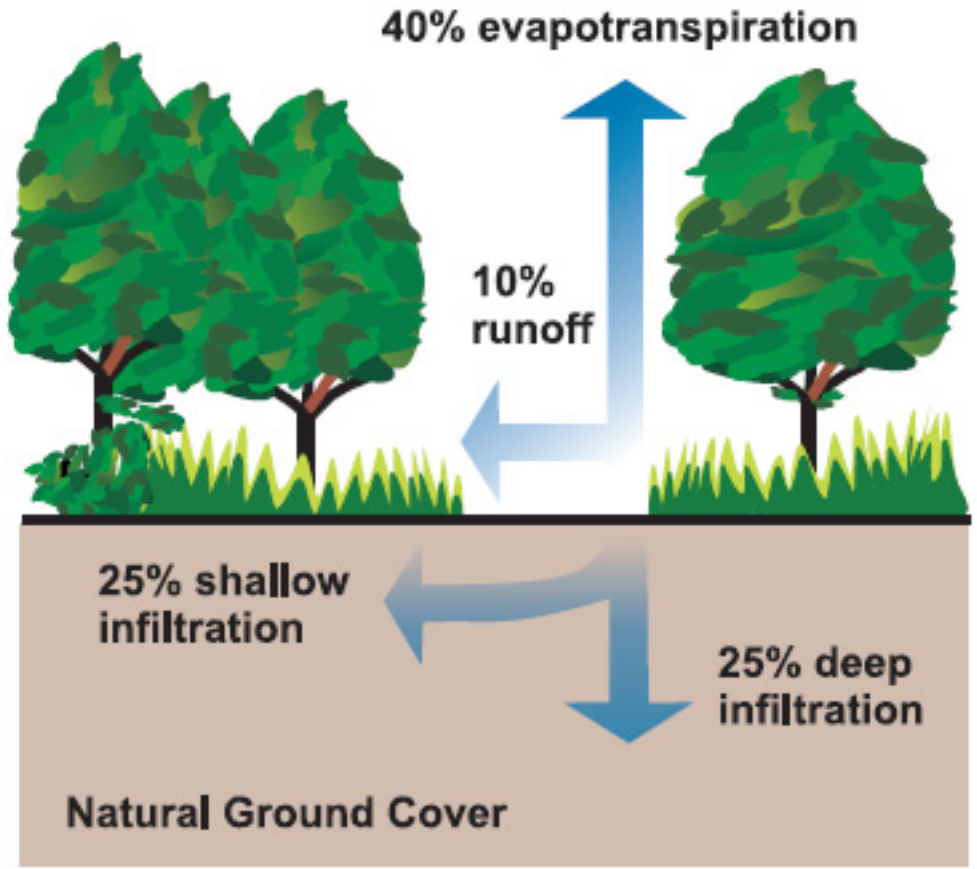
Overview

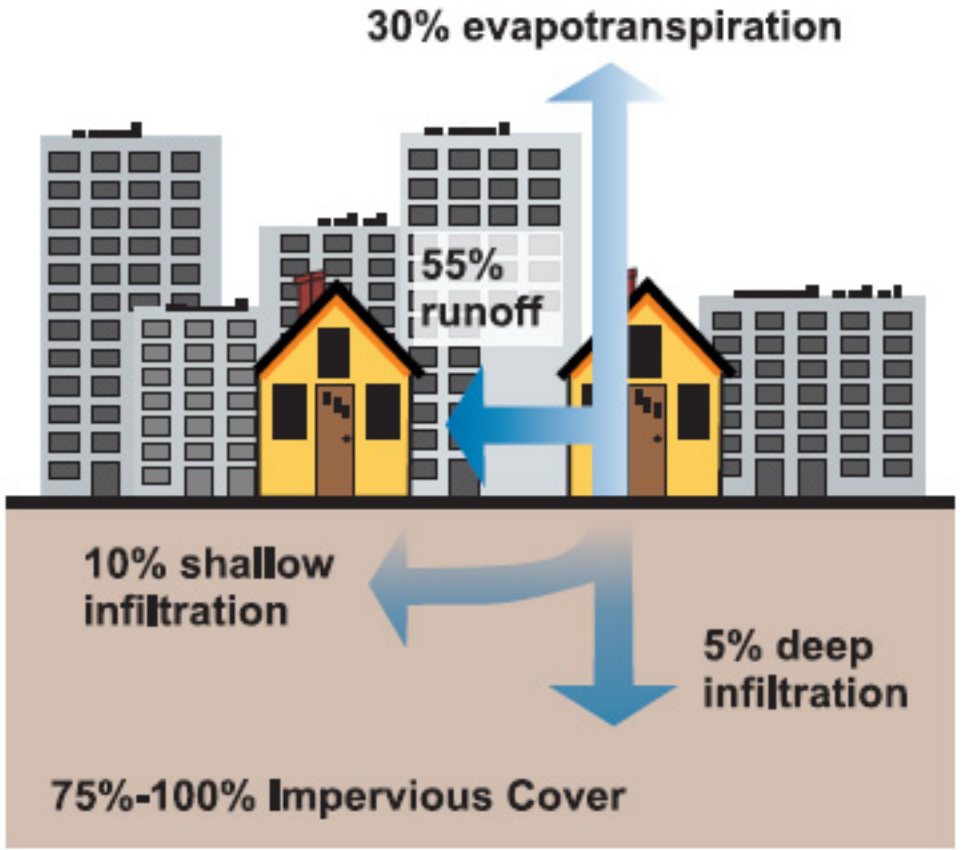
- Background
- Constraints
- Buy or Build
- Installation
- Usage
- Maintenance & Seasonal Care

Background



Photo: Wikimedia





Source: US EPA

RAIN BARRELS

Water Quantity



Photo: SarahBalt42



Photo: ArcGIS.com

RAIN BARRELS

Water Quality

- Nutrients (Nitrogen, Phosphorous)
- Sediment
- Bacteria (*E. coli,* Fecal Coliform)
- Trash (Plastic)
- Toxins
- Temperature


Photo: NOAA



Photo: King County, WA


Photo: PBS


Photo: Arlington County, VA

Rain Barrels

- Reduces quantity during storm events
- Captures Pollutants
  - Nitrogen
  - Bacteria
  - “First Flush” or “First Inch”
- Reduces use of potable water


Photo: Guttertechenterprise.com

Constraints



Photo: Wikimedia

RAIN BARRELS

Constraints – Roof Area

- Average rain barrel is ~55 gallons
- Roof area draining to a single rain barrel should be about 500 sq ft or less









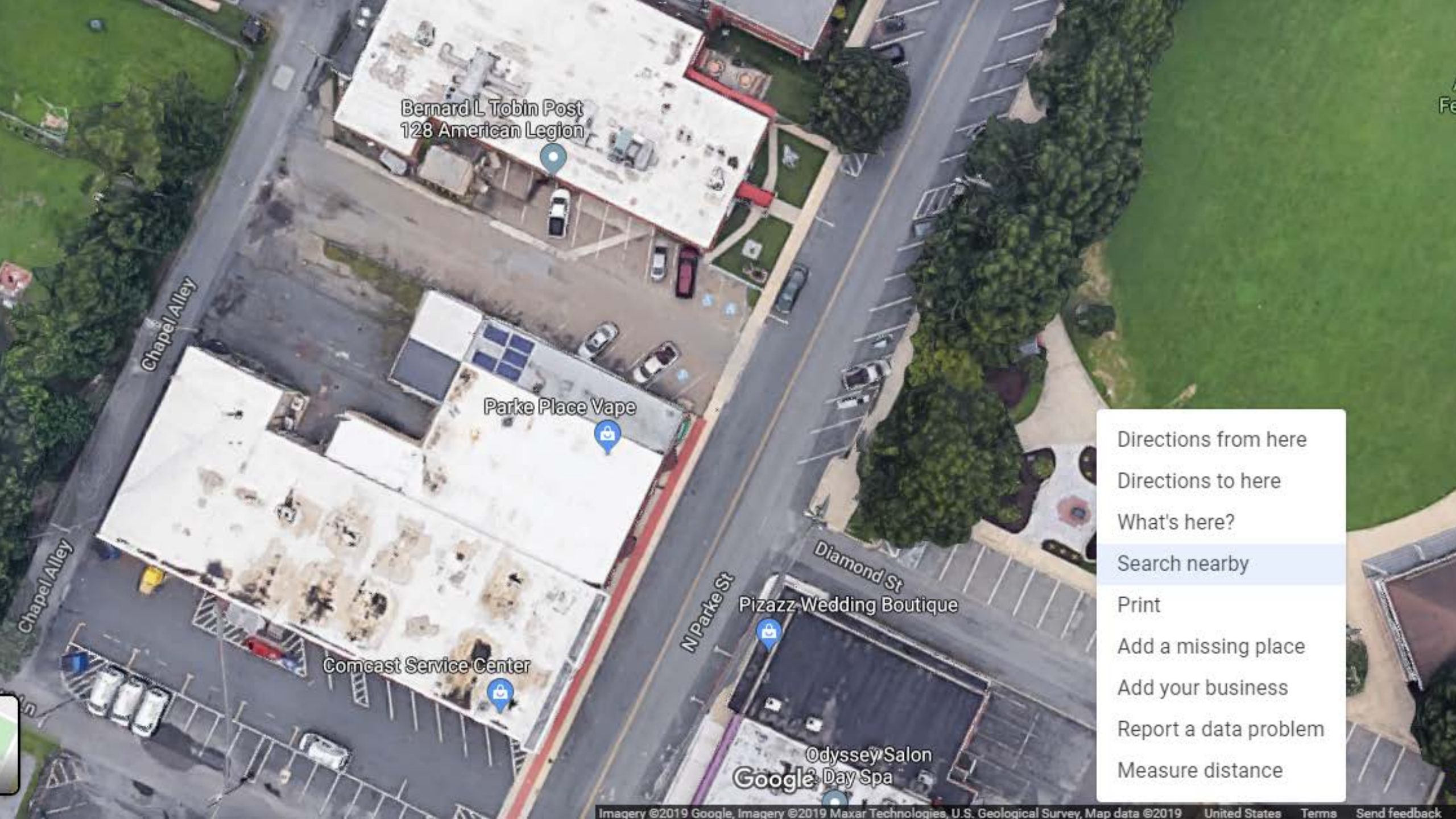
Constraints – Roof Area

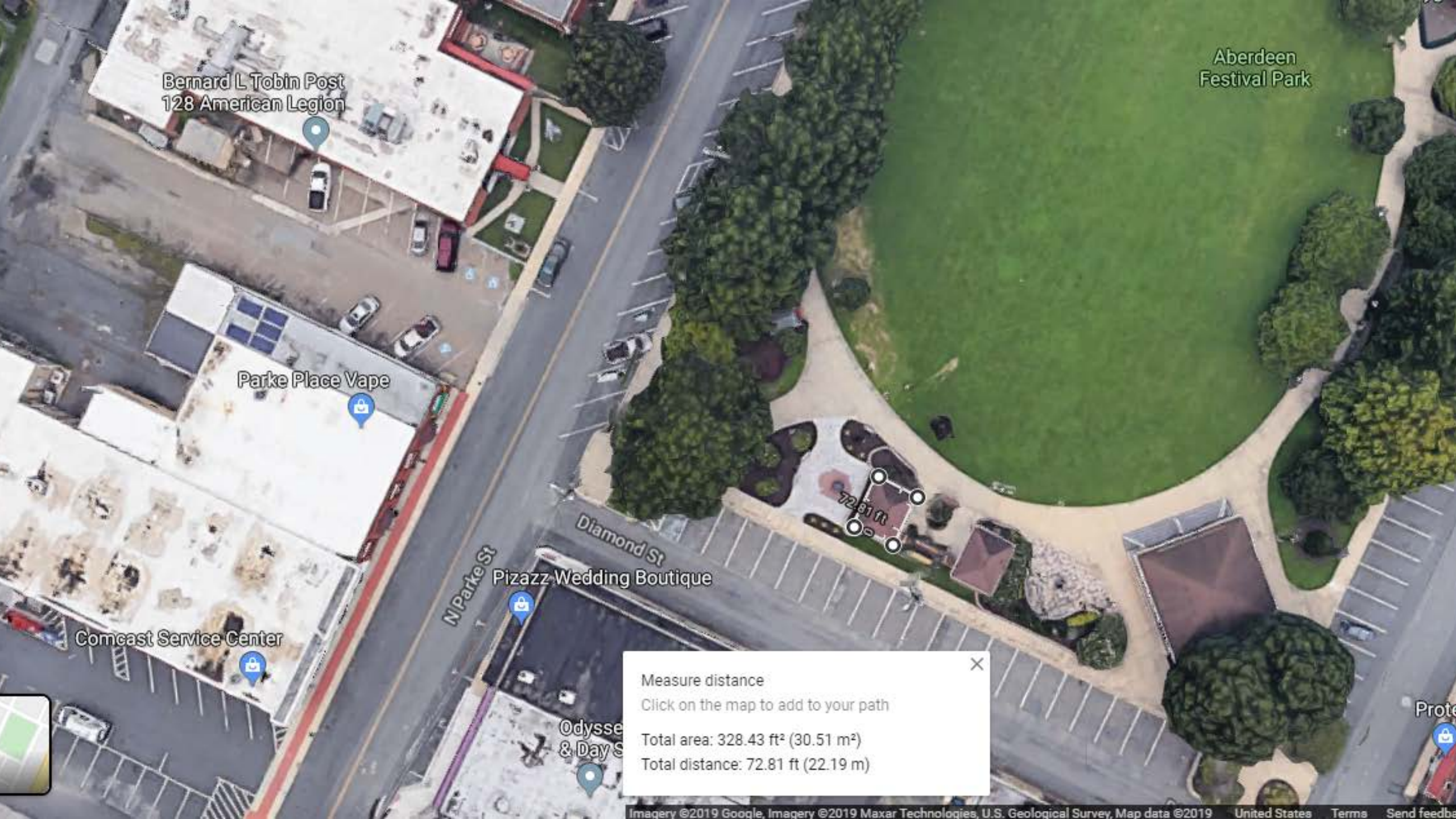
- Measure online using aerial imagery
  - Google Maps
  - Harford County GIS

- Measure on the ground
  - Measuring Wheel
  - Measuring tape and a friend!



Photo: Lowes


Bernard L Tobin Post
128 American Legion
Chapel Alley
Parke Place Vape
Chapel Alley
Comcast Service Center
Diamond St
N Parke St
Pizazz Wedding Boutique
Odyssey Salon
& Day Spa
Google
Directions from here
Directions to here
What's here?
Search nearby
Print
Add a missing place
Add your business
Report a data problem
Measure distance
Imagery ©2019 Google, Imagery ©2019 Maxar Technologies, U.S. Geological Survey, Map data ©2019
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Send feedback

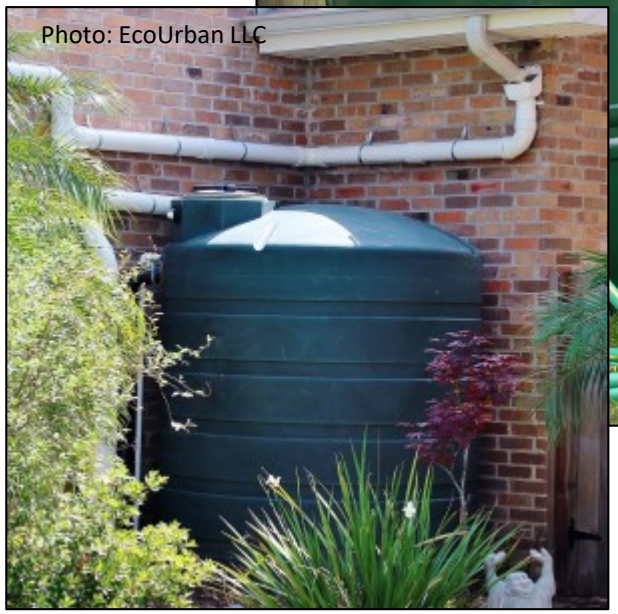

Bernard L Tobin Post
128 American Legion
Aberdeen
Festival Park
Parke Place Vape
72.81 ft
Diamond St
N Parke St
Pizazz Wedding Boutique
Comcast Service Center
Measure distance
Click on the map to add to your path
Total area: 328.43 ft² (30.51 m²)
Total distance: 72.81 ft (22.19 m)
Imagery ©2019 Google, Imagery ©2019 Maxar Technologies, U.S. Geological Survey, Map data ©2019
United States
Terms

RAIN BARRELS

Constraints – Roof Area

- More than 500 sq ft?
- Rain Barrels in series
- Cistern
  - Contractor


Photo: City of Cambridge, MA


Photo: EcoUrban LLC

RAIN BARRELS

Constraints – Topography

- The most important requirement for installing a rain barrel?
- A FLAT SURFACE
- Can be created – bricks, concrete blocks, etc.





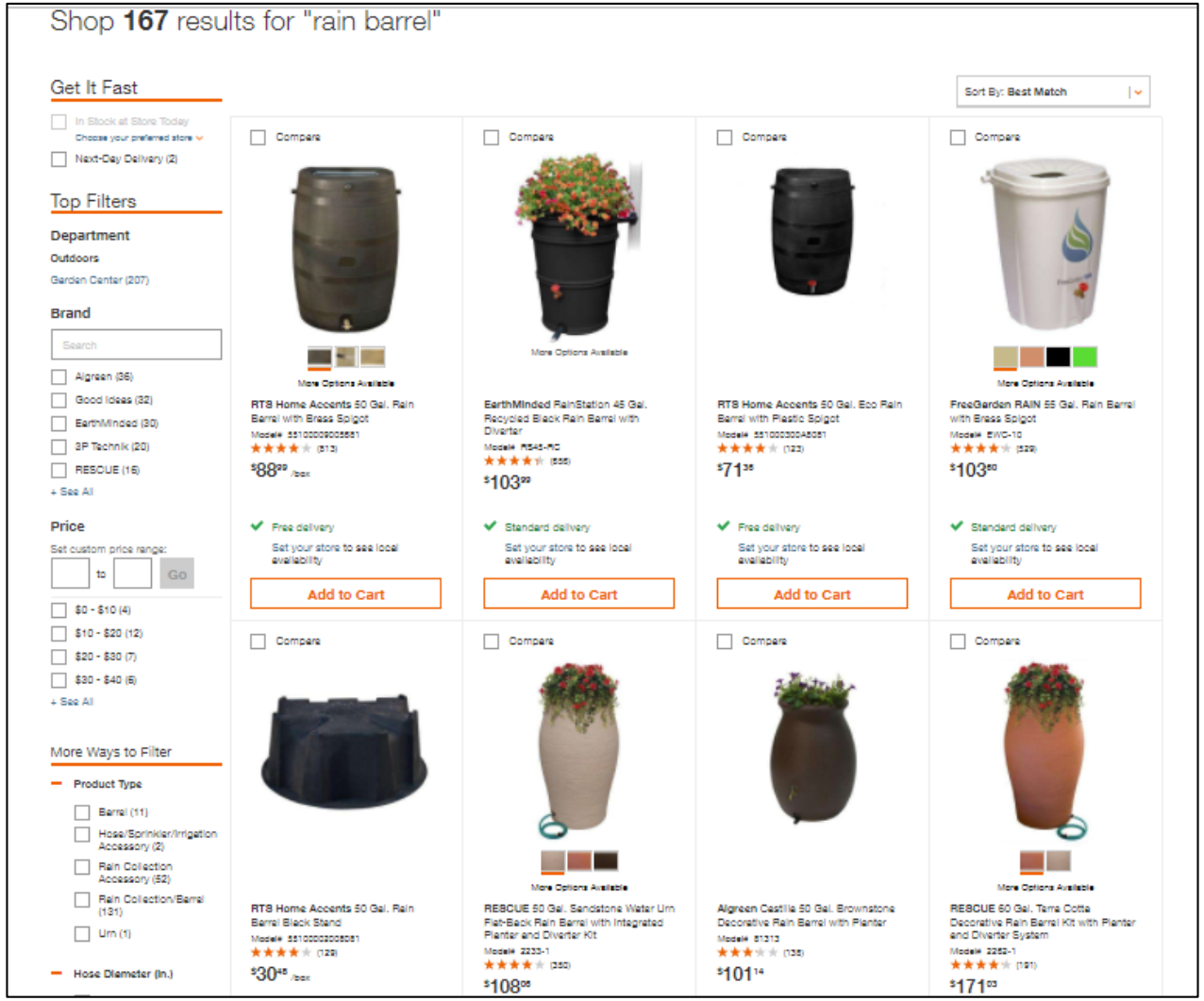
Getting Your Rain Barrel

Photo: Wikimedia

RAIN BARRELS

Buying Rain Barrels

- Hardware stores
- Amazon
- Workshops/Give Events





Installation

Photo: Wikimedia

What you (may) need

















Photo: Lowes

RAIN BARRELS

Two Main Ways to Install





RAIN BARRELS

Cut Your Downspout

- Cut from standpipe if applicable
  - Use hacksaw
  - Cap standpipe
- Cutting the downspout
  - Use hacksaw
  - Measure ~9 inches above height of rain barrel



Photo: Milwaukee Metropolitan Sewerage District



Photo: Lowes



RAIN BARRELS

Add Extender

- Add Extender
- Keep downspout you cut!





RAIN BARRELS

Two Main Ways to Install



Photo: NJ.com



Photo: Earth Minded Consumer Products

RAIN BARRELS

Install Diverter

- Using your level mark the downspout
- Measure 2 inches down (may vary)
- Install diverter w/ screws


Photo: Fiskars

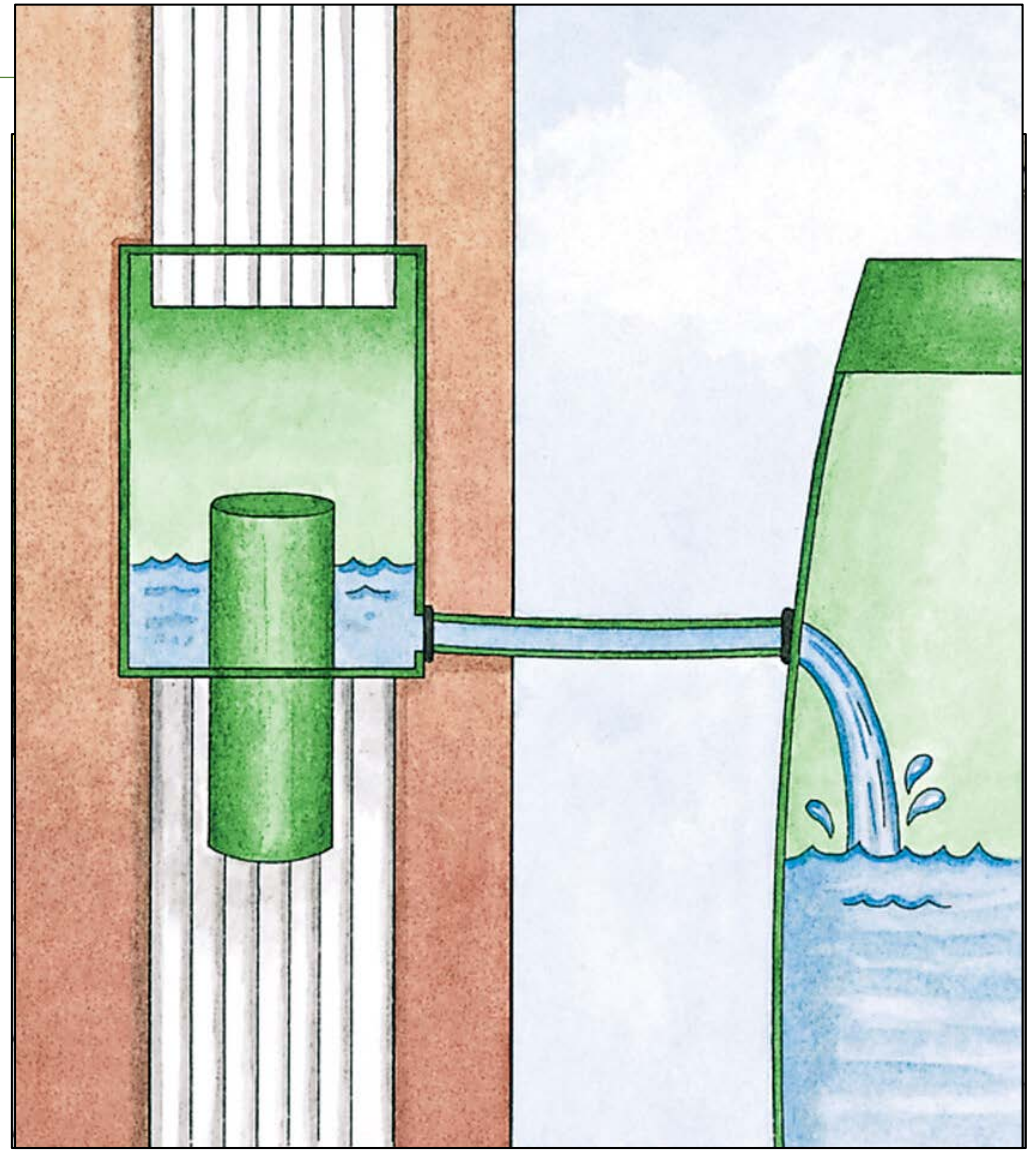

Photo: Modern Survivalists


Photo: Rain Barrel Parts

RAIN BARRELS

Install Diverter

- Hose from downspout to rain barrel should be level
- Excess water will go back into the downspout
- If too high – rain barrel will overflow
- If too low – rain barrel will not fill up



Usage



Photo: Wikimedia

RAIN BARRELS - USAGE

Benefits

- Reduces potable water consumption
- Can be used to water plants
  - Be careful with vegetables!
- Can be used in combination with other stormwater practices
- Can be used for indoor/outdoor greywater uses



Maintenance



Photo: Wikimedia

RAIN BARRELS

Maintenance

- Be Weather Aware
  - Should be emptied before storms/in between storm events
  - Completely empty ~every 2 weeks
- Check for any areas of standing water
- Can be cleaned periodically



Photo: Earth Minded Consumer Products

RAIN BARRELS

Maintenance

- Clean leaf screens, gutters, and downspouts
- Storage tank lids and mosquito screens should be inspected and cleaned
- Damaged components replaced



Photo: Earth Minded Consumer Products

RAIN BARRELS

Maintenance

- Should be emptied and taken down in winter
  - Diverter hole can be capped OR
  - Replace cut downspout



Questions?

kebrooks@umd.edu

https://go.umd.edu/ENRTEACH

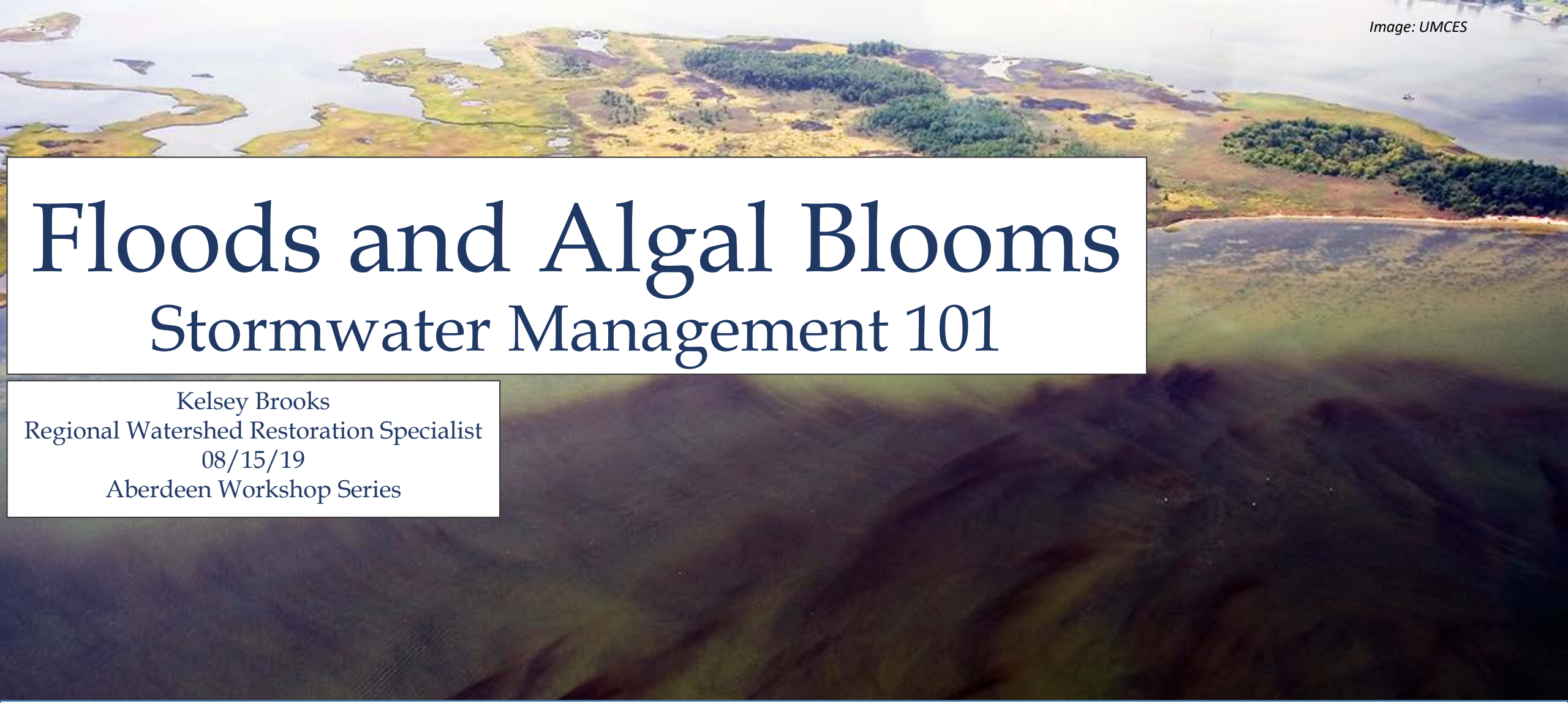


Image: UMCES

Floods and Algal Blooms

Stormwater Management 101

Kelsey Brooks
Regional Watershed Restoration Specialist
08/15/19
Aberdeen Workshop Series

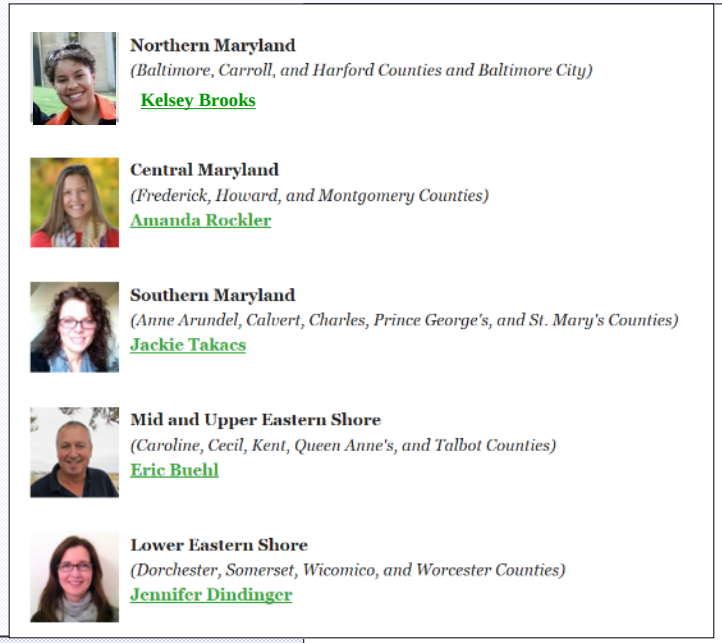
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UNIVERSITY OF MARYLAND EXTENSION

Sea Grant Maryland

Watershed Protection & Restoration Program

- WPRP goal: build programs to assist local governments and non-profits in achieving measureable improvements in water quality.
- What we do:
  - Capacity building
  - Grants assistance
  - Project implementation
  - Education & outreach



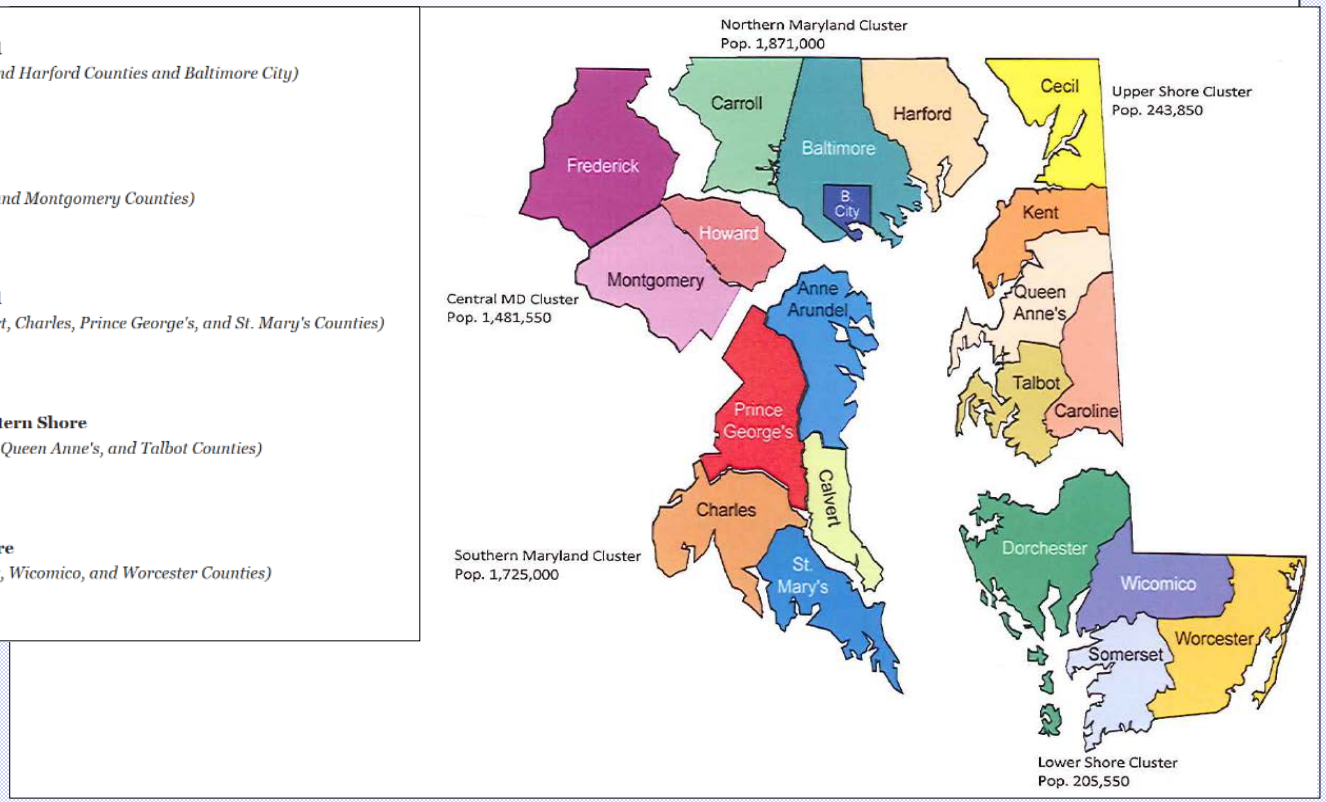
Northern Maryland
(Baltimore, Carroll, and Harford Counties and Baltimore City)
Kelsey Brooks

Central Maryland
(Frederick, Howard, and Montgomery Counties)
Amanda Rockler

Southern Maryland
(Anne Arundel, Calvert, Charles, Prince George's, and St. Mary's Counties)
Jackie Takacs

Mid and Upper Eastern Shore
(Caroline, Cecil, Kent, Queen Anne's, and Talbot Counties)
Eric Buehl

Lower Eastern Shore
(Dorchester, Somerset, Wicomico, and Worcester Counties)
Jennifer Dindinger



BACKGROUND

Overview

- The Hydrologic Cycle
- Why Do We Need to Manage Stormwater?
- History of Stormwater Management
- What are we doing now?
- Who is responsible?

The Hydrologic Cycle



Photo: University of Oklahoma

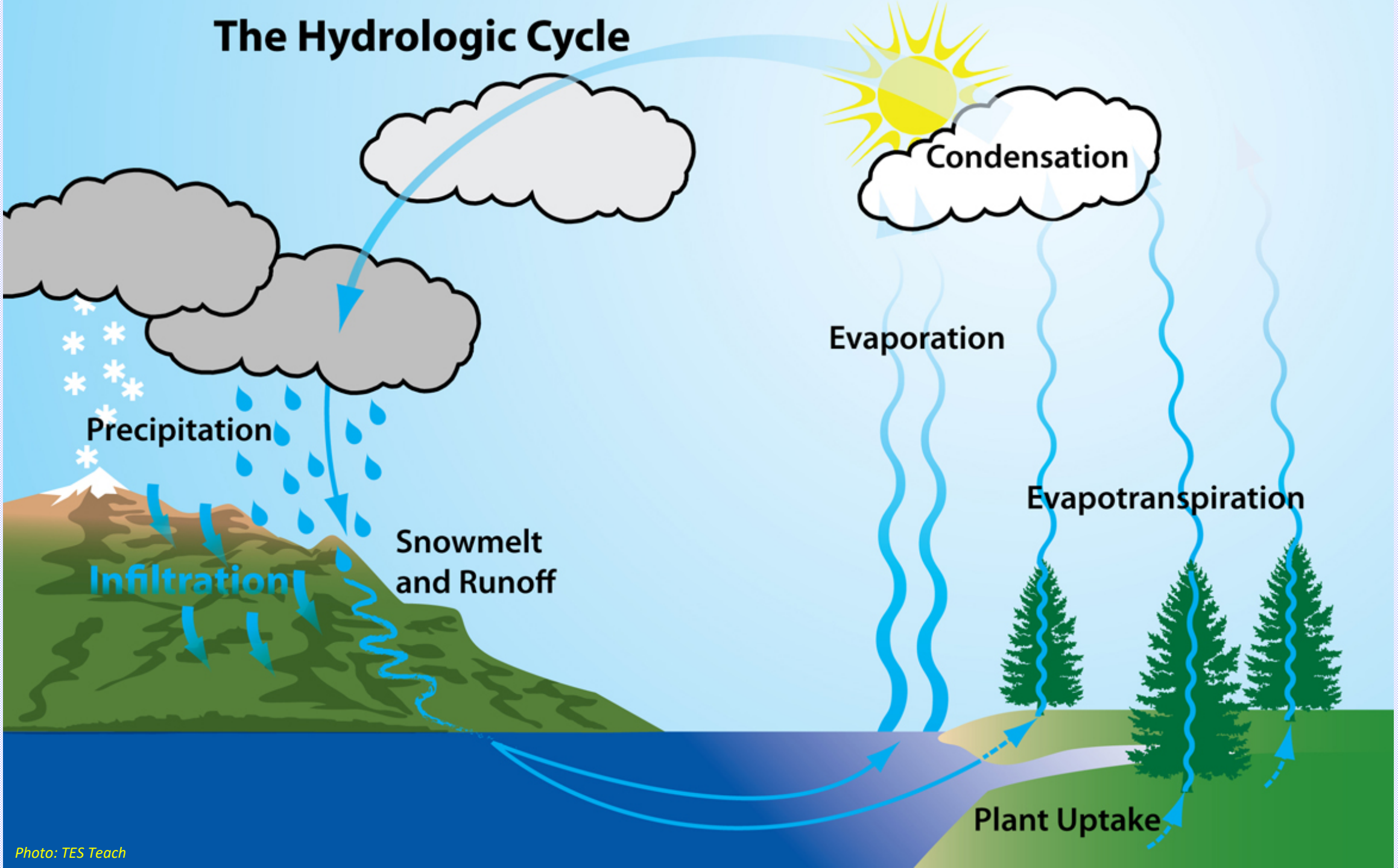


Photo: TES Teach

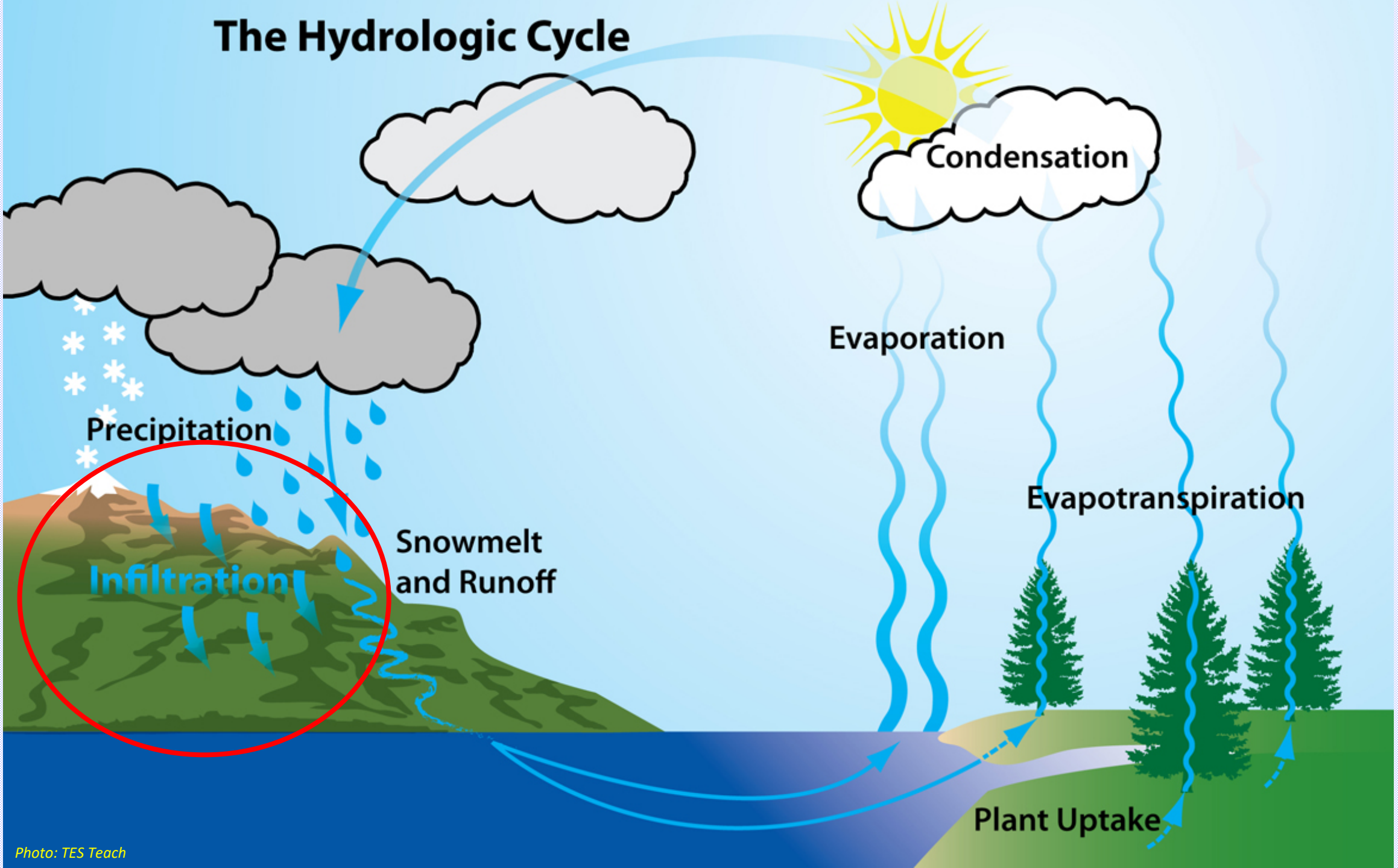


Photo: TES Teach

Infiltration

- Some definitions:
  - **INFILTRATION RATE** – the downward entry of water into the soil or rock surface
  - **PERCOLATION RATE** – the flow of water through soil and porous or fractured rock (source: FEMA)
- Shallow infiltration
  - Used by roots
  - May move laterally to a waterbody
- Deep infiltration
  - Groundwater

Groundwater

- Some *more* definitions
  - **GROUNDWATER** – water that exists underground in saturated zones beneath the land surface
  - **WATER TABLE** – the upper surface of the saturated zone
  - **AQUIFER** – Underground rock layer that allows groundwater to flow or be extracted in useful amounts
    - **CONFINED AQUIFER** – surrounded by impermeable material that tends to cause the contents to be under pressure, usually deeper underground
    - **UNCONFINED (WATER TABLE) AQUIFER** - is at atmospheric pressure

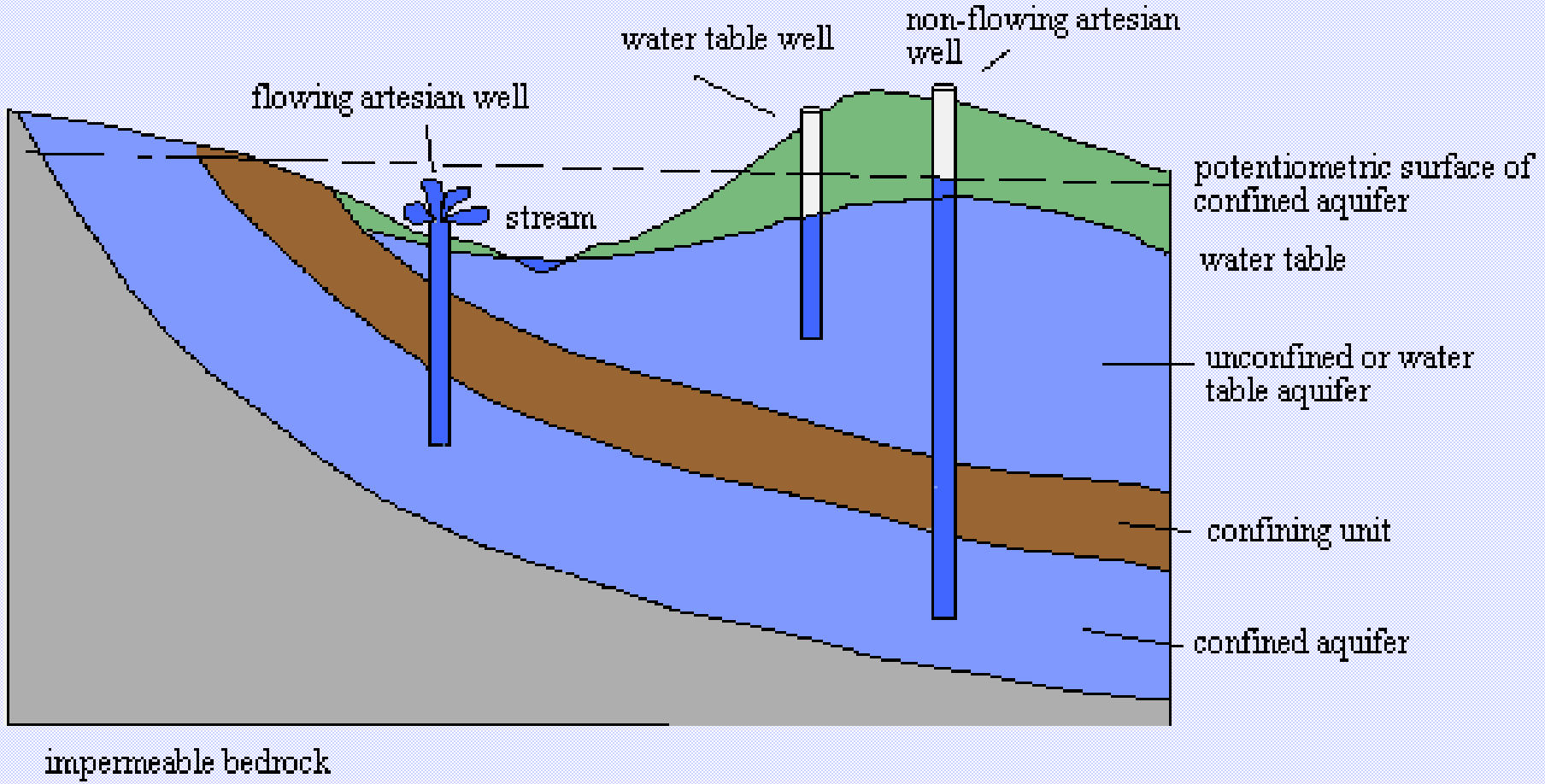
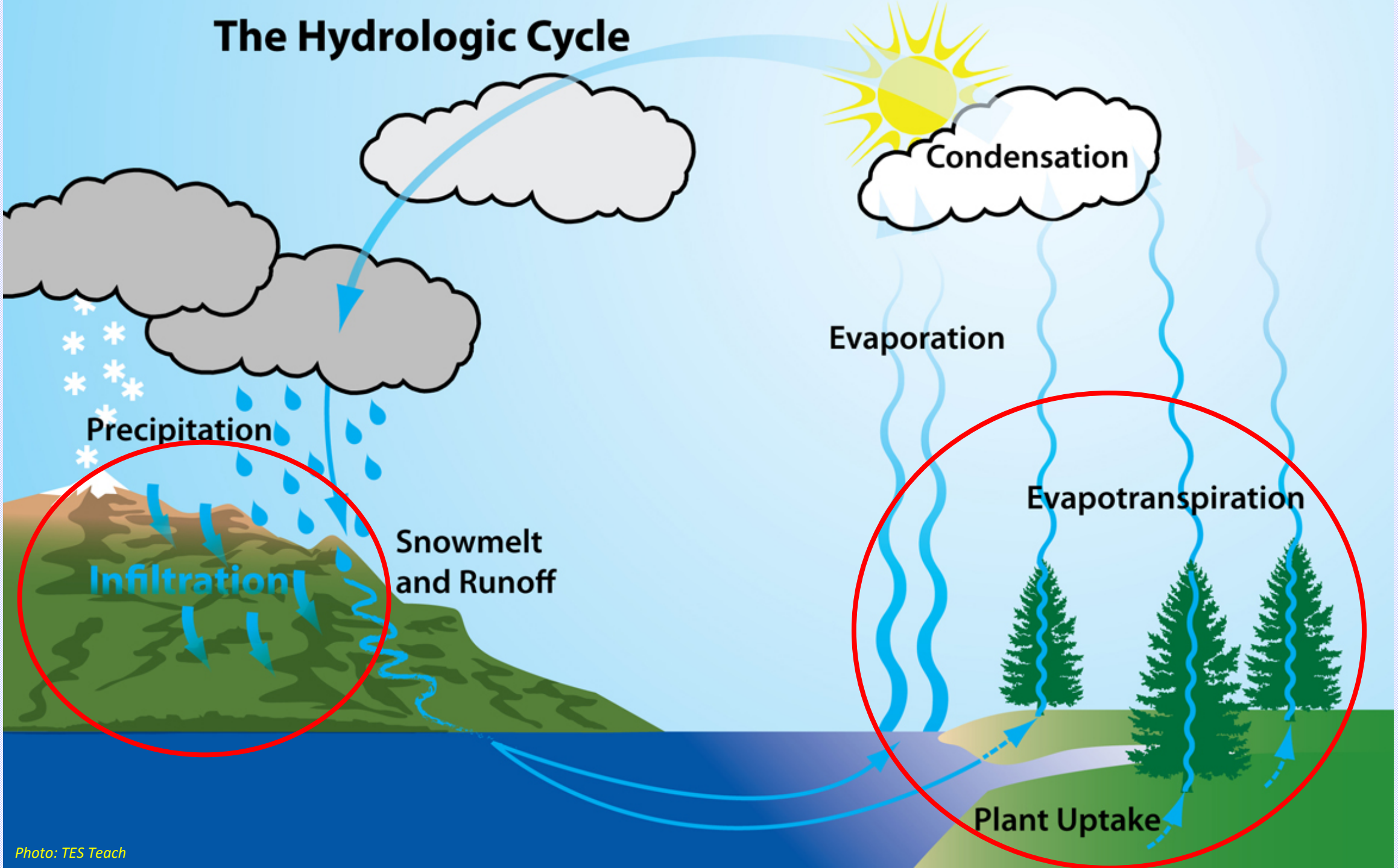


Diagram: Michigan Tech


The Hydrologic Cycle
Condensation
Evaporation
Precipitation
Evapotranspiration
Snowmelt
and Runoff
Infiltration
Plant Uptake
Photo: TES Teach

Evapotranspiration

- **EVAPOTRANSPIRATION** – water transferred from the land to the atmosphere through evaporation & transpiration by plants
- **TRANSPIRATION** – the water plants lose through their stomata
- Transpiration rates are dependent on several factors
  - Temperature
  - Relative humidity
  - Wind and air movement
  - Soil-moisture availability
  - Type of plant
- Area is positively correlated to transpiration rate
  - A large oak tree can transpire 40,000 gallons a year (source: USGS)

HYDROLOGIC CYCLE

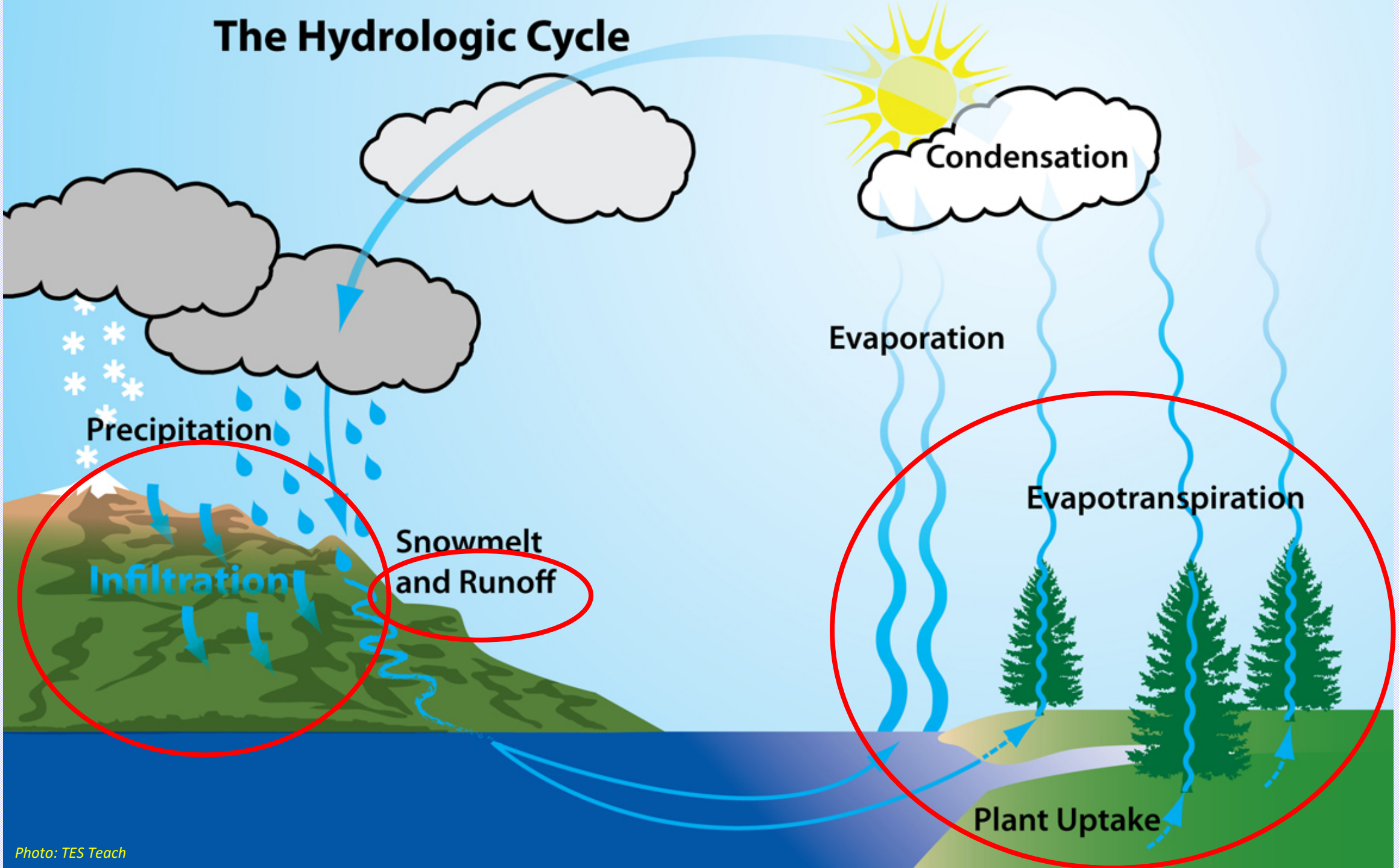
Which transpires more?



Photo: Georgia Landscaper Network



Photo: Van Berkum Nurseryv

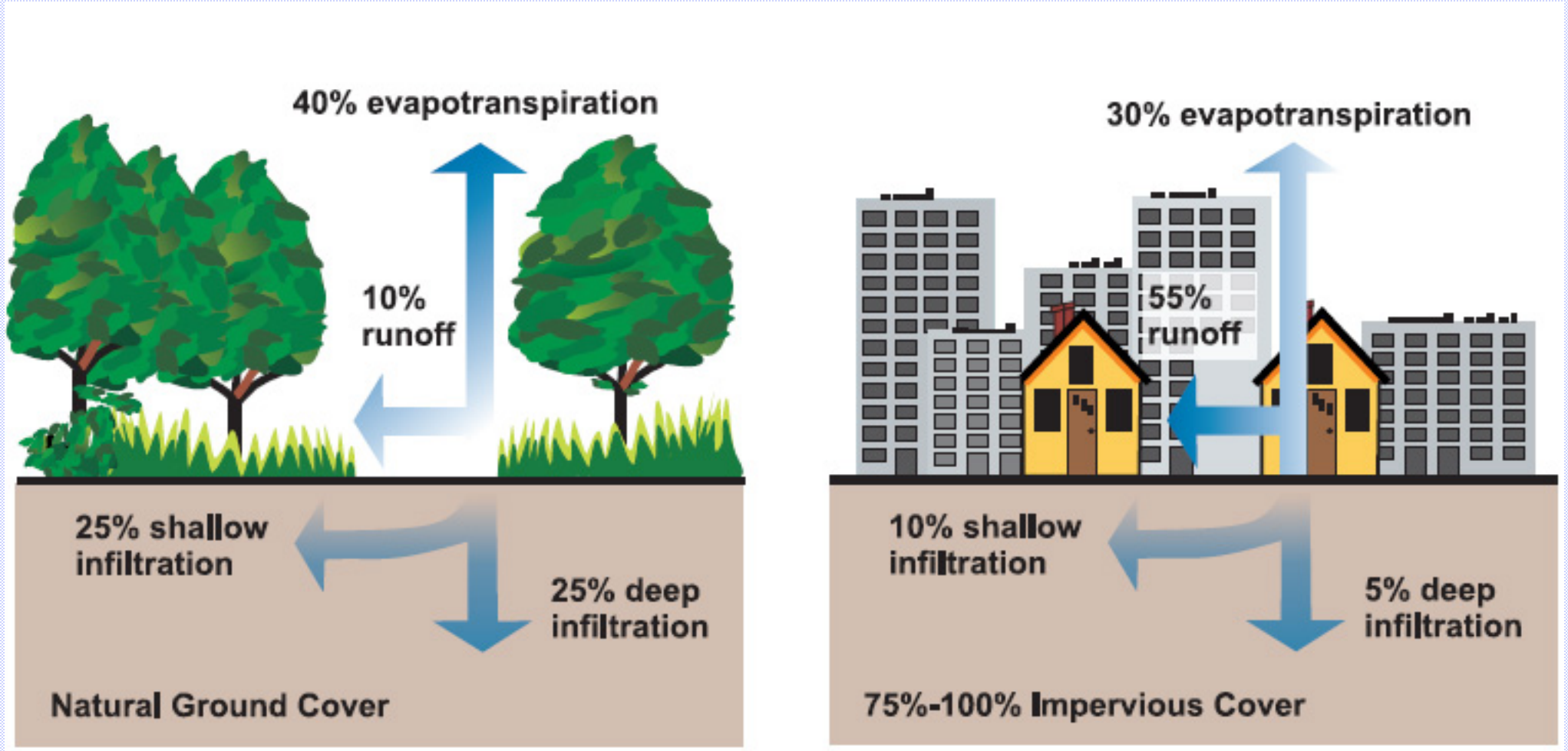

The Hydrologic Cycle
Condensation
Evaporation
Precipitation
Infiltration
Snowmelt
and Runoff
Evapotranspiration
Plant Uptake
Photo: TES Teach

HYDROLOGIC CYCLE

Runoff

- **RUNOFF** - the flow of water off of land or a building/structure
- Occurs when the precipitation rate exceeds the infiltration rate
- Runoff will go to the lowest point in a landscape, which is often a body of water. Water that doesn't infiltrate has the opportunity to carry pollutants with it.
- All of the land that drains to a given body of water is called a **WATERSHED**





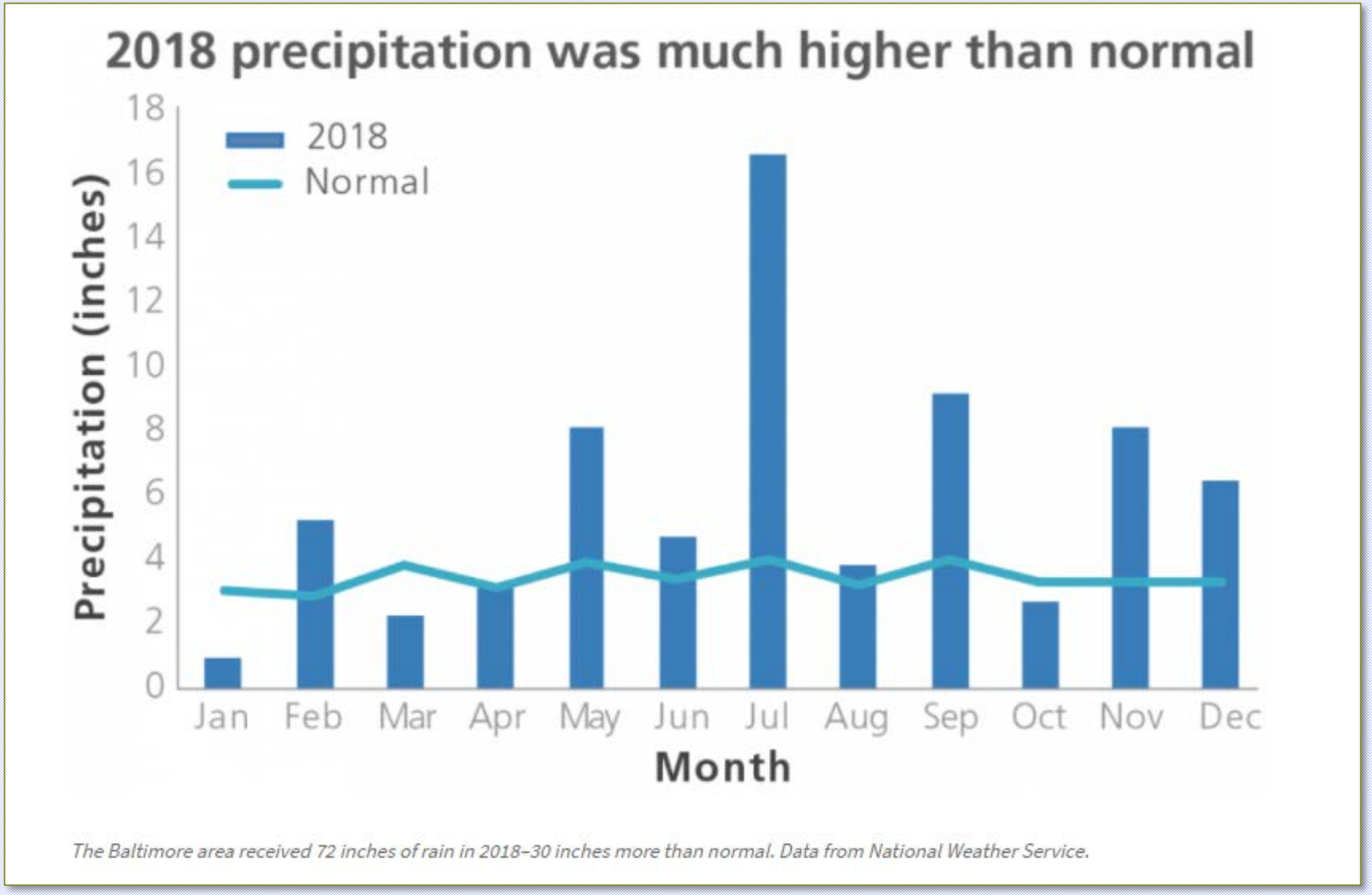
Source: US EPA

HYDROLOGIC CYCLE

How Much Rain - Annual

Average Annual Rainfall in Baltimore (BWI)	2018 Annual Rainfall in Baltimore (BWI)	2017 Annual Rainfall in Baltimore (BWI)
41.88	71.82	38.28

Source: https://www.weather.gov/media/lwx/climate/bwiprecip.pdf



The Baltimore area received 72 inches of rain in 2018–30 inches more than normal. Data from National Weather Service.

HYDROLOGIC CYCLE

How Much Rain - YTD

Average Rainfall Jan-Mar in Baltimore (BWI)

24.56

2018 Annual Rainfall in Baltimore (BWI)

41.42

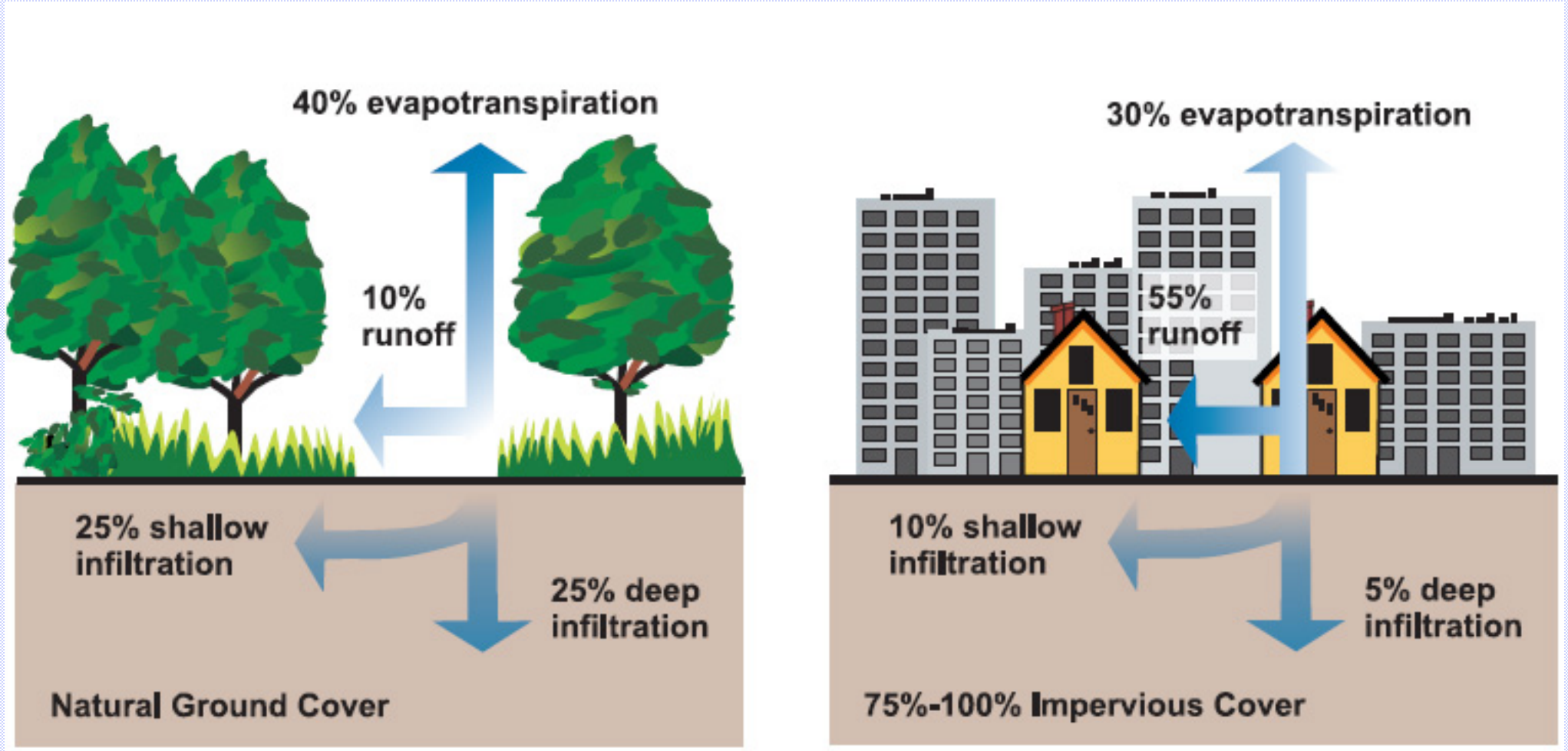
2017 Annual Rainfall in Baltimore (BWI)

25.64

2019 Annual Rainfall in Baltimore (BWI)

24.7

Source: https://www.weather.gov/media/lwx/climate/bwiprecip.pdf



Source: US EPA

STORMWATER MANAGEMENT

Goals

- Reduce impacts from impervious cover on the health of waterways
- Fishable, Swimable, Drinkable waters
- Reduce impacts homeowners, businesses, infrastructure, and ecosystems
  - Water Quality
  - Water Quantity



Impervious Cover's Impact



Photo: Wikimedia

STORMWATER MANAGEMENT

Water Quantity





Photo: Biohabitats

Sam's Branch

Photo: Harford County DPW

STORMWATER MANAGEMENT

Water Quality

- Nutrients (Nitrogen, Phosphorous)
- Sediment
- Bacteria (*E. coli,* Fecal Coliform)
- Trash (Plastic)
- Toxins
- Temperature

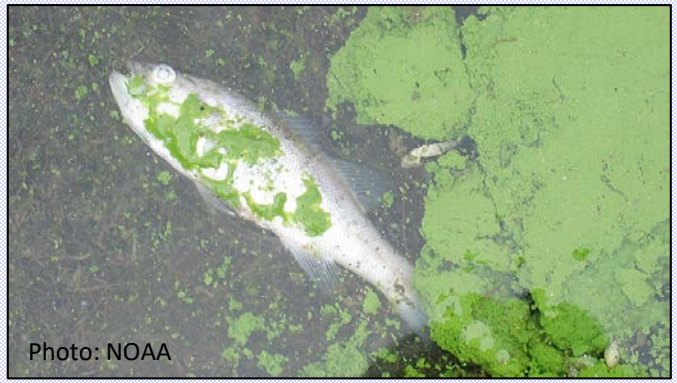

Photo: NOAA



Photo: King County, WA


Photo: PBS


Photo: Arlington County, VA

Water Quality Impacts – Nitrogen (Nutrient)

- Sources
  - Fertilizer
  - Animal waste
  - Human waste (septic)
  - Atmospheric deposition
- Impact
  - Limiting nutrient in saltwater environments
  - Algal blooms -> Hypoxia -> Fish kills

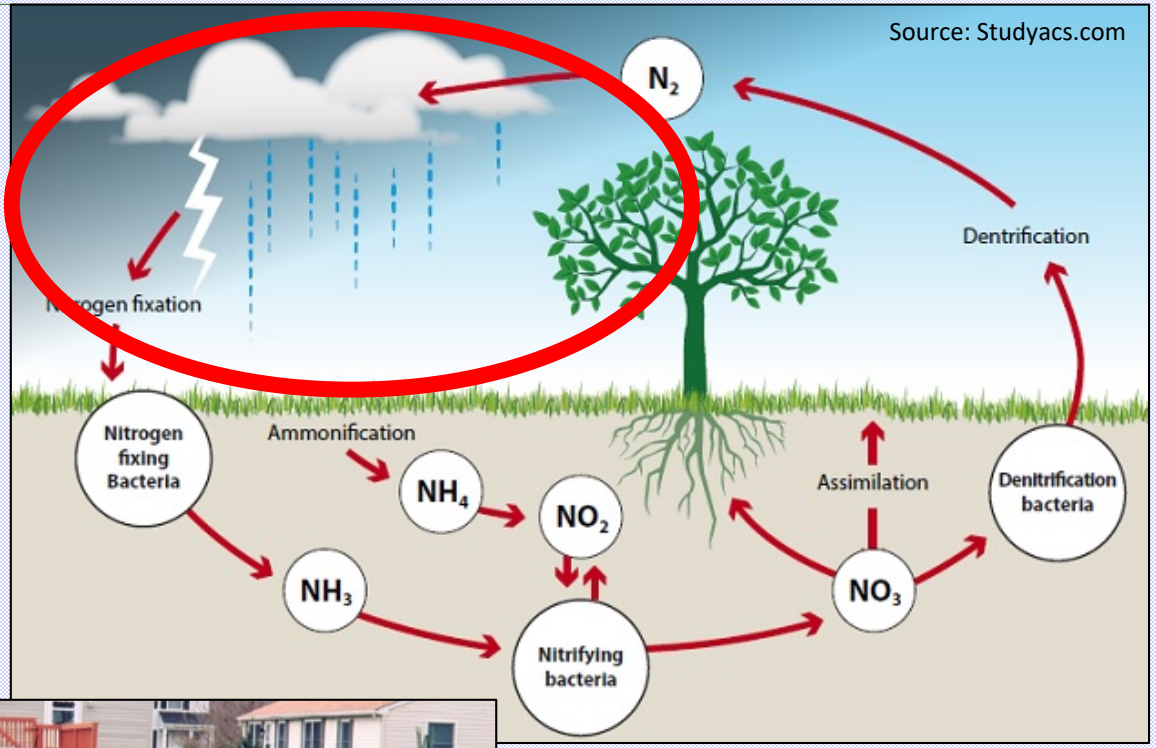
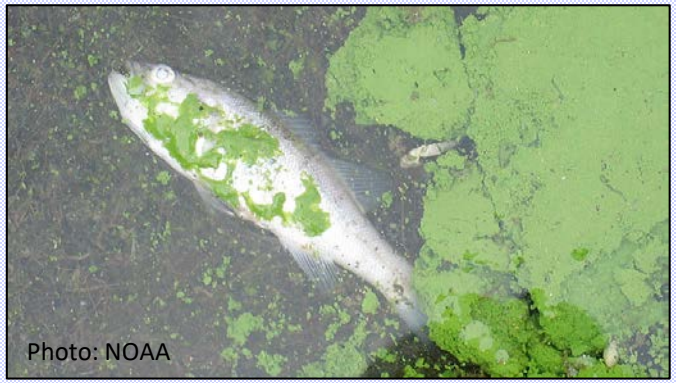


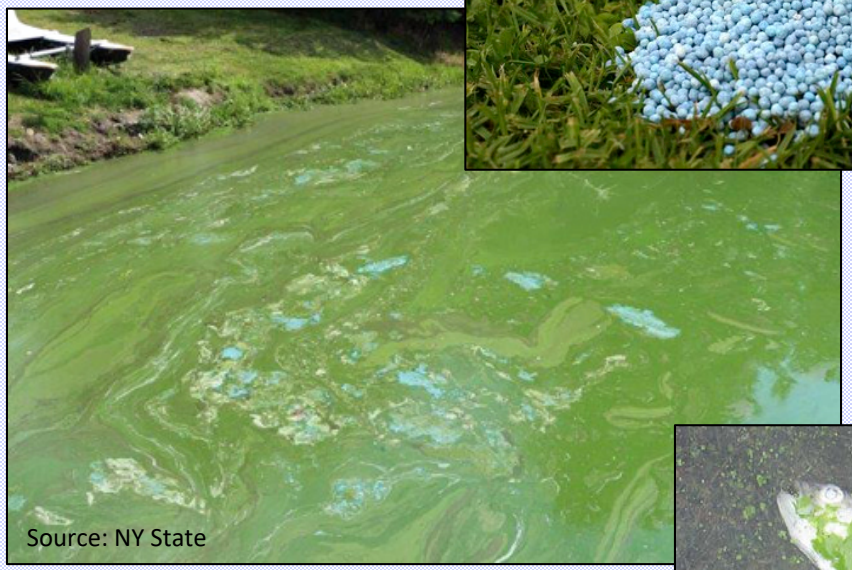

Photo: Mass Home Sale

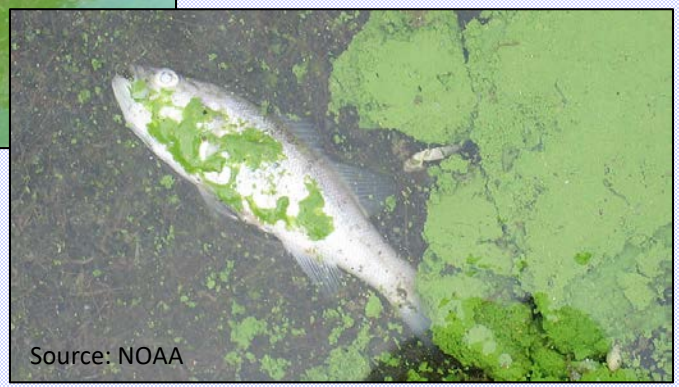

Photo: NOAA

Water Quality Impacts – Phosphorous (Nutrient)

- Sources
  - Fertilizer
  - Sediment
  - Animal waste
- Impact
  - Limiting nutrient in fresh water environments
  - Algal blooms -> Hypoxia -> Fish kills


Source: Zybrtooth.com


Source: NY State


Source: NOAA

Water Quality Impacts – Sediment

- Sources
  - Land disturbance - construction
  - Stream bank scouring
  - Erosion from lack of vegetation
- Impacts
  - Blocks sunlight (increases turbidity) -> kills aquatic plants
  - Increases water temperature -> reduced dissolved oxygen
  - Impairs aquatic reproduction, vision, ability to breathe, etc
  - Carries Phosphorous



Photo: Biohabitats



Source: conservationinstitute.org



Source: flo-water.net



Source: Harford county DPW

Water Quality Impacts – Bacteria

- Sources
  - Human waste
  - Animal waste
- Most Common
  - Fecal coliform
  - *E. Coli*
- Impact
  - Aquatic health impacts
  - Human health impacts



Photo: Kingsport Times-News



Photo: King County, WA

Water Quality Impacts – Trash/Toxins

- Sources
  - Humans
- Impact
  - Smother/directly poison aquatic life
  - Plastic can enter the food chain
  - Release other toxins


Photo: PBS



Photo: Wall Street Journal

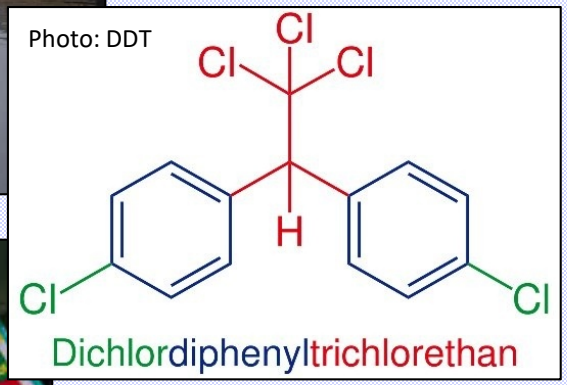
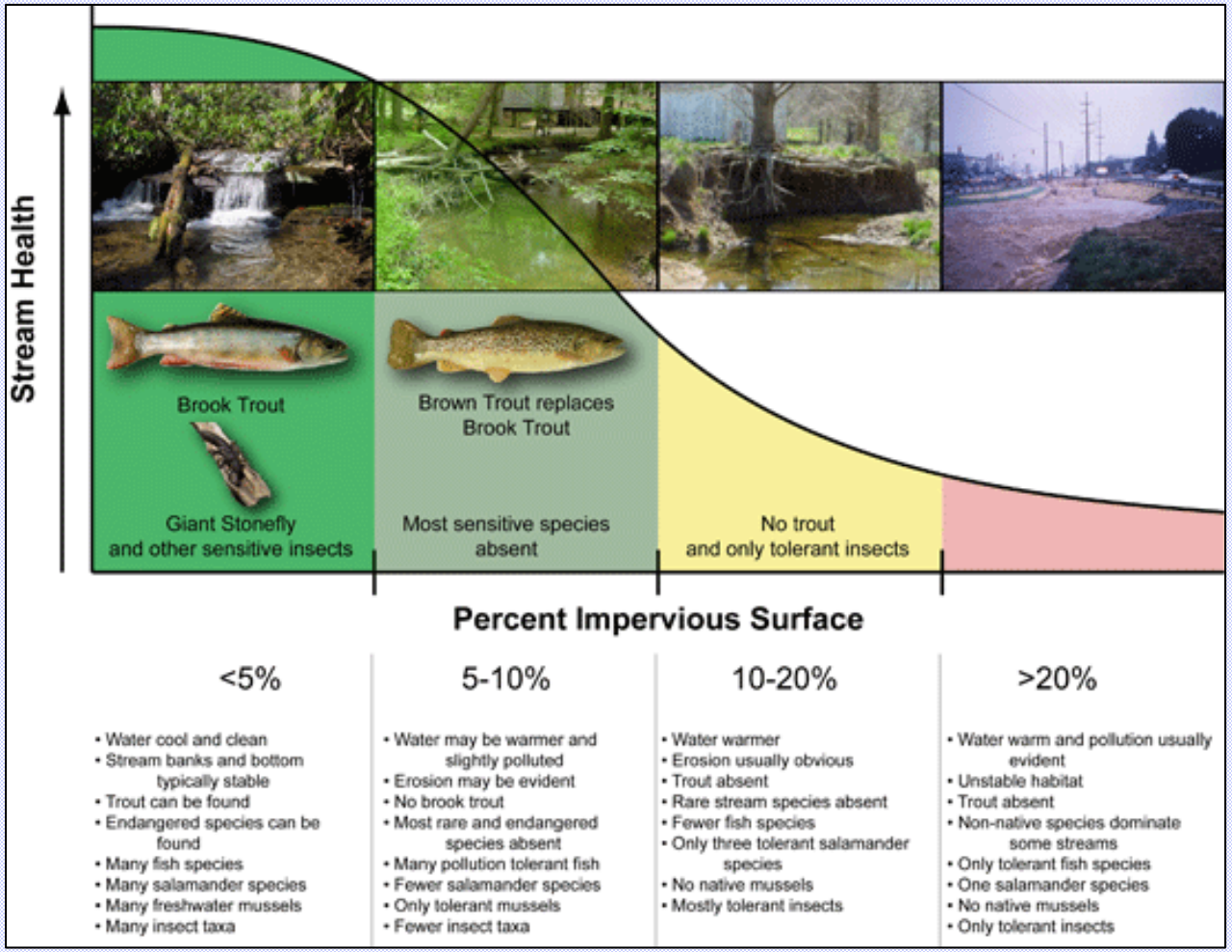


Photo: DDT

Water Quality Impacts – Temperature

- Sources
  - Hot impervious surfaces
  - Reduced shade along stream banks
- Impact
  - Reduced dissolved oxygen
  - Asphyxiates aquatic life



Source: MD DNR

STORMWATER MANAGEMENT

Impacts

- Economic Impacts
  - Flooding
  - Businesses
- Recreational Impacts
  - Swimming
  - Fishing
  - Boating
- Environmental Impacts


Photo: Chesapeake Quarterly


Photo: MDSG



Stormwater Management History



Photo: Wikimedia

STORMWATER MANAGEMENT

History



Photo: Cleveland Press Collection at Cleveland State University Library (http://www.ohiohistorycentral.org/w/Cuyahoga_River_Fire)

- 1972 – Clean Water Act
- 1972 – Coastal Zone Management Act
- 1983 – Bay Partnership
- 1987 – Water Quality Act
- 1987 – Bay Agreement
- 1990 – Phase I NPDES regulations promulgated
- 2000 – Phase II NPDES regulations promulgated
- 2000 – Bay Agreement with deadline of 2010
- 2009 – Executive Order
- 2010 – Deadline not met -> Bay TMDL

The Old Way





The Old Way


Photo: Montgomery County


Photo: Montgomery County

Total Maximum Daily Load (TMDL) – Chesapeake Bay

- "Amount of a pollutant that a body of water can receive while still meeting water quality standards"
- Initiated in 2010 due to missed deadlines/commitments
- Reductions required by 2025
- POC: TN, TP, and TSS



Map: Jane Thomas, Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/)

Reduction Requirements – Chesapeake Bay TMDL

- Bay-wide
  - Reduce N by 25% (limit: 185.9 million pounds)
  - Reduce P by 24% (limit 12.5 million pounds)
  - Reduce sediment by 20% (6.45 billion pounds)
- Each state has specific reduction requirements
- Each state responsible for deciding how to address requirements

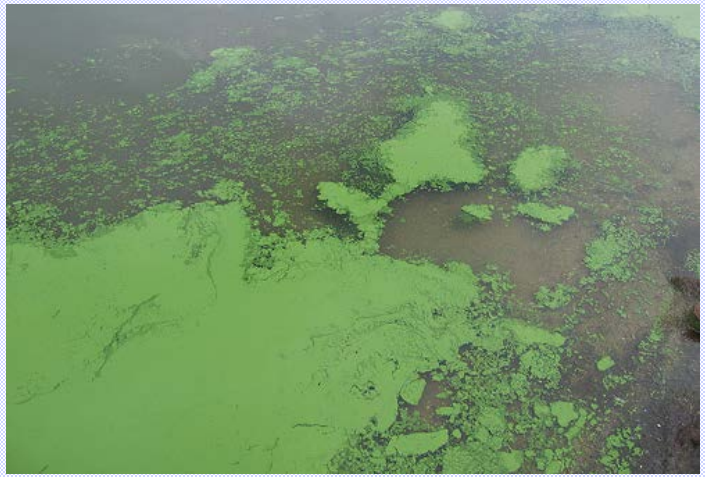


Photo: Dr. Jennifer L. Graham – U.S. Geological Survey



Photo: Middletown, Bucks County PA(http://www.middletownbucks.org/Outfall.jpg)



Photo: Chesapeake Bay Program



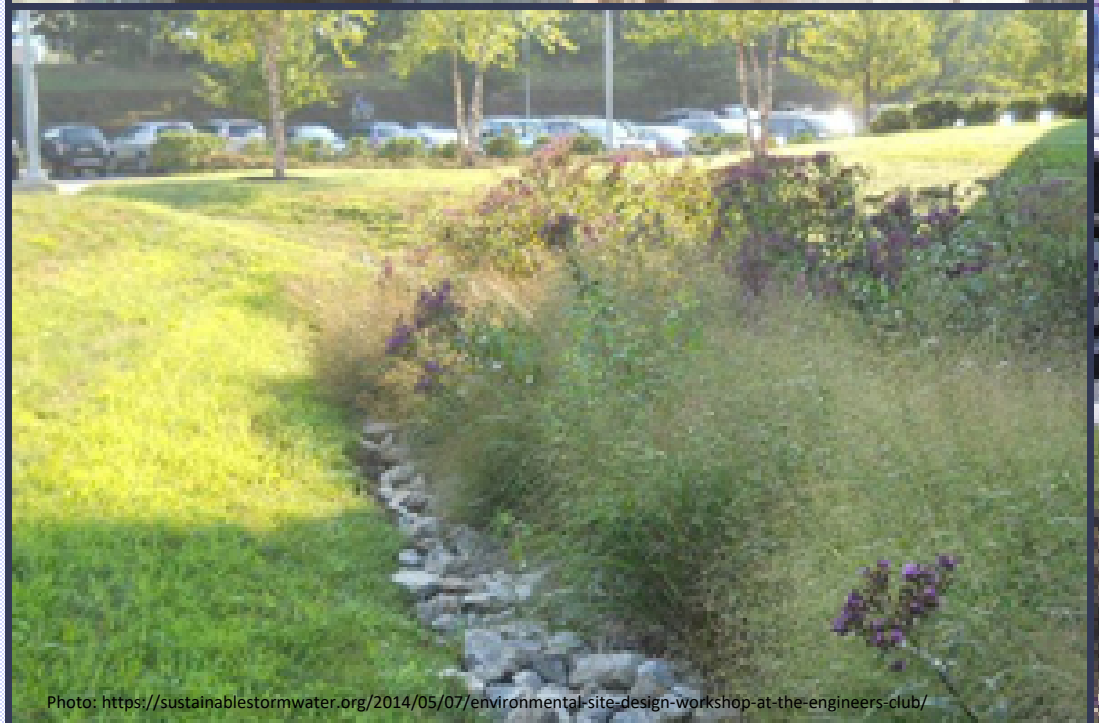


Photo: https://sustainablestormwater.org/2014/05/07/environmental-site-design-workshop-at-the-engineers-club/

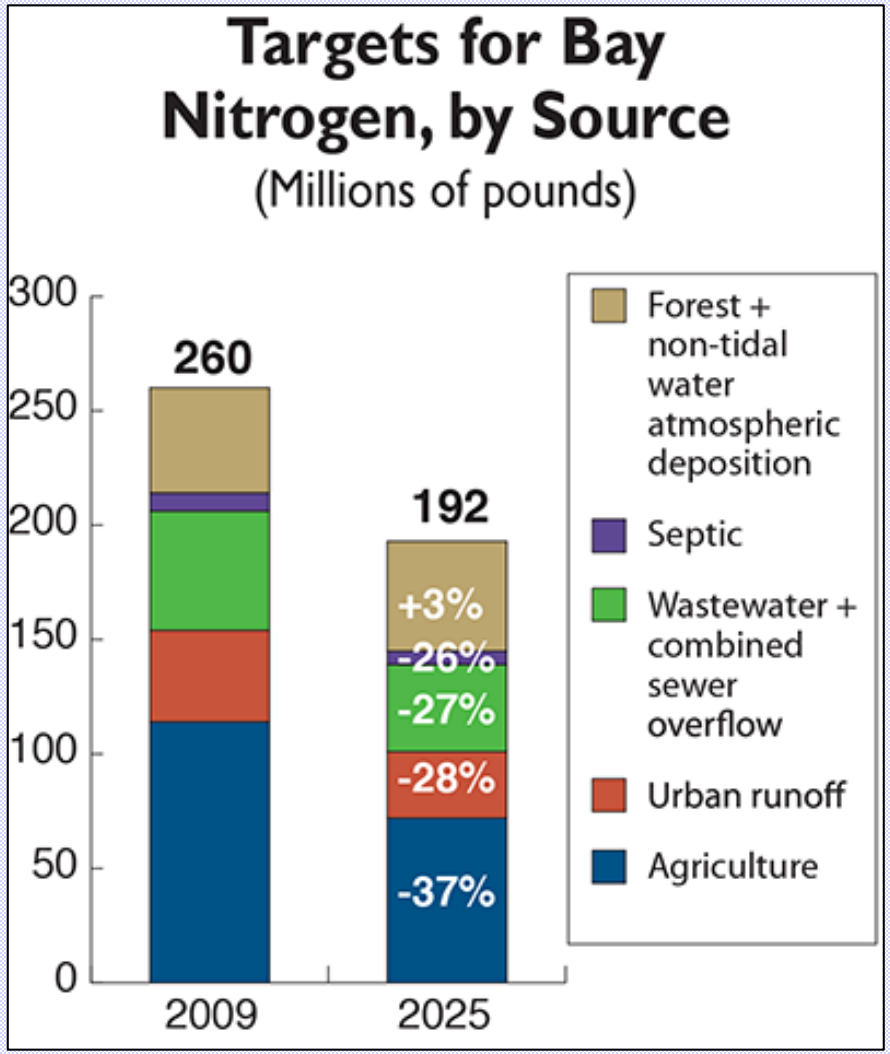


Who Is Responsible?



Photo: Wikimedia

Reduction Requirements – Sectors



Sectors

- Forests
- Agriculture
- Wastewater Treatment Plants
- Septic Systems
- Urban or Stormwater Runoff

Table source: Marc Ribaudo, Economic Research Service, U.S. Department of Agriculture

Reduction Requirements – Urban Sector

- Permitted -> Regulated
  - New Construction (Construction GP)
  - Municipal Separate Storm Sewer (MS4)
- Non-permitted -> Unregulated
  - Existing, private development
    - Commercial
    - Residential





Reduction Requirements – Permitted Entities

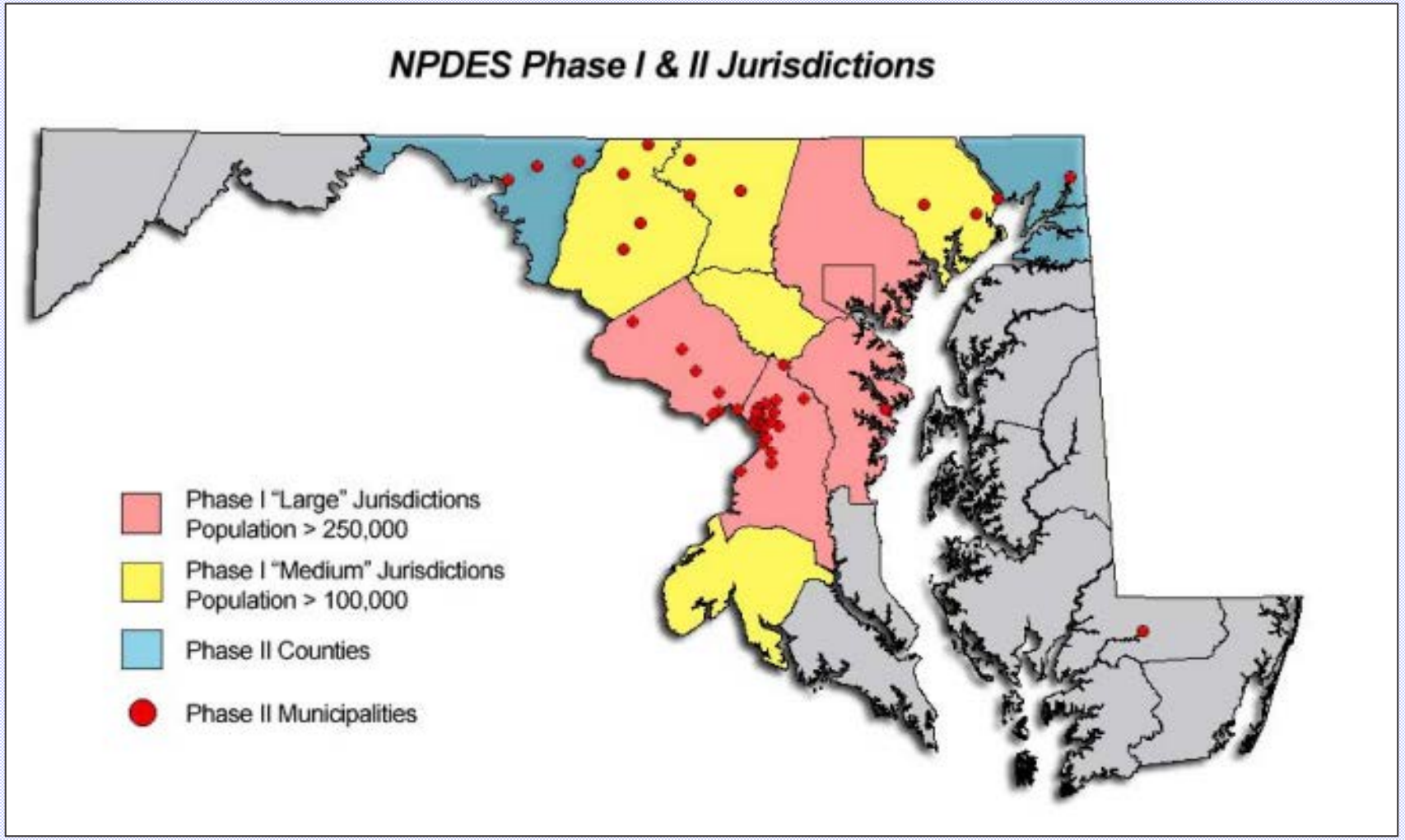
- MS4 is a type of National Pollution Discharge Elimination System (NPDES) permit
- "Point" source is the network of outfalls and conveyances that discharge to waters of the US
- Permittee is responsible for controlling pollutants in anything that enters those conveyances
  - Overland runoff
  - Direct "Illicit Discharges"
  - Sanitary connections/leaks
- MEP – Maximum Extent Practicable



Source: NY DEC (http://www.dec.ny.gov/lands/71190.html)

STORMWATER MANAGEMENT

Who is permitted?



Map: MDE

STORMWATER MANAGEMENT

What's Missing



Photo: Baltimore Sun

Questions?

kebrooks@umd.edu

https://go.umd.edu/ENRTEACH

CITY OF ABERDEEN

STORMWATER POLLUTION PREVENTION TRAINING



STORMWATER POLLUTION PREVENTION PLAN

for:

ABERDEEN DEPARTMENT OF PUBLIC WORKS MAINTENANCE SHOP
341 Michael Lane
Aberdeen, MD 21001
410-272-1414

SWPPP Contact(s):

Superintendent
Fred Monath
341 Michael Lane
Aberdeen MD 21001
410-272-1414
fmonath@aberdeenmd.gov

SWPPP Preparation Date:

JUNE 29, 2017



STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Facilities engaging in industrial activities are subjected to SWPPP requirements:

- Identify pollutant sources.
- Describe how to reduce the release of pollutants.
- Implement Pollution Prevention, Good Housekeeping & Best Management Practices.
- Evaluate the NPDES Permit Program's effectiveness (must amend if ineffective).



COMMON VIOLATIONS

1. SWPPP binder out of order or missing information.
2. Not using oil plans.
3. Oil staining on paved surfaces.
4. Leaks at fuel station.
5. Missing or un-stocked spill kits.
6. Used sta-dri not cleaned up.
7. 55-gallon drums not labeled or stored outside; not on spill decks; or not covered in absorbent pads.
8. Poor "good housekeeping" – trash, batteries, paint cans, tires, oil stains exposed to stormwater.
9. Stockpiles (sweeper waste, millings, soil) not contained.
10. Unstabilized or bare areas.
11. Salt not under roof or cover.



Uncontained Soil

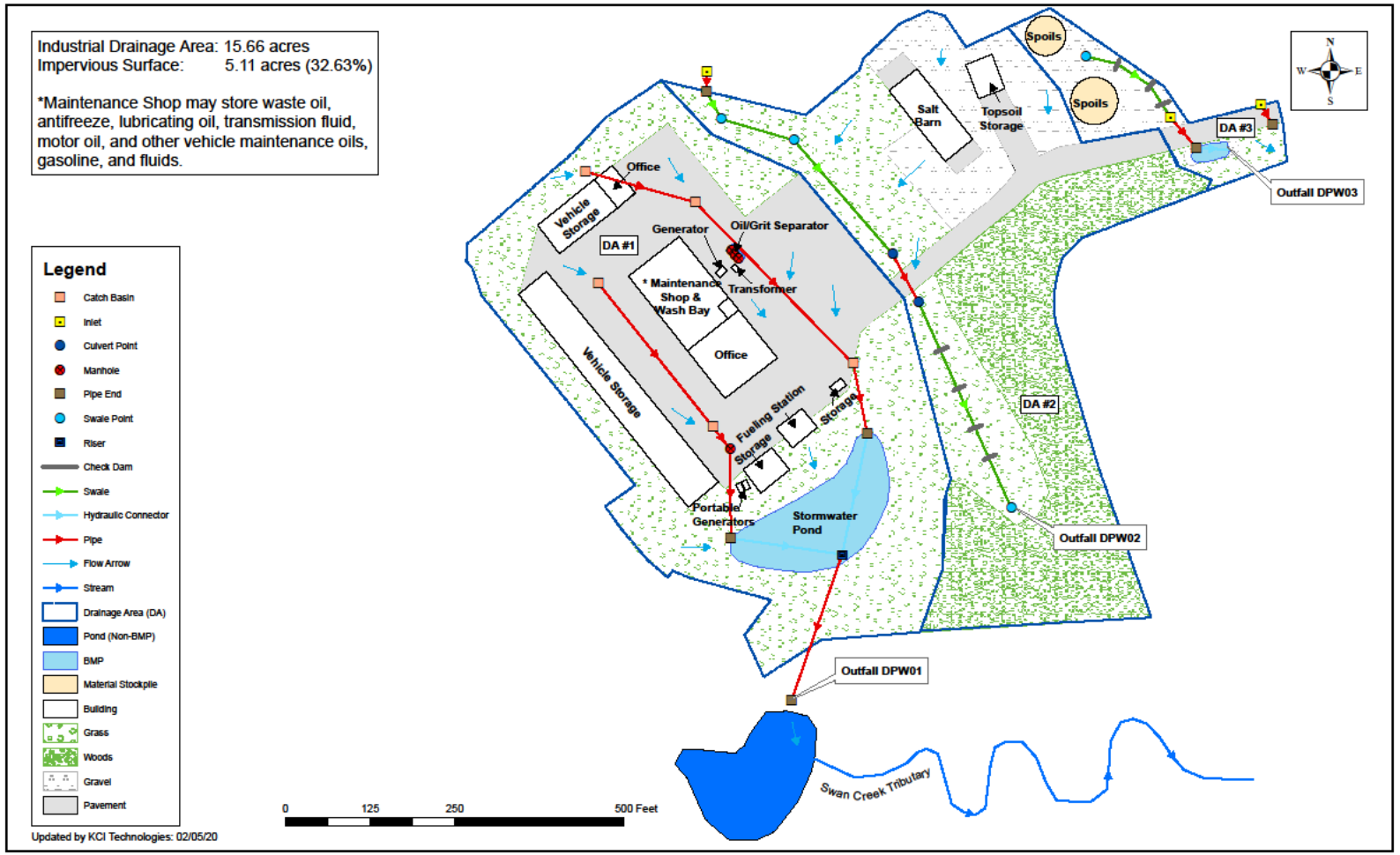
MAJOR ELEMENTS OF THE SWPPP

- Facility Description and Site Activities.
- Pollution Prevention Team.
- Potential Stormwater Pollutants.
- Stormwater Management BMPs.
- Inspection and Monitoring Program.
- Staff Training.



FACILITY DESCRIPTION

Aberdeen Public Works Maintenance Shop - SWPPP Map



SITE ACTIVITIES

- Vehicle and equipment maintenance.
- Fueling station.
- Vehicle washing.
- Vehicle and equipment storage.
- Stockpiling for road and utility maintenance activities.
- Salt storage.
- Waste oil disposal.



POLLUTION PREVENTION TEAM

- **Superintendent**
  - Review SWPPP annually.
  - Revise SWPPP as necessary.
- **Assistant Superintendent.**
  - Main SWPPP contact.
  - Review SWPPP annually.
  - Implement and maintain control measures and BMPs; take corrective action as required.
  - Conduct all required quarterly and annual inspections.
  - Oversight of all fleet vehicle maintenance.
- **Director of Public Works / City Engineer / Erosion Control Inspector**
  - Review SWPPP annually.

POLLUTION PREVENTION TEAM (CONTINUED)

- **Safety Manager**
  - Review SWPPP annually.
  - Conduct annual training.
  - Inspect spill responses equipment.
  - Clean equipment and restock spill supplies.
  - Implement spill response procedures and follow-up inspections.



- **Project Foreman**
  - Review SWPPP annually.
  - Implement and maintain control measures and BMPs; take corrective action as required.
  - Conduct all required quarterly and annual inspections.
  - Inspect spill response equipment.
  - Clean equipment and restock spill supplies.

POTENTIAL STORMWATER POLLUTANTS

- Significant materials located at facility that may potentially contaminate stormwater.
- Records of past spills and leaks.
- Potential areas for stormwater contamination.
  - Fueling station.
  - Maintenance parking lot.
  - Material stockpiles.
  - Maintenance shop.
  - Salt storage shed.

2.2. Spills and Leaks

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Outfalls
Fueling Station	Overland flow to stormwater pond that discharges through riser to outfall DPW01 into tributary of Swan Creek
Maintenance Parking Lot	Discharge to drainage inlet to stormwater pond that discharges through riser to outfall DPW01 into tributary of Swan Creek
Material Stockpile	Overland flow to outfall that discharges into vegetated grass swale
Maintenance Shop	Shop drain to oil separator
Salt Storage Shed	Overland flow to outfall that discharges into vegetated grass swale

STORMWATER MANAGEMENT BMPS

Good Housekeeping Practices

Maintain an orderly work environment in order to minimize material losses and prevent unnecessary waste generation through routine procedures.

- Facility grounds kept clean, neat, and orderly.
- Spill kits and absorbents stocked.
- Proper disposal of hazardous products.
- Vehicle washing conducted indoors or at carwash.
- Trash stored in covered receptacles.
- Batteries, paint cans, salt, and drums stored under cover.



STORMWATER MANAGEMENT BMPS (CONTINUED)

Preventative Maintenance

- Check vehicles and equipment for leaks.
- Ensure all vehicles have spill kits.
- Check chemical drum containment areas for leaks.
- Keep lids on trash containers at all times.
- Conduct employee training.



STORMWATER MANAGEMENT BMPS (CONTINUED)

Minimizing Exposure



- Dispose of waste materials at regular intervals.
- Use indoor wash bay.
- Use drip pans and absorbents under leaking vehicles.
- Store liquids on spill decks.
- Use absorbent pads on top of 55-gallon drums.
- Store hazardous materials (batteries, pesticides, motor vehicle fluids) under cover.

STORMWATER MANAGEMENT BMPS (CONTINUED)

Management of Runoff

- Use catch basin inserts.
- Contain material stockpile area.
- Keep salt under cover.







SPILL PREVENTION AND RESPONSE

For any minor spill or leak, basic spill prevention procedures followed at this facility include:

- If safe to do so, attempt to stop spill or leak.
- Contain spill or liquid until cleanup is complete.
- Protect MS4 with appropriate spill prevention equipment.
- Clean up spills immediately with spill kit material.
- Dispose of clean-up materials properly.
- Contact supervisor.
- Contact environmental consultant to assist (if necessary).
- Initiate follow-up inspection within 24 hours (as required).
- Contact MDE Emergency Response Division, as required: 866-633-4686.
- Contact 911 if spill is threat to personnel/community safety.
- Record spill event.



INSPECTION & MONITORING

Routine Inspections

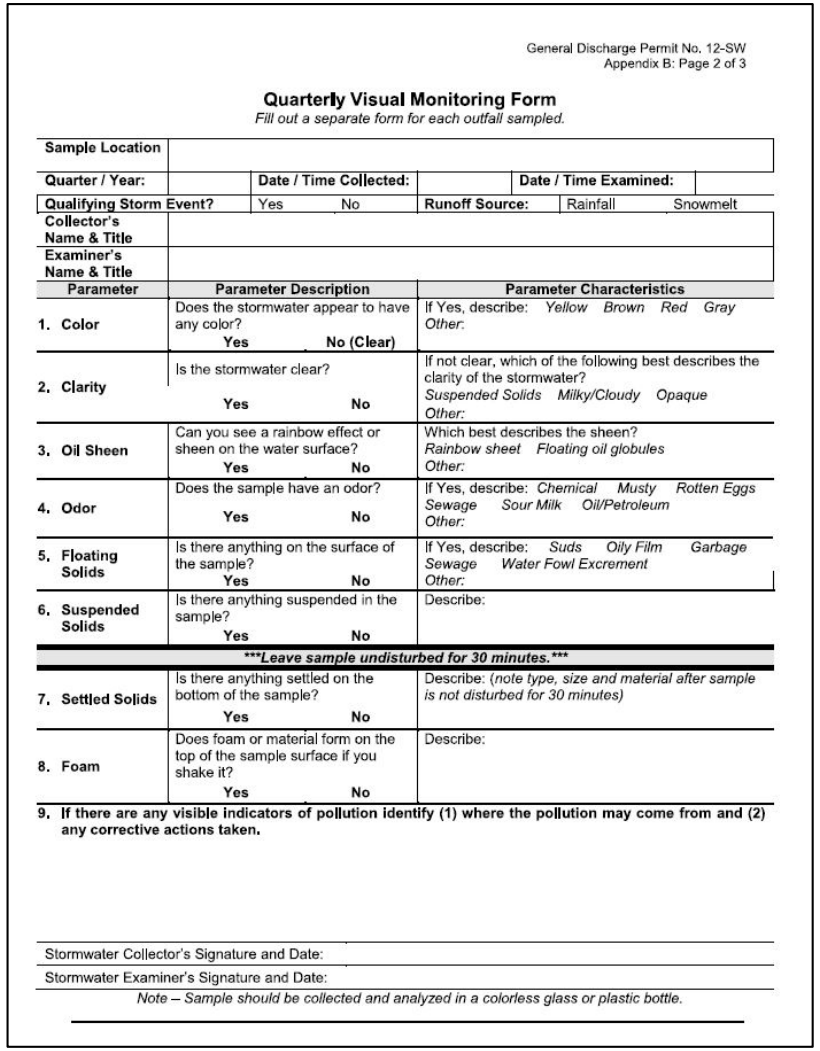
- Conduct quarterly.
- One inspection conducted during stormwater discharge.

Comprehensive Site Inspection

- Conduct annually.
- Assess all BMPs' effectiveness.
- May be used as one of four routine inspections.
- All areas exposed to stormwater are evaluated:
  - Maintenance shop, fueling station, vehicle/equipment storage, salt storage, material stockpile, parking lot.

Quarterly Visual Assessments

- Conduct quarterly at stormwater pond outfall and swale outfall.



General Discharge Permit No. 12-SW
Appendix B: Page 2 of 3

Quarterly Visual Monitoring Form

Fill out a separate form for each outfall sampled.

Sample Location					
Quarter / Year:		**Date / Time Collected:**		**Date / Time Examined:**	
Qualifying Storm Event?	Yes No	**Runoff Source:**	Rainfall Snowmelt		
Collector's Name & Title					
Examiner's Name & Title					

Parameter	Parameter Description	Parameter Characteristics
1. **Color**	Does the stormwater appear to have any color? **Yes** **No (Clear)**	If Yes, describe: *Yellow Brown Red Gray Other:*
2. **Clarity**	Is the stormwater clear? **Yes** **No**	If not clear, which of the following best describes the clarity of the stormwater? *Suspended Solids Milky/Cloudy Opaque Other:*
3. **Oil Sheen**	Can you see a rainbow effect or sheen on the water surface? **Yes** **No**	Which best describes the sheen? *Rainbow sheet Floating oil globules Other:*
4. **Odor**	Does the sample have an odor? **Yes** **No**	If Yes, describe: *Chemical Musty Rotten Eggs Sewage Sour Milk Oil/Petroleum Other:*
5. **Floating Solids**	Is there anything on the surface of the sample? **Yes** **No**	If Yes, describe: *Suds Oily Film Garbage Sewage Water Fowl Excrement Other:*
6. **Suspended Solids**	Is there anything suspended in the sample? **Yes** **No**	Describe:
Leave sample undisturbed for 30 minutes.		
7. **Settled Solids**	Is there anything settled on the bottom of the sample? **Yes** **No**	Describe: (*note type, size and material after sample is not disturbed for 30 minutes*)
8. **Foam**	Does foam or material form on the top of the sample surface if you shake it? **Yes** **No**	Describe:

9. **If there are any visible indicators of pollution identify (1) where the pollution may come from and (2) any corrective actions taken.**

Stormwater Collector's Signature and Date:

Stormwater Examiner's Signature and Date:

Note – Sample should be collected and analyzed in a colorless glass or plastic bottle.

STAFF TRAINING

- Stormwater Pollution Prevention Team annually reviews SWPPP.
- All Team members receive annual training.
- New employees receive training upon hire and annually thereafter.
- Team members responsible for spill response undergo training conducted by Safety Manager.



QUESTIONS?



CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT II-MCM 3-1

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM STANDARD OPERATING PROCEDURES

CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION & ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES





Prepared By:

City of Aberdeen
Department of Public Works
60 North Parke Street
Aberdeen, MD 21001

OCTOBER 17, 2020

CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For
Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

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CITY OF ABERDEEN

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

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[Added 5-21-2018 by Ord. N. 18-O-12]

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CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

A. INTRODUCTION

Illicit Discharge Detection and Elimination (IDDE) Program activities are conducted in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (General Discharge Permit No. 13-IM-5500/General NPDES No. MDR055500), effective October 31, 2018 through October 30, 2023.

The City of Aberdeen (the City) NPDES Permit authorizes the discharge of stormwater from the City's portion of the MS4 in Harford County, within the area designated by the United States Census Bureau as the "City of Aberdeen MD Urbanized Area."

This document represents the City's IDDE Program Standard Operating Procedures (SOP). The intent of an IDDE Program is to control non-stormwater discharges to and from the MS4, and to conduct the following IDDE Program tasks:

- Field screen storm drain system outfalls.
- Inspect storm drain system for purpose of identifying the source of any illicit discharges.
- Eliminate any illegal connection or illicit discharge to storm drain system.

As stated in the Small MS4 General Discharge Permit, "*In order to comply with this Minimum Control Measure, all permittees must:*"

1. *Develop and maintain an updated map of the MS4 that identifies all stormwater conveyances, outfalls, stormwater management best management practices (BMPs), and waters of the U.S. receiving stormwater discharges;*
2. *Adopt an ordinance or other regulatory means that prohibits illicit discharges into the MS4;*
3. *Establish and document legal means for gaining access to private property to investigate and eliminate illicit discharges (e.g., ordinance, easements);*

4. *Develop and implement written standard operating procedures (SOPs) that specify the following:*
   a. *An inspection checklist describing how outfalls are screened for dry weather flows (see Figure B.2 of Appendix B for an example of an outfall screening checklist);*
   b. *Screening of 20% of total outfalls per year, up to 100 outfalls;*
   c. *Procedures for identifying the source, and eliminating spills, illegal dumping, and other suspected illicit discharges;*
   d. *Identification of priority areas for illicit discharge screening based on pollution potential;*
   e. *Enforcement and penalty procedures;*
   f. *Procedures to inform employees, businesses, and the general public of the issues relating to illegal discharges and improper waste disposal; and*
   g. *Coordination with adjacent/interconnected MS4 operator(s).*

5. *Submit SOPs to MDE for review and approval within two years of permit issuance. MDE will review for consistency with guidance in Appendix B, Section II;*

6. *Document results of illicit discharge screening efforts, including a description of how screening locations were prioritized, and any necessary follow-up investigations, enforcement, and remediation measures implemented to address any suspected discharge. Submit to MDE in accordance with reporting requirements; and*

7. *Maintain complete records of IDDE program investigations and make available to MDE during field reviews of the jurisdiction's MS4 program.*

As recommended in the Small MS4 General Discharge Permit, Appendix B - Section II, this IDDE Program SOP was developed in accordance with *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (Center for Watershed Protection, Robert Pitt, 2004).

Terms used in this SOP are defined in relevant chapters of 40 Code of Federal Regulations (CFR) § 122 or the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use. Specific definitions as applicable to the City are used pursuant *to Chapter 250 Environmental Control - Article XII Illicit Discharge [Added 5-21-2018 by Ord. No. 18-O-12],* which has been included as **Appendix A**. The website link to the City's Illicit Discharge Ordinance is https://ecode360.com/33452036.

1. Basic Terminology

Dry Weather Period:
48 hours without measurable storm event or snow melt.

Outfall:
As defined in 40 CFR § 122.26(b)(9), an outfall is a point source "*at the point where a municipal separate storm sewer discharges to waters of the United States.*" Examples of outfalls:

- Pipe from storm system into natural area.
- Swale (concrete, grass, rock) from storm system into natural area.
- Outlet from detention basin into natural area.
- Pipes discharging highway drainage into natural area.
- Catch basin discharging drainage directly into stream/creek.
- Inlet into detention basin.

Examples of structures that are **not outfalls**:

- Culverts carrying stream under road or structure (Note that there may be outfalls or outlets located within culverts).
- Pipe end discharging drainage that re-enters MS4.

Potential Illicit Discharge (PID):
All potential non-stormwater discharges that are investigated through the IDDE Program are considered PIDs, regardless of whether they are verified to be illicit.

2. Definitions Per Aberdeen Code – *Chapter 250, Article XII – Illicit Discharge Ordinance*

Please refer to **Appendix A** for the definitions specific to *Article XII – Illicit Discharge Ordinance*.

B. DRY WEATHER OUTFALL FIELD SCREENING

As stated in the Small MS4 General Discharge Permit Appendix B - Section II:

"*A dry weather screening is an outfall inspection conducted at a time when rain has not occurred recently, e.g., within the past 48 hours. During a period of dry weather, it is expected that any observed flow would be the result of some type of discharge other than precipitation. In some cases, the permittee may find that an outfall is not a useful inspection point to detect an illicit discharge (e.g., outfall is submerged, significant groundwater flow is present, the outfall serves a large drainage area). In these cases, the permittee has the discretion to pick an inspection point further up the system (e.g., a manhole or inlet, inflow to a stormwater BMP, or point source discharge in a commercial or industrial area) and document the adjustment in the inspection report. MDE encourages approaches where the permittee conducts screenings closer to the source of potential illicit discharges. When a dry weather*

flow is observed, a permittee must initiate an investigation to discover the source. If the source is determined to be illicit, the permittee is required to take corrective measures to eliminate the discharge and initiate enforcement actions when necessary."

1. Outfall Selection Process

A Phase II MS4 municipality must conduct dry weather screening at 20 percent (%) of their total outfalls per year, up to 100 outfalls. The City was divided into five areas, each containing 20% of the City's total outfalls **(Figure 1).** There are 302 outfalls located within City jurisdiction. Outfalls within one of the five areas will be screened every year, such that over a five-year permit term, all outfalls (or up to 500) will be screened.

Outfalls within commercial and industrial areas will have additional screening protocols, in that connecting structures upstream of these outfalls will also be screened for illicit discharges. In addition to this outfall screening, all Miscellaneous Reports of Potential Illicit Discharges (PIDs) received from City staff or from the public will be investigated, regardless of the geographic location within the City.

2. Pre-Field Work Procedures

All staff must complete the following tasks prior to conducting any field work.

a. Agency Guidance

Dry weather outfall screening is conducted in accordance with the recommendations provided in the documents listed below. All staff must become familiar with these documents:

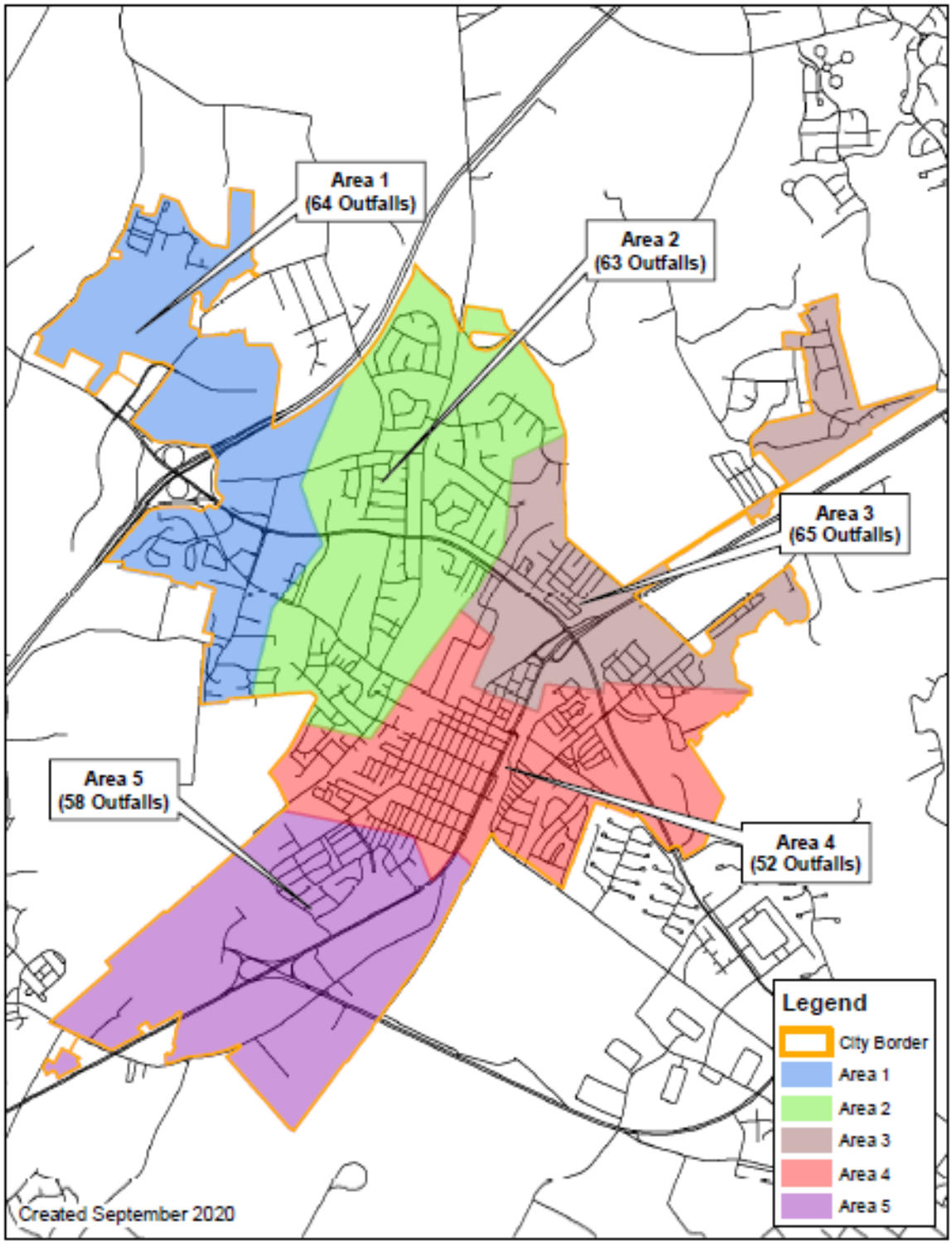
- National Pollutant Discharge Elimination System General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (General Discharge Permit No. 13-IM-5500/General NPDES No. MDR055500).

- Title 40 of CFR: Protection of Environment, Part 122 EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, Section 122.26: Storm Water Discharges.

- *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance* (Center for Watershed Protection, Robert Pitt, 2004).

- *Dry Weather Flow and Illicit Discharges in Maryland Storm Drain Systems* (MDE, 1997).

FIGURE 1
CITY OF ABERDEEN
FIVE-YEAR OUTFALL SCREENING AREAS



b. Field Equipment List

The necessary equipment to conduct dry weather outfall screening and IDDE investigations is located in **Appendix B - SOP Form 1.**

Panasonic Toughbook



Trimble GPS Unit



Envirosight Camera-on-a-Stick



c. Field Work Authorization Letter

The Field Work Authorization Letter is located in **Appendix B - SOP Form 2**. It is important to possess sufficient copies for public distribution, as applicable. Refer to **Appendix B – Public Interaction Guidelines**, for a discussion regarding communication with the public while conducting field work.

d. Weather Tracking

Staff must monitor climatologic conditions to confirm dry weather conditions. *"A dry weather screening is an outfall inspection conducted at a time when rain has not occurred recently, e.g., within the past 48 hours."* (Small MS4 General Discharge Permit, Appendix B, Section II-C, Page B-5).

3. Field Work Procedures

For reasons of safety, only appropriately trained and certified field personnel may enter outfalls or the storm water distribution system. Additionally, staff are not authorized to access areas where "No Trespassing" signs are posted or where impassible barriers exist, without contacting the owner or property manager to obtain permission.

Field staff may access publicly-accessible private property (such as shopping centers) to locate and document sources of illicit discharge. Staff should not access property when permission is not granted or if a hostile or threatening situation exists. Refer to **Appendix D – Public Interaction Guidelines**, for a discussion regarding communication with the public while conducting field work.

All field staff must complete the dry weather screening procedures identified below for No Flow **(Section B-3.a**) and Flow (**Section B-3.b**). An overview of the City's dry weather outfall screening process is depicted in the flowchart located in **Appendix B – SOP Form 3**.

The Field Sheet documents the presence or absence of dry weather flow and is filled out for each outfall visited in the field. The Field Sheet is located in **Appendix B - SOP Form 4**. An explanation of each line item in the Field Sheet is located in **Appendix B - SOP Form 5.**

a. No Flow

If there is **No Flow** at the time of dry weather field screening, staff must complete the following Field Sheet categories.

❖ **Field Sheet:**

- Structure Number.
- Incident ID Number (as applicable).
- Subdivision.
- Address / Location.
- Personnel.
- Date / Time.
- Air Temperature.
- Digital Photos: Landscape and Structure.
- Date of Last Rain. Monitor climatologic conditions to confirm dry weather conditions and conduct screening only after a period of 48 hours without rain.
- Outfall Dimension.
- Outfall Shape.
- Outfall Type.
- Flow Observed (Y or N).

If no dry weather flow exists at an outfall, it is recommended to look for any indications of intermittent discharge or flows (*EPA Storm Water Management Fact Sheet*), as described below.

❖ **Stains/Deposits**



Deposits and stains (residues) are any type of coating that remains after a non-stormwater discharge has ceased. Deposits or stains usually are of dark color and typically cover the area surrounding the stormwater discharge. They often contain fragments of floatable substances, and sometimes take the form of a crystalline or amorphous powder.

❖ **Odors**

Discharge odors can vary widely. Some odors may indicate the source of contamination. Industrial discharges may smell like a particular spoiled product, oil, gasoline, a specific chemical, or a solvent. For example, the decomposition of organic wastes in a discharge will release sulfide compounds, creating an intense smell of rotten eggs. Significant sanitary wastewater contributions also cause pronounced and distinctive odors.

❖ **Unusual Stream-Side Vegetation Conditions**



In order to accurately judge if the vegetation surrounding a discharge is normal, the observer must consider recent weather conditions, as well as the time of year. Increased or inhibited plant growth near stormwater discharges, as well as dead and decaying plants, is often a sign of pollution. However, it is important to distinguish whether plant damage is caused by contamination or by the physical effects of increased flows (scour).

❖ **Outfall Structural Damage**



Structural damage can be a sign of industrial discharge contamination. Cracked or deteriorated concrete or peeling surface paint at an outfall usually indicates the presence of severely contaminated discharges. Contaminants causing this type of damage are usually very acidic or basic and are usually of industrial origin. For instance, discharges from primary metal industries may cause structural damage because their batch dumps are highly acidic.

b. Flow

If an outfall has **Flow** during dry weather field screening, complete all the procedures as listed above in **Section B-3.a** for an outflow with No Flow. In addition, collect a sample of the flow as described below and conduct the following procedures.

❖ **Photo**

- Take a structure photo of the outfall and a landscape photo of the general area.
- Ensure a landmark is in landscape photo to facilitate outfall location identification.

❖ **Sample Collection** (**USE NITRILE GLOVES**)

- Collect a sample of flow exiting the outfall in accordance with **Section B-2.a**.
- Use a Nasco Swing Sampler to collect sample from outfalls beyond reach.
- Refer to instruction manuals in each test kit for proper sample analysis.
- Refer to **Appendix C - Health & Safety Guidelines** for a discussion of personal protective equipment (PPE) and environmental and chemical hazards associated with discharge screening.

❖ **Record Observations** (see **Appendix B - SOP Form 5** for an explanation of each)

- Odor.
- Color.
- Floatables.
- Deposits.
- Stains.
- Vegetative Condition.
- Structural Condition.
- Erosion.
- Land Use.

❖ **Perform Field Tests *** (**USE NITRILE GLOVES**)

- Flow Rate.
  See **Appendix B - SOP Form 5** for flow rate instructions / calculations.
- Water Temperature - via pH Meter.
- pH - via pH Meter.
- Turbidity – via Turbidity Meter.
- Ammonia***** - via Hach Kit.
  See **Appendix B - SOP Form 6** for test procedures.
- Detergents (Surfactants)***** - via Hach Kit.
  See **Appendix B - SOP Form 7** for test procedures.
- Waste Water.
  - Pour all water used for testing into liquid/chemical waste field bottle.
  - Record all chemicals used on chemical composition list.
  - Pour contents of field liquid/chemical waste bottle into receptacle provided by vendor.
  - Contact vendor when receptacle is full and needs to be emptied.

- Refer to **Appendix C - Health & Safety Guidelines** for a discussion of personal protective equipment (PPE) and environmental and chemical hazards associated with screening.

*** Field Test Notes:**

- If field testing results indicate an elevated level of ammonia or detergents (surfactants), or visual reconnaissance suggests an illicit discharge, a second sample is immediately collected and analyzed by a certified laboratory. The laboratory analyses include potassium, surfactants and ammonia, the latter two of which are used to confirm the surfactants and ammonia field test results.

- Laboratory tests for oil and grease, total petroleum hydrocarbons, fecal bacteria, and/or potassium are added if there is evidence of contamination from oils, sewage, or industrial discharges.

- If an illicit discharge is suspected trace the source of flow. See **Section B-3.f**.

c. Structures Draining to Outfall

Often an outfall is located relatively far from the source of an illicit discharge or connection. For example, a pipe from a residential washing machine may be connected into a catch basin hundreds of feet from an outfall. When this occurs, dry weather flow may not be detected easily at the outfall.

Therefore, in addition to dry weather screening at the outfall itself, the field crew conducts a visual inspection of MS4 structures in an outfall's drainage area to look for evidence of illicit discharges, connections or dumping. If the outfall of a system is field-screened and does not have dry weather flow, but the catch basins upstream are flowing, field crews look for additional signs of illicit discharge (e.g. floatables, odor). If there are no other signs of illicit discharge, the contributing structures are recorded as having dry weather flow, but are not field- or laboratory-tested. If contributing structures have evidence of illicit discharge, field screening and testing is performed the same as for an outfall.

d. Cannot Access/Cannot Locate (CA/CL)

If an outfall cannot be located or accessed, mark CA/CL on the Field Sheet. Note information about the area investigated, and any details that would help find the outfall in the future. If possible, investigate the next upstream storm drain manhole/catch basin/inlet for pipe size and dry weather flow.

e. Private Ownership

If an outfall is determined to be privately-owned, and not the City's responsibility, mark "Private" on the Field Sheet and proceed to the next outfall screening location. No further information is required on the Field Sheet.

f. Illicit Discharge Discovery / Follow-up

When an illicit dry-weather discharge is discovered, staff will follow the storm drain system upstream to attempt to identify the source of the pollutant. In order to track illicit discharges in the storm sewer system, staff will follow the flowing water path through the network using maps of the storm sewer infrastructure. At junctions where flow splits, each flow path will be tested to identify the flow path containing the illicit discharge.

In the event that sampling below grade is necessary, a swing sampler on an extension pole will be used to collect the sample discharge. If a source is identified, then the name and/or address of the responsible business or residence will be recorded. Staff will photo-document any obvious activity, processes, or conditions that are suspected of contributing to the illicit discharge.

4. Flow / Discharge Characterization

The Residential or Light Commercial Flow Chart Method is recommended for most Phase II communities to characterize flow/discharge. This Method was updated based on new research during development of the EPA-recommended document, *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance* (CWP, E. Brown et al., 2004).

The Residential or Light Commercial Flow Chart Method **(Appendix B - SOP Form 8)** is a relatively simple technique analyzing four or five indicator parameters, which are safe, reliable, and inexpensive to measure. This Method is used to distinguish between the four major discharge types found in residential watersheds, including sewage and wash water flows, which are normally the most common illicit discharges.

- No evidence of illicit discharge.
- Likely sanitary wastewater.
- Likely graywater/washwater.
- Confirmed sewage.

If there was Flow, and field testing was performed, and there were no signs of ammonia or detergents (ammonia < 1.0 mg/L; detergents < 0.25 mg/L), then the outfall investigation is characterized as “No Evidence of Illicit Discharge” as per the Residential or Light Commercial Flow Chart **(Appendix B - SOP Form 8**).

If there was Flow, and the field testing results indicated the presence of ammonia or detergents, then a sample is collected for certified laboratory testing. The laboratory results are compared to **Appendix B - SOP Form 8** to identify contaminating sources based on parameter levels and land use.

If there was No Flow at the time of investigation, and no other signs of illicit discharge, then the outfall investigation is categorized as “No Evidence of Illicit Discharge.”

C. ELIMINATION AND ENFORCEMENT OF ILLICIT DISCHARGES

As stated in the Small MS4 General Discharge Permit (No. 13-IM-5500) Appendix B, Section II,

"After identifying the source of an illicit discharge, a municipal permittee is required to provide notice to the property owner and require that the responsible party takes appropriate action to eliminate the source of the illicit discharge. The permittee may exercise its legal authority to access the property and utilize enforcement. State and federal permittees are required to take appropriate action to eliminate the source of the illicit discharge. These IDDE investigation procedures and enforcement actions must be specified in the permittee's SOP."

Based on the results of dry weather field screening and inspections, it can be determined if steps for illicit discharge elimination are necessary. The category of illicit discharge (e.g. wastewater, dumping) determines the additional steps taken to locate and identify the responsible party, and to eliminate the illicit discharge.

1. Administrative Action

Administrative action is the first step used to eliminate an illicit discharge. The party or parties responsible for an illicit discharge are notified in person, if possible, and in writing (certified mail) of the suspected or identified illicit discharge by way of a Notice of Violation (see **Appendix B - SOP Form 9**). The Notice of Violation is issued pursuant to City of Aberdeen Code, *Chapter 250 Environmental Control - Article XII Illicit Discharge [Added 5-21-2018 by Ord. No. 18-O-14]*, the latter of which has been included as **Appendix A**. The website link to the City's Illicit Discharge Ordinance is https://ecode360.com/33452036.

Once a discharge and its source are confirmed, the responsible party is requested to voluntarily eliminate the illicit discharge, or to develop and submit to the City a written time-appropriate plan to do so. If the voluntary compliance is insufficient or the approved plan is not executed as agreed upon, or if there is no response or appropriate action taken by the responsible party(s), after notice and within a specified period, the case will be referred to the City's Code Enforcement Staff to take actions to eliminate the illicit connection and subsequently recover costs from the owner.

After illicit discharge elimination, a field crew will conduct a follow-up dry weather field screening to confirm the discharge was eliminated at the structure/outfall. For additional steps and actions regarding contacting property owners and enforcement actions, please refer to Chapter 250 as indicated below

- Section 250-37 Right of Entry.
- Section 250-38 Notice of Violation.
- Section 250-39 Civil Penalty.
- Section 250-40 Injunctive Relief.
- Section 250-41 Criminal Penalties.
- Section 250-41 Abatement.

The following types of reports/discharges are immediately referred to MDE for follow-up.

- Onsite Wastewater Treatment Systems (OWTS).
- Major Spills.
- Fish Kills.
- Immediate Environmental Hazards.

2. <u>Door Hangers and Distribution</u>

In those residential neighborhoods where illicit discharge or dumping of materials into the MS4 is suspected or reported, Door Hangers are an important public education tool to raise awareness that materials such as grass clippings, leaves, motor oil, pet waste, etc., need to be kept out of storm drains. Door Hangers are distributed to a selected number of houses surrounding the affected outfall. The following information is presented on the Door Hangers:

- Type of illicit discharge found in storm sewer system.
- Location of affected structure.
- Potentially affected water body.
- Importance of stormwater management.
- Guidelines for reducing stormwater runoff pollution.
- City contact information for illegal discharge information.

The City's Door Hanger is located in **Appendix B - SOP Form 10**. Information applicable to the specific issue is filled in on each Door Hanger.

In addition, a Door Hanger Distribution Map is created identifying the location of the affected structure and the exact properties that received a Door Hanger. An example of a Door Hanger Distribution Map is located in **Appendix B - SOP Form 11**.

D. OUTFALL MAPPING

As stated in the Small MS4 General Discharge Permit (No. 13-IM-5500) Appendix B, Section II-A Mapping:

"As part of their IDDE programs, permittees must develop a map of the MS4 that they own or operate. Map features must include stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges. As defined in 40 CFR § 122.26(b)(9), an outfall is a point source "at the point where a municipal separate storm sewer discharges to waters of the United States" (see Figure B.1). Mapping outfalls, stormwater conveyances, and stormwater BMPs will assist the permittee with tracking the source of a suspected illicit discharge.

In addition, permittees must add the locations of private outfalls as they are discovered in the field to allow more effective coordination with private property owners, document hotspots, and identify and require the elimination of third party discharges. In this permit term, permittees may prioritize their initial mapping efforts to areas with a higher potential to pollute, such as areas that are urbanized, commercial, or rapidly developing."

All dry weather outfall screening field investigation information will be used to update the City's storm drain system map, which depicts the location of all outfalls and drainage outlets and the names and location of all waters that receive discharges from those outfalls.

E. MS4 PROGRESS REPORT – MCM #3: IDDE

Section C of the Small MS4 General Discharge Permit specifies that:

> *"All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the need of the five-year permit term."*

The MS4 Progress Report Form Template for IDDE (MCM #3), as specified above and in Appendix D, Section II (Pages D-16-18) of the Small MS4 General Discharge Permit, is located in **Appendix B - SOP Form 12**. MS4 Progress Reports are due no later than October 31 of each year.

F. DOCUMENTATION AND QUALITY ASSURANCE/QUALITY CONTROL

Section C-6 of the Small MS4 General Discharge Permit, Page 6 specifies that:

"(6.) Document results of illicit discharge screening efforts, including a description of how screening locations were prioritized, and any necessary follow-up investigations, enforcement, and remediation measures implemented to address any suspected discharge. Submit to MDE in accordance with reporting requirements; and (7.) Maintain complete records of IDDE program investigations and make available to MDE during field review or the permittee's MS4 program."

The following procedures are followed to document outfall screening investigations. SOP Forms are located in **Appendix B**.

- **Field Sheet**

The Field Sheet and an explanation for each line item on the Field Sheet are located in **Appendix B-SOP Forms 4-5**, respectively. QA/QC and scan original field data sheet. File the scan in an appropriate electronic folder. File original hard copy in a hard copy folder.

- **Photos**

Upload digital photos to the appropriate electronic folder.

- **Tracking Form**

Fill out electronic Tracking Form **(Appendix B - SOP Form 13).** Update with most recent coordination, information, laboratory data (as applicable) and Flow Chart Method determination. Save in applicable electronic folder. **Appendix B - SOP Form 14** provides instructions for filling out the Tracking Form.

- **Location Map**

Create a Location Map for a specific outfall, as applicable. Save Location Map in applicable electronic folder. A sample Location Map is located in **Appendix B - SOP Form 15**.

- **Laboratory Data**

Scan Laboratory Data and file in an appropriate electronic folder.

- **Memorandum**

Compile Memorandum **(Appendix B - SOP Form 16**), as applicable. Update with most recent coordination, information, laboratory data (as applicable) and Flow Chart Method determination. Save in applicable electronic folder.

- **Door Hanger and Distribution Map**

Fill out Door Hanger, located in **Appendix B - SOP Form 10**. Create Door Hanger Distribution Map **(Appendix B - SOP Form 11**). Scan Door Hanger and Door Hanger Distribution Map. Save in applicable electronic folder.

- **Notice of Violation**

File electronic Notice of Violation in applicable electronic folder. Notice of Violation Template is located in **Appendix B - SOP Form 9**.

- **QA/QC Form**

After all documentation has been completed and organized, check it versus QA/QC Form, located in **Appendix B - SOP Form 17**.

G. ADJACENT MS4 JURISDICTIONS - IDDE AND MS4 CONTACT INFORMATION

Certain situations may require coordination with staff from neighboring MS4 jurisdictions. Contact information should be maintained if the need arises for coordination with adjacent MS4 staff.

❖ **Harford County, Department of Public Works**

- **Contact:** Michael Rist, Civil Engineer
- **Email:** mlrist@harfordcountymd.gov
- **Phone:** 410-638-3545, Ext. 1363
- **Website Address:** https://www.harfordcountymd.gov/555/Public-Works
- **Physical Address:** 212 South Bond Street, 3rd Floor, Bel Air, MD 21014

❖ **Town of Bel Air, Department of Public Works**

- **Contact:** Stephen Kline, Director of Public Works
- **Email:** skline@belairmd.org
- **Phone:** 410-638-4536
- **Website Address:** https://www.belairmd.org/171/Public-Works
- **Physical Address:** 705 East Churchville Road, Bel Air, MD 21014

❖ **City of Havre De Grace, Department of Public Works**

- **Contact:** Tim Whittie, Director of Public Works
- **Email:** timw@havredegracemd.com
- **Phone:** 410-939-1800, Ext 1107
- **Website Address:** https://havredegracemd.gov/departments/department-public-works
- **Physical Address:** 711 Pennington Avenue, Bel Air, MD 21014

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

APPENDIX A

CHAPTER 250 ENVIRONMENTAL CONTROL

ARTICLE XII ILLICIT DISCHARGE ORDINANCE

[Added 5-21-2018 by Ord. No. 18-O-14

https://ecode360.com/33452036

ARTICLE XII
Illicit Discharge
[Added 5-21-2018 by Ord. No. 18-O-14]

§ 250-34. Prohibited discharges.

A. No person shall release or allow to be released any of the following substances into the MS4:

(1) Any new or used petroleum product.

(2) Any industrial waste.

(3) Any hazardous substance or hazardous waste, including household hazardous waste.

(4) Any domestic sewage or septic tank waste, grease trap or grease interceptor waste, holding tank waste, or grit trap waste.

(5) Any garbage, rubbish or other waste.

(6) Any new or used paints, including latex-based paints, oil-based paints, stains, varnish, and primers, as well as cleaning solvents and other associated products.

(7) Any yard waste that has been moved or gathered by a person.

(8) Any wastewater that contains soap, detergent, degreaser, solvent, or surfactant-based cleaner from a commercial motor vehicle wash facility; from any vehicle washing, cleaning, or maintenance at any new or used motor vehicle dealership, rental agency, body shop, repair shop, or maintenance facility; or from any washing, cleaning or maintenance of any business or commercial or public service vehicle, including a truck, bus or heavy equipment.

(9) Any wastewater from a commercial mobile power washer or from the washing or other cleaning of a building exterior that contains soap, detergent, degreaser, solvent, or any surfactant-based cleaner.

(10) Any wastewater from commercial floor, rug, or carpet cleaning.

(11) Any wastewater from the wash down or other cleaning of pavement that contains any soap, detergent, solvent, degreaser, emulsifier, dispersant, or other cleaning substance; or any wastewater from the wash down or other

cleaning of any pavement where any spill, leak, or other release of oil, motor fuel, or other petroleum hazardous substance has occurred, unless all such materials have been previously removed.

(12) Any effluent from a cooling tower, condenser, compressor, emissions scrubber, emission filter, or the blowdown from a boiler.

(13) Any ready-mixed concrete, mortar, ceramic, or asphalt base material or discharge resulting from the cleaning of vehicles or equipment containing or used in transporting or applying such material.

(14) Any runoff, wash down water or waste from any animal pen, kennel, fowl or livestock containment area or any pet wastes generally.

(15) Any filter backwash from a swimming pool or fountain, except that nothing in the article shall be construed as to require the alteration of the filter discharge plumbing of an existing swimming pool, fountain or spa if such plumbing was compliant with applicable state, federal, and local regulations at the time of construction.

(16) Any swimming pool, fountain or spa water or other water containing a harmful level of chlorine (>0.1 parts per million).

(17) Any discharge from waterline disinfection by super chlorination if it contains a harmful level of chlorine (>0.1 parts per million) at the point of entry into the MS4 or surface waters.

(18) Any contaminated runoff from a vehicle wrecking or storage yard.

(19) Any substance or material that will damage, block, or clog the MS4.

(20) Any release from a petroleum storage tank (PST), or any leachate or runoff from soil contaminated by a leaking PST; or any discharge of pumped, confined, or treated wastewater from the remediation of any such PST release, unless the discharge has received an NPDES permit from the state.

(21) Any other discharge that causes or contributes to causing the City to violate a state water quality standard, the City's

NPDES stormwater permit, or any state-issued discharge permit for discharges from its MS4.

B. No person shall release or cause to be released into the MS4 any harmful quantity of sediment, silt, earth, soil, or other material associated with clearing, grading, excavation or other construction activities in excess of what could be retained on site or captured by employing sediment and erosion control measures, except as allowed for in conformance with § 250-35.

C. No person shall use pesticides, herbicides and fertilizers except in accordance with manufacturer recommendations. Pesticides, herbicides and fertilizers shall be stored, transported and disposed of in a manner to prevent release to the MS4.

D. No person shall tamper with, destroy, vandalize, or render inoperable any BMPS that have been installed for the purpose of eliminating or minimizing pollutant discharges, nor shall any person fail to install or fail to properly maintain any BMPS that have been required by City or by other local, state, or federal jurisdictions.

§ 250-35. Exemptions.

A. Unless identified as a significant source of pollutants to waters of the state, the following non-stormwater discharges are examples of activities allowed to enter the MS4:

(1) Waterline flushing performed by a government agency.

(2) Diverted stream flows.

(3) Rising groundwater.

(4) Uncontaminated groundwater infiltration to separate storm sewer.

(5) Uncontaminated pumped groundwater.

(6) Discharges from potable water sources.

(7) Foundation drains.

(8) Air-conditioning condensate.

(9) Irrigation water.

(10) Springs.

(11) Water from crawl space pumps.

(12) Footing drains.

(13) Individual residential vehicle washing.

(14) Flows from riparian habitats and wetlands.

(15) Dechlorinated swimming pool discharges (<1 part per million).

(16) Discharges or flows from firefighting activities.

(17) Other allowable discharges to consider: street wash waters; and, dye testing for the purpose of investigating illicit connections or discharges.

B. Other activities may apply if substantiated by permittees within the best management practices menu.

§ 250-36. Prohibitions.

A. A person may not discharge or cause to be discharged through an illicit connection to the MS4 any domestic sewage, noncontact cooling water, process wastewater, or other industrial waste (other than stormwater).

B. A person may not construct, use, maintain or continue the existence of illicit connections to the MS4, including, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

C. A person may not connect a line conveying sewage to the MS4 or allow such a connection to continue.

D. An owner or person responsible for a property or premises, which is, or may be, the source of an illicit discharge, shall implement, at the owner's or person's expense, the BMPS necessary to prevent the further discharge of pollutants to the MS4. An owner or person responsible for a property or premises shall not be in violation of this section if the owner or person complies, to the extent practicable, with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity.

§ 250-37. Right of entry.

When the Code Official has reasonable cause to believe that a violation of this article exists or when entry is required for periodic inspections and monitoring to determine compliance with this article,

the Code Official may enter the structure or premises at reasonable times to inspect. Prior to inspection, the Code Official must make reasonable efforts to locate the owner or other person having charge or control of the structure or premises to request entry. If entry is refused or not obtained, the Code Official is authorized to pursue recourse as provided by law, including seeking an administrative search warrant from the Circuit or District Courts of Harford County. The Code Official may not enter a premises or structure under this section without permission or without a search warrant unless a condition at the premises or structure poses a reasonable threat of imminent harm to public health or safety before permission or a warrant could be obtained.

§ 250-38. Notice of violation.

A. Issuance. The Code Official may issue a notice of violation (NOV) if there are reasonable grounds to believe that the person to whom the NOV is directed has violated:

   (1) This article.

   (2) Any rule or regulation adopted pursuant to this article.

   (3) Any order or permit issued pursuant to this article.

B. Contents. An NOV issued under this section shall:

   (1) Specify the provision(s) that allegedly has been violated.

   (2) State the facts in support of the alleged violation.

C. Issuance of notice or order. After or concurrently with service of an NOV under this article, the Code Official may issue an order that requires the person to whom the order is directed to take corrective action within the time set forth in the order.

D. Effective date of order. Any order issued under this section is effective immediately according to its terms upon service. Any person who is issued an order shall be required to take any directed action within the time specified in the order regardless of any hearing rights provided by this section.

E. Manner of service. Any NOV or order of the Code Official pursuant to this section shall be served by one of the methods in Subsection E(1) or (2) and by the method in Subsection E(3):

   (1) Personally;

(2) By posting on or at the entranceway to the property at which the violation has occurred; or

(3) By certified mail, return receipt requested, bearing a postmark from the United States Postal Service, to the last known address of the person in whose name the property on which the violation occurred is assessed for taxation.

F. Certification of service. If service is made by certified mail, return receipt requested, bearing a postmark from the United States Postal Service, the person who mails the document shall retain verified proof of mailing. Where service has been made in another authorized manner, the person who made the service shall prepare and include in the Code Official's file an affidavit of service.

G. Hearings. Within 10 days after being served with an NOV or an order, the person served may request a hearing before the Code Official by serving a written request on the Code Official. Service shall be made personally or by certified mail, return receipt requested, bearing a postmark from the United States Postal Service.

H. Subpoenas; witnesses.

(1) In connection with any hearing under this section, the Code Official may:

(a) Subpoena any person or evidence.

(b) Order a witness to give evidence.

(2) A subpoenaed witness who is not an employee of the City of Aberdeen shall be paid the same fees and mileage reimbursement as if the hearing were part of a civil action in the Circuit Court of Maryland.

I. Final corrective order.

(1) Unless the person served with an order makes a timely request for a hearing pursuant to Subsection G of this section, the NOV or order becomes final on the 11th day after service.

(2) If a person who has been issued an NOV or an order under this section makes a timely request for a hearing, the NOV or order becomes a final corrective order if the Code Official affirms the order following the hearing.

J. Other actions dependent on issuance of an NOV or order. A person who violates this article is entitled to the issuance of an NOV or an order prior to the imposition of civil penalties under § 250-39 or criminal penalties under § 250-41. The City or the Code Official may take whatever action it deems appropriate and which is permitted by this article or the law to seek redress from any person who violates this article or to remedy a violation or threatened violation of this article.

§ 250-39. Civil penalty.

In addition to being subject to an injunctive action under § 250-40 of this article, any person who violates any NOV or order issued under this article is liable to pay a civil penalty not exceeding $1,000 per day per violation, to be collected in a civil action. Each day a violation occurs is a separate violation.

§ 250-40. Injunctive relief.

A. In general. The City may bring an action for an injunction against any person who violates any provision of this article, or any provision of any NOV or order issued under this article.

B. Findings. In any action for an injunction under this section, any finding of the Code Official after a hearing is prima facie evidence of each fact so determined.

C. Grounds. On a showing that any person is violating or is about to violate this article or any NOV or order issued by the Code Official, the court shall grant an injunction without requiring a showing of a lack of an adequate remedy at law.

D. Emergency. If an emergency arises due to actual or imminent danger to the public health, safety or welfare, or actual or imminent danger to the environment, the City may sue immediately for an injunction to stop any pollution or other activity that is causing the danger.

§ 250-41. Criminal penalties.

A. A person who violates any provision or fails to perform any duty imposed by any NOV or order issued under this article is guilty of a misdemeanor and, on conviction, is subject to a fine not to exceed $1,000 per day per violation or imprisonment not to exceed six months, or both. Each day a violation occurs is a separate violation.

B. In addition to any criminal penalties imposed on a person convicted under this article, the person may be enjoined from continuing the violation and subject to civil penalties.

§ 250-42. Abatement.

A. Generally. Subject to the remaining provisions of this section, if any person fails, within the time limit specified in an NOV or order, to abate any condition that is prohibited under this article or any NOV or order issued under this article, the City may take whatever abatement action may be necessary to abate the condition by use of City employees and equipment or by contract with private contractors. The cost and expense of abating the violation shall be certified by the Code Official to the City, together with the name of the owner of the property on which the violation occurred as determined from the property tax assessment records. These charges shall constitute a lien upon the real property and shall be collectible in the same manner as City real property taxes, with the same priority, interest and penalties. Initiation of abatement action shall not preclude the initiation of any other action or legal proceedings authorized or permitted under this article, the laws of the State of Maryland and the common law.

B. Notice of abatement action. At least 15 days before commencing to abate a violation, the Code Official shall issue a notice of abatement to the owner of the property on which the abatement will be undertaken. The notice shall describe the abatement to be undertaken, shall provide an estimate of the cost of abatement, and shall specify that the cost for the abatement shall constitute a lien on the real property of the owner.

C. Service. The notice of abatement issued by the Code Official shall be served by personal service or by certified mail, return receipt requested, bearing a postmark from the United States Postal Service to the last known address of the person in whose name the property is assessed for taxation. If the notice is not delivered by personal service or by the postal service, the notice shall be posted on the entranceway to the property at which the violation has occurred.

D. Right of property owner to hearing. Any property owner who is subject to having a condition on the owner's property abated by the City and a lien placed on the owner's property as a result of the abatement shall have a right to a hearing before the Code Official if the property owner serves a written request for a

hearing on the Code Official within 10 days after being served with the notice of abatement action or the posting of the notice of abatement action on the property.

E. Subpoenas; witnesses. The Director may subpoena or procure witnesses and evidence in accordance with § 250-38H of this article.

F. Finality of abatement action and lien.

(1) After service of the notice of abatement, unless the person served with a notice of abatement makes a timely request for a hearing pursuant to Subsection D of this section, the Code Official may implement the abatement specified in the notice and the lien for costs of abatement shall become final on the property upon completion of the work.

(2) If a person makes a timely request for a hearing, any abatement may proceed as authorized by the Code Official following the hearing and the lien for the cost of abatement shall become final after completion of all abatement work authorized by the Code Official.

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

APPENDIX B

SOP FORMS

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SOP FORM 1
EQUIPMENT LIST

GENERAL EQUIPMENT

- Field Work Authorization Letters (**Form 2**)
- Field Sheets (**SOP Form 4**)
- Field Data Sheet Explanation (**SOP Form 5**)
- Toughbook Computer
- GPS Unit
- Camera-on-Stick & Associated Equipment
- Digital Camera
  - Check batteries; take extra
- Aerial Maps
- Clipboard & Mechanical Pencils
- IDDE Program SOP

SAFETY EQUIPMENT

- First Aid Kit
- Sunscreen
- Bug Spray
- Nitrile Gloves
- Safety Goggles
- Leather / Work Gloves
- Traffic Safety Vests
- Traffic Cones
- Emergency Telephone Numbers
- Cell Phone

SAMPLE COLLECTION EQUIPMENT

- Sample Pole and Accessories
- Shallow Sample Collection Scoop
- Manhole Cover Remover
- Sample Bottles
- Sharpie Markers for Sample Labeling
- 6’ Measuring Tape
- Cooler and Ice (for Laboratory Transport)
- Machete
- Waders / Hip Boots

ANALYTICAL EQUIPMENT

- Ammonia Test Kit and Manual
- Distilled Water (rinse analytical equipment)
- Wash Bottle
- Outdoor Temperature Gage
- Sample Temperature Gage
- Paper Towels

FLOW ESTIMATION EQUIPMENT

- Tape Measure
- Stop Watch
- Calculator
- Floating Object to Measure Velocity
  - Ping Pong Ball or Cork

Dear Resident and/or Landowner –

The City of Aberdeen is evaluating the stormwater infrastructure located within the City's jurisdiction. As part of this effort, KCI Technologies, Inc. (KCI) was hired by the City to conduct engineering surveys and storm drain inventory/inspection of the City-owned municipal separate storm sewer system (MS4). This work is required by the U.S. Environmental Protection Agency-mandated National Pollutant Discharge Elimination System Program, as administered by the Maryland Department of the Environment.

During the course of KCI's work to locate and evaluate the stormwater infrastructure, field staff typically use recorded easements. Access may also require field staff to cross private property. The City respectfully requests your consent and cooperation to allow field staff to enter onto your property as needed to conduct assessments. Field staff carry proper identification, the assessments do not require any landscape disturbance, and staff will only record information concerning stormwater infrastructure conditions and water quality. They will not be in a position to remedy or address any potential problems identified, but will report these issues to the City as part of their work effort.

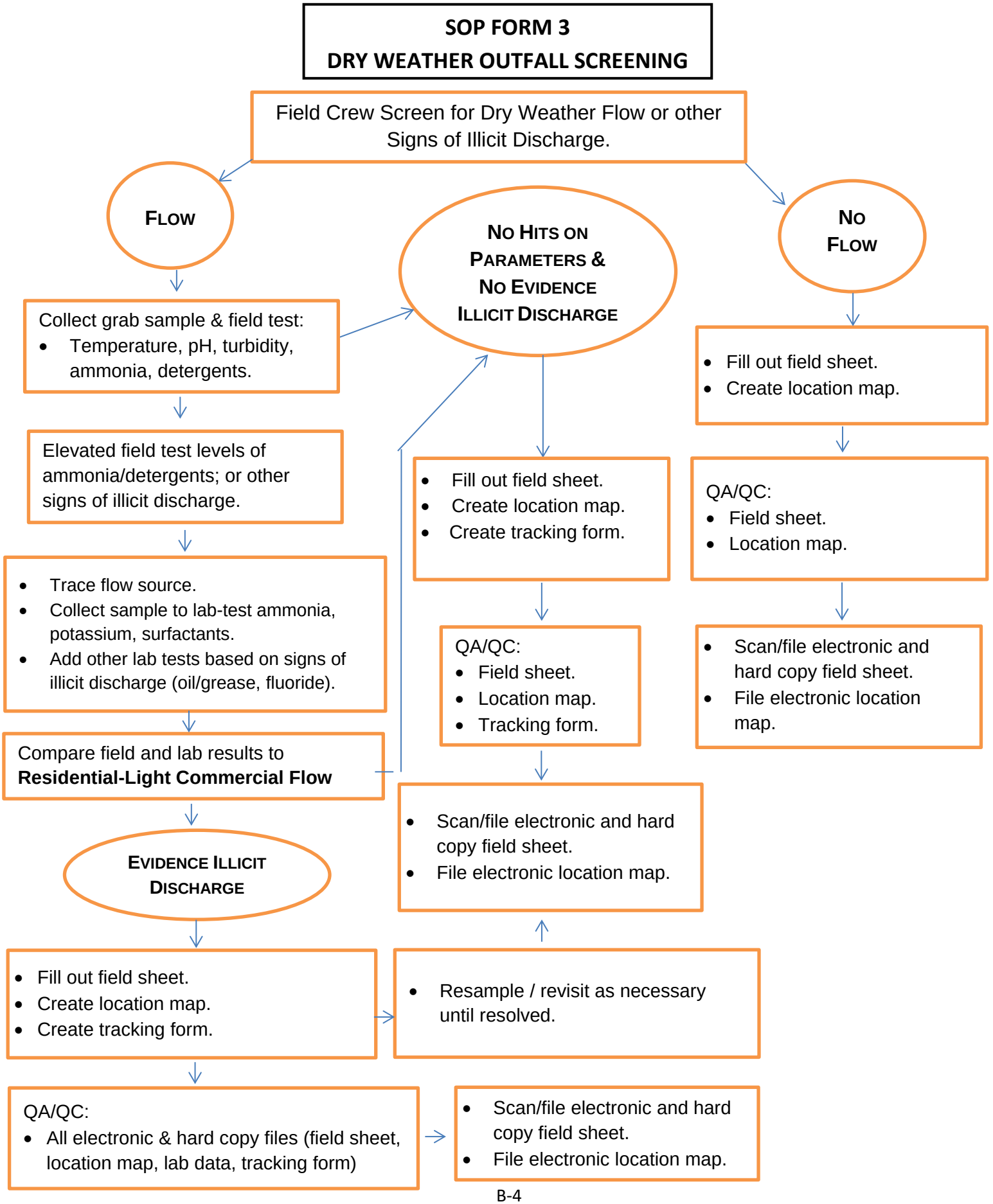
Field staff use specialized equipment, including a global positioning system unit and laptop computer linked to a pole-mounted camera. Sample bottles and water quality tests may be used, as applicable, to aid in the detection of illicit discharges or improper disposal to the City's stormwater infrastructure.

For further information, please contact Mr. Parley Hess, P.E. via the contact information provided below.

Sincerely,

Parley Hess, P.E.
Assistant City Engineer
City of Aberdeen
Department of Public Works
60 N. Parke Street
Aberdeen, MD 21001
(410) 272-1600
phess@aberdeenmd.gov

SOP FORM 3
DRY WEATHER OUTFALL SCREENING



SOP FORM 4 – FIELD SHEET

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Structure ID Number: _____

Incident ID Number _____

Subdivision: _____

Address/Location _____

Personnel		
Date		
Time		
Air Temperature (F)		
Photograph	Yes(Y), No(N)	
Date Last Rain (must be >48 hrs)		
Outfall Dimensions	(inches)	
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	
Flow Observed	Yes(Y), No(N)	
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	
Algae Growth	Yes(Y), No(N)	
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (su)		
Turbidity (NTU)		
Ammonia (mg/L) Illicit Discharge = >1.0	**Field Test #1:**	
	Lab Test #1:	
	Field Test #2:	
	Lab Test #1:	
Surfactants (mg/L) (as applicable) Illicit Discharge = >0.25	**Lab Test:**	
	Follow Up Lab Test:	
Potassium (mg/L) (as applicable)	**Lab Test:**	
	Follow Up Lab Test:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION FROM RESIDENTIAL-LIGHT COMMERCIAL FLOWCHART METHOD		

SOP FORM 5
FIELD SHEET EXPLANATION

IMPORTANT:

- Fields marked with an asterisk (*****) below are recorded only for structures with ***FLOW***.
- All other fields are recorded for ALL structures.

Structure ID No. Record the structure ID number.

Incident ID No. Record the ID number given to structures or outfalls with flow. It is determined by the year in which the outfall is field screened, followed by a dash, and then a consecutive numeric number (i.e., first structure with flow screened in 2019 would have an incident ID No. of 2019-1). Structures with no flow are not given an Incident ID Number; record "N/A" on this line.

Subdivision. Record the name of the neighborhood where the structure is located. If the structure is not located in a neighborhood, record "N/A" on this line.

Address/Location. Record the closest known address to the structure. If there are no known addresses surrounding the structure, the street name and any landmarks may be used.

Personnel. Record the initials of all persons performing field screening tasks. Separate initials by a forward slash (i.e., DG/JL).

Date. Record the date when the structure is screened. Dates should be formatted as MM/DD/YY.

Time. Record the time when the field screening crew arrives at structure.

Air Temperature. Record the temperature when the field crew arrives at the structure. Temperature should be recorded in degrees Fahrenheit.

Photograph. Record if a landscape/structure photograph was taken. If the structure has dry weather flow, photographs must be taken, and "Y" is written. If the structure does not have flow, "N" is written, and no photographs are taken.

Date Last Rain. Record the date of the last precipitation. Dry weather screening must be conducted when rain has not occurred within the past 48 hours. Format date as MM/DD/YY.

Outfall Dimensions. Record the dimensions of the structure being field screened. Measurements must be recorded using a tape measure in the field. Do not visually estimate.

Outfall Shape. Record the shape of the structure being field screened. If the structure being screened is a catch basin, write "catch basin" in this field.

Outfall Type. Record the material of the structure being field screened.

Flow Observed. Record whether dry weather flow was observed in the field or not. If there is not enough flow to sample, "Y; not enough to sample" may be written.

SOP FORM 5
FIELD SHEET EXPLANATION

Land Use. Record how the land surrounding the structure is being used. Categories are residential "R", commercial "C", industrial "I", or other "O". If "O" is chosen, record the type of land use.

Structural Condition. Record any deficiencies with the structure being screened.

Erosion. Record any erosion that may be occurring around the structure.

Algae Growth. Record the presence of algae in the structure or in the flow from the structure.

Vegetative Condition. Record the condition of the area around the structure. Record any growth that is impeding field screening or sample collection.

*** Flow Rate**. Record the flow rate of the discharge leaving the structure. Flow rate is measured using one of two methods:

Flow Volume Method

1. Determine if there is Flow or No Flow.
2. If No = Record on Field Sheet.
3. If Yes = Determine if flow is sufficient to use a 1 Liter (L) or a 32 ounce (oz) sample collection bottle, or if flow is minimal and need to use a cut out plastic container.
4. Record the amount of time for flow to fill the entirety of the established volume.
5. Fill in the required fields on the field sheet:
   - Record the **Container Size** (oz).
   - Record the **Seconds to Fill**.
6. Back at the office, use the following calculations to calculate the flow rate in cubic feet/second (cfs) (see attached Water Conversion Table):
   - If using a 1 Liter Sample Bottle:
     1 L/s = 0.0353147 cfs
     FLOW RATE (cfs) = 0.0353147 cfs / ____ seconds to fill up bottle
   - If using a 32 oz Sample Bottle:
     (32 / ____ sec to fill) x 0.469 = _____ GPM
     FLOW RATE (cfs) = _____ GPM / 448.8
   - If using an irregular Sample Bottle:
     _____ oz / _____ sec to fill x 60 sec/1 minute x 1 gal/128 oz = _____ GPM
     FLOW RATE (cfs) =_____ GPM / 448.8
7. Add the Flow Rate to Field Sheet.

SOP FORM 5
FIELD SHEET EXPLANATION

*** Flow Rate** (Continued)

Velocity and Cross-Sectional Area Method

1. Determine if there is Flow or No Flow.
2. If No = Record on Field Sheet.
3. If Yes = Conduct the following procedures:
4. Measure a **Fixed Length** (ft) along the flow path (e.g., measuring tape on ground).
5. Drop a light object (e.g., ping pong ball) in the flow at the beginning of the measured length and record the time it takes for the object to go from the beginning to the end of the measured length [**Time of Travel** (sec)].
6. Fill in the required fields on the field sheet:
   - **Fixed Length** (ft)
   - **Time of Travel** (sec)
   - **Flow Depth** (ft)
   - **Flow Width** (ft)
7. Back at the office, use the following calculations to determine the flow rate in cubic feet/second (cfs):
   - Flow Velocity (ft/sec) = _____ Fixed Length (ft) / _____ Time of Travel (sec).
   - Flow Area (sq ft) = _____ Flow Depth (ft) x _____ Flow Width (ft).
   - FLOW RATE (cfs) = _____ Flow Velocity (ft/sec) x _____ Flow Area (sq ft).
8. Add the Flow Rate to Field Sheet.

*** Water Temperature**. Record the water temperature of the sample collected from the structure. Temperature should be recorded using the pH meter in degrees Fahrenheit.

*** pH**. Record the pH of the sample collected from the structure recorded using a pH meter.

*** Turbidity**. Record the turbidity as given by the Turbidimeter of the sample collected from the structure. Turbidity should be recorded in NTUs.

*** Ammonia Field Test**. Record the concentration of ammonia found in the sample after conducting field testing according to Test Kit Instruction Booklet.

*** Ammonia Lab Test**. Record the ammonia laboratory results from the second sample as reported by the Lab. This information is only recorded if an initial ammonia level was detected in the field and a second sample was collected.

*** Ammonia Follow Up Lab Tested**. Record the ammonia laboratory results from the third sample as reported by the Lab. This information is only recorded if field crews returned to the structure within 4-24 hours for a third sample collection.

SOP FORM 5
FIELD SHEET EXPLANATION

*** Surfactants (Detergents) Field Test**. Record the concentration of surfactants (detergents) found in the sample after conducting field testing according to Test Kit Instruction Booklet.

*** Surfactants (Detergents) Lab Test**. Record the surfactant (detergent) laboratory results from the second sample as reported by the Lab. This information is only recorded if an initial surfactant (detergent) level was detected in the field and a second sample was collected.

*** Surfactants (Detergents) Follow Up Lab Test**. Record the surfactant (detergent) laboratory results from the third sample as reported by the Lab. This information is only recorded if field crews returned to the structure within 4-24 hours for a third sample collection.

*** Potassium**. Record the potassium laboratory results from the second sample as reported by the Lab. This information is only recorded if a second sample was collected.

*** Odor**. Record any noticeable discharge odor from a structure or from the sample collected.

*** Deposits/Stains**. Record any deposits or staining (oil, iron flocculent, etc.) on the structure or sample bottle.

*** Color**. Record the color of the sample collected.

*** Floatables**. Record any noticeable floatables in collected sample or in flow coming from structure.

*** Determination**. Record the final determination of the discharge based on the Residential or Light Commercial Flowchart. This is to be recorded after all test results have been returned from the laboratory and evaluated.

SOP FORM 6
FIELD AMMONIA TEST

The AMMONIA test kit should include:

- 2 20 mL Plastic Viewing Tubes
- Rochelle Salt Solution
- Nessler Reagent
- Color Comparator
- Ammonia Color Disk

INSTRUCTIONS:

1. Fill one viewing tube to the 5-mL mark with deionized water. This reagent will be the blank.
2. Fill the second viewing tube to the 5-mL mark with sample. This will be the prepared sample.
3. Add 1 drop of Rochelle Salt Solution to each viewing tube and swirl to mix.
4. Add 3 drops of Nessler Reagent to each viewing tube and swirl to mix. Stopper both tubes.
5. Allow 10 minutes for color development.
6. Insert the prepared sample into the right-hand opening of the Color Comparator.
7. Insert the reagent blank into the left-hand opening.
8. Hold the Comparator up to the light source.
9. Rotate the disc until the colors in the left and right windows match.
10. Read the concentration of ammonia nitrogen in mg/L (N) through the scale window.

***NOTE:**

Pour all waste into the chemical drum.

Record the chemicals used on the “Drum Chemical Composition” list.

SOP FORM 7
FIELD DETERGENTS (SURFACTANTS) TEST

The SURFACTANTS (DETERGENTS) test kit should include:

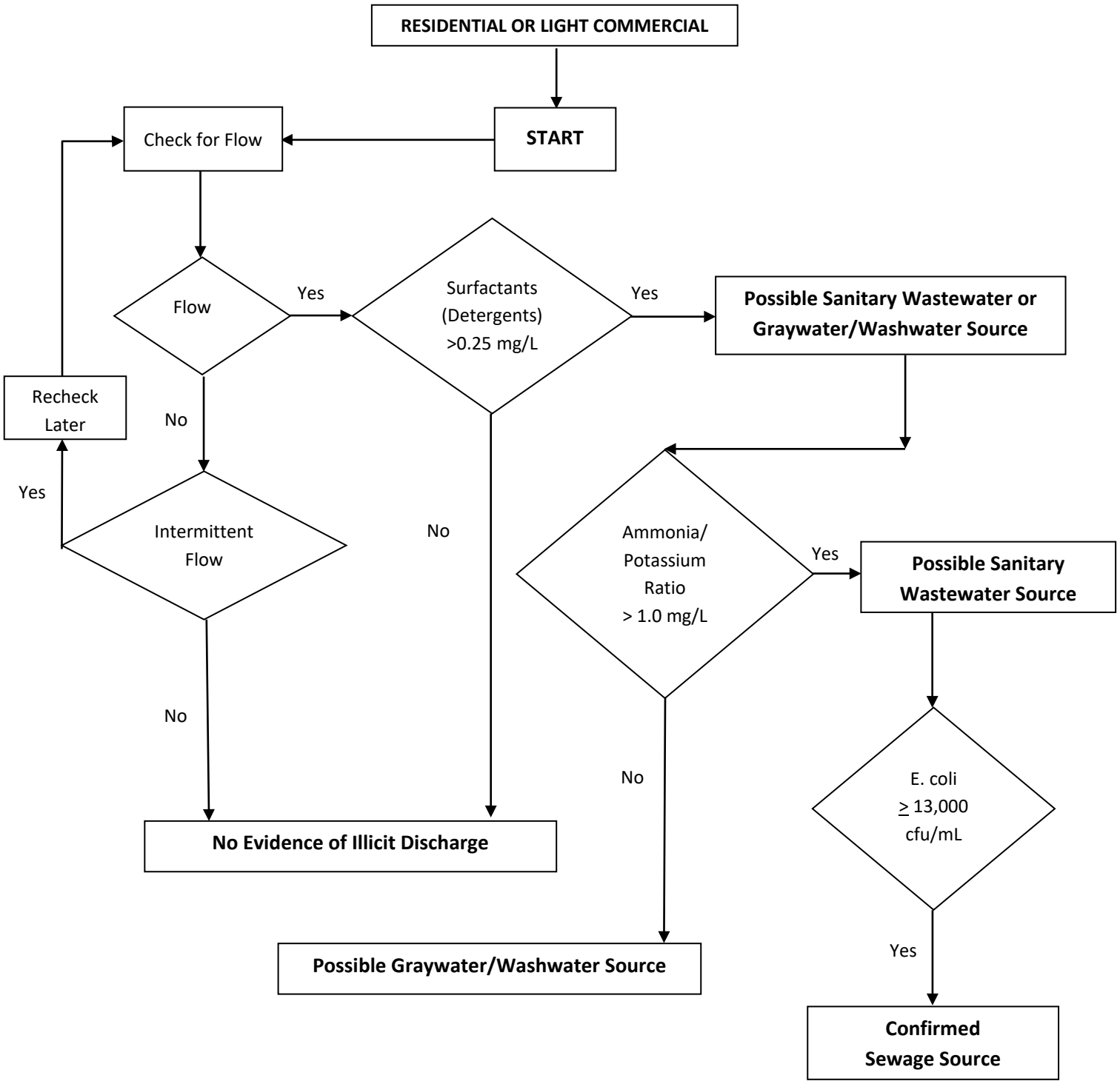
- 2 20 mL Glass Viewing Tubes
- Detergents Reagent
- Chloroform
- Test Tube Stoppers
- Draw-off Pipet
- Wash Water Buffer Solution
- Color Comparator
- Detergents Color Disk

INSTRUCTIONS:

1. Fill one 20-mL glass viewing tubes to the upper mark (20-mL) with sample water. This reagent will be the prepared sample.
2. Add 12 drops of Detergent Reagent and shake to mix.
3. Add Chloroform to the lowest mark (5-mL) on the glass viewing tube. (Chloroform is heavier than water and will sink.) Stopper, shake vigorously for 30 seconds and let stand for one minute to allow the chloroform to separate.
4. Using the draw-off pipet, remove the sample water from the tube and discard.
5. Refill the glass viewing tube to the upper mark with the Wash Water Buffer and, using the draw-off pipet, remove the Wash Water Buffer and discard. This step washes away the remaining sample water.
6. Refill the glass viewing tube to the upper mark with the Wash Water Buffer, stopper and shake vigorously for 30 seconds. See the “Storm Water Test Kit Manual” for turbid samples. Let stand for one minute to allow the chloroform to separate.
7. Insert the prepared sample in the right opening of the Color Comparator.
8. Fill the second 20-mL glass viewing tube with deionized water and place it in the left opening of the Color Comparator.
9. Hold the Comparator up to a light source and rotate the disc until the colors in the left and right windows match.
10. Read the concentration of detergents in ppm. Refer to the “Storm Water Test Kit Manual” if the color is darker than the highest reading on the color disc.

Note: Pour all liquid waste into the chemical drum. Record the chemicals used on the Chemical Composition list.

SOP FORM 8
RESIDENTIAL – LIGHT COMMERCIAL FLOW CHART METHOD



Adapted from Robert Pitt, et al., *Source Verification of Inappropriate Discharges to Storm Drainage Systems*, Water Environmental Federation Technical Exhibition and Conference, September 2004.

SOP FORM 9
NOTICE OF VIOLATION - TEMPLATE

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

<INSERT DATE>

<INSERT RECIPIENT NAME>
<INSERT RECIPIENT ADDRESS>

Re: NOTICE OF VIOLATION - ILLICIT DISCHARGE (NOV)
Tax Parcel No.: <INSERT NO.>
<INSERT PROPERTY ADDRESS>

NOTICE OF VIOLATION

Legal Authority

Dear Sir/Madam:

The following findings are made, and this notice issued, pursuant to City of Aberdeen, *Article XII, Illicit Discharge Ordinance [Added 5-21-2018 by Ord. No. 18-O-14]*, which establishes methods for controlling the introduction of pollutants into the Municipal Separate Storm Sewer System (MS4), in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

Findings

On <INSERT INSPECTION DATE>, an inspector from <INSERT the City> OR <KCI Technologies, Inc., under contract with the City of Aberdeen> discovered a case of a potential illicit discharge into the MS4. The following was observed during their site inspection:

1) <INSERT INSPECTION OBSERVATIONS>
2)
3)

Correction Order

Based upon the above findings, <INSERT NAME> is hereby notified that it/they is/are in violation of the City of Aberdeen, *Article XII, Illicit Discharge Ordinance [Added 5-21-2018 by Ord. No. 18-O-14*], for discharging sewage, industrial wastes, and/or other wastes into the storm sewer system, or any component thereof, or onto driveways, sidewalks, parking lots, or other areas draining to the storm sewer system.

Pursuant to *Article XII, Illicit Discharge Ordinance,* <INSERT NAME> is hereby directed to complete the items listed in this Correction Order.

Within <INSERT TIMEFRAME> of receipt of this notice:

<INSERT ACTIONS SPECIFIC TO PID / ACTIONS PROVIDED BELOW ARE EXAMPLES>:

1) The property owner must **STOP IMMEDIATELY** discharging/dumping any industrial waste and/or other wastes into the surrounding pavement and also (the catch basin) which is part of the MS4 system.
2) The property owner must investigate and determine the source of the leakage entering the MS4 system.
3) The property owner must develop and submit to our office an outlined plan to show:
   (a) How the source of the illicit discharge was disconnected properly.
   (b) How the property owner will clean up the site as well as the catch basin.
   (c) Name and address of contractor who will be doing the cleaning work.

Notice

Failure to complete the items in the "Correction Order" shall result in further enforcement action under *Article XII, Illicit Discharge Ordinance,* which includes, but is not limited to, administrative fines and investigation fees.

Article XII states that "In addition to being subject to an injunctive action under 250-40 of the Article, any person who violates any NOV or order issued under this article is liable to pay a civil penalty not exceeding $1,000 per day per violation, to be collected in a civil action. Each day a violation occurs is a separate violation.

Please contact Mr. Parley Hess, Assistant City Engineer, by <INSERT DATE> to make arrangements to submit the outlined plan and also with any questions regarding this NOV and Correction Order.

Sincerely,

Parley Hess, P.E.
Assistant City Engineer
Department of Public Works
60 N Parke St
Aberdeen, MD 21001
410-272-1600 x217
ktorster@aberdeenmd.gov

SOP FORM 10
DOOR HANGER

Illegal Dumping Found in Your Area!

This is not a citation.

Date: _____

This is to inform you that our staff found the following illegal pollutants in the storm drain in your neighborhood.

It is illegal to put any of the following items in the storm drain:

- ❑ Motor oil and filter
- ❑ Antifreeze and transmission fluid
- ❑ Paint
- ❑ Solvent and degreaser
- ❑ Cooking grease
- ❑ Home improvement waste (concrete)
- ❑ Pet waste
- ❑ Yard waste (leaves, grass, mulch)
- ❑ Excessive dirt and gravel
- ❑ Pesticides and fertilizers
- ❑ Other: _____

These pollutants were found at:

_____

This storm drain leads directly to:

_____

_____

Aberdeen
Home of Opportunity

If you have any information regarding this or any other illegal dumping of pollutants, please call the Department of Public Works at 410-272-1600 or email dpw@aberdeenmd.gov.

SOP FORM 10
DOOR HANGER

Stormwater runoff is precipitation from rain or snowmelt that flows over the ground. As it flows, it can pick up leaves, oil, fertilizer, detergent, and animal feces and deposit them into a storm sewer system or waterbody.

Anything that enters a storm drain system empties into the waterbodies we use for swimming, fishing, and drinking water.

Remember: Only Rain Down the Drain

To keep the stormwater leaving your home or workplace clean, follow these simple guidelines:

- Use pesticides and fertilizers sparingly.
- Repair auto leaks.
- Dispose of household hazardous waste, used auto fluids (antifreeze, oil, etc.), and batteries at designated recycling locations.
- Clean up after your pet.
- Use a commercial car wash or wash your car on a lawn or other unpaved surface.
- Avoid sweeping or blowing grass clippings or leaves into the streets or storm drains.
- Clean paint brushes in a sink, not outdoors. Properly dispose of excess paints through a household hazardous waste collection program.
- Sweep up and properly dispose of construction debris like concrete and mortar.

Aberdeen
Home of Opportunity

If you have any information regarding this or any other illegal dumping of pollutants, please call the Department of Public Works at 410-272-1600 or email dpw@aberdeenmd.gov.

SOP FORM 11
DOOR HANGER DISTRIBUTION MAP – EXAMPLE



SOP FORM 12
MDE MS4 PROGRESS REPORT – MCM #3 IDDE

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

1. Does the permittee maintain a map of the MS4 owned or operated by the permittee, including stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges?
   ☐ Yes ☐ No

   If Yes, attach the map to this report and provide a progress update on any features that are still being mapped. If No, detail the current status of map development and provide an estimated date of submission to MDE:

2. Does the permittee have an ordinance, or other regulatory means, that prohibits illicit discharges?
   ☐ Yes ☐ No

   If Yes, describe the means for enforcement utilized by the permittee (alternatively, a link may be provided to the permittee's webpage where this information is available). If No, describe the permittee's plan, including approximate time frame, to establish a regulatory means to prohibit illicit discharges:

3. Describe the process the permittee utilizes for gaining access to private property to investigate and eliminate illicit discharges:

4. Did the permittee submit to MDE standard operating procedures (SOPs) in accordance with Part IV.C of the permit?
   ☐ Yes ☐ No

   If No, provide a proposed date that SOPs will be submitted to MDE. MDE may require more frequent reports for delays in program development:

   Did MDE approve the submitted SOPs?
   ☐ Yes ☐ No

   If No, describe the status of requested SOP revisions and approximate date of resubmission for MDE approval:

SOP FORM 12
MDE MS4 PROGRESS REPORT – MCM #3 IDDE

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

5. Describe how the permittee prioritized screening locations in areas of high pollutant potential and identify the areas within which screenings were conducted during this reporting period:

6. Answers to the following questions must reflect this two-year reporting period.

   How many outfalls are identified on the map? ☐

   How many outfalls were required to be screened for dry weather flows to meet the minimum numeric requirement (i.e., 20% of total outfalls, up to 100)? ☐

   How many outfalls were screened for dry weather flows? ☐

   Per the permittee's SOP, how frequently were outfalls required to be screened?

   At what frequency were outfalls screened during the reporting period?

   How many dry weather flows were observed? ☐

   If dry weather flows were observed, how many were determined to be illicit discharges? ☐

   Describe the investigation process to track and eliminate each suspected illicit discharge and report the status of resolution:

7. Describe maintenance or corrective actions undertaken during this reporting period to address erosion, debris buildup, sediment accumulation, or blockage problems:

8. Is the permittee maintaining all IDDE inspection records and are they available to MDE during site inspections?
   ☐ Yes ☐ No

SOP FORM 12
MDE MS4 PROGRESS REPORT – MCM #3 IDDE

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

9. If spills, illicit discharges, and illegal dumping occurred during this reporting period, describe the corrective actions taken, including enforcement activities, and indicate the status of resolution:

10. Attach to this report specific examples of educational materials distributed to the public related to illicit discharge reporting, illegal dumping, and spill prevention. If these are not available, describe plans to develop public education materials and submit examples with the next Progress Report:

11. Specify the number of employees trained in illicit discharge detection and spill prevention:

12. Provide examples of training materials. If not available, describe plans to develop employee training and submit examples with the next Progress Report:

13. List the cost of implementing this MCM during this permit term:

SOP FORM 13
TRACKING FORM

INCIDENT ID NO. **DATE:**

STRUCTURE ID NO.

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ☐ NO ☐ TBD

LOCATION:

Subdivision: **House No:** **Stream:**

Zip Code: **Street:** **Watershed:**

SETTING:

☐	Storm Drain	☐	Outfall	☐	Other (specify): _____
☐	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

☐	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other: _____

ODOR:

☐	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By:

Issue:

Determination:

Landscape Photo

DOCUMENTATION:

- ☐ Location Map
- ☐ Summary Memorandum with Photographs
- ☐ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Violation
- ☐ Other: _____

Structure Photo

SOP FORM 14
TRACKING FORM – EXPLANATION

IMPORTANT:

- Tracking forms are created only for structures with ***FLOW*** or ***POTENTIAL ILLICIT DISCHARGES***.
- Tracking forms should be created after field screening.
- Structures with no flow/no evidence of illicit discharge do not receive a tracking form.

Incident ID No. Record the Incident ID number given to structures or outfalls with flow. It is determined by the year in which the outfall is field screened, dash, and numeric number (e.g., first structure with flow screened in 2019 would have an Incident ID No. of 2019-1. The Incident ID No. can be found on the field data sheet.

Date. Record the date when the structure was screened. Dates should be formatted as MM/DD/YY.

Structure ID No. Record the Structure ID number for the structure that was screened. The structure number can be found on the field data sheet.

Evidence of Illicit Discharge. Record whether field screening and laboratory results indicated any evidence of illicit discharge. If lab results have not yet been received, or investigation is still occurring, check "TBD". If field screening test results did not indicate any elevated levels of detergent or ammonia, and no visuals of illicit discharge were detected, check "No." If laboratory results were returned and flow chart determines illicit discharge, check "Yes."

Subdivision. Record the name of the neighborhood where the structure is located. If the structure is not located in a neighborhood, record "N/A" on this line.

Zip Code. Record the zip code in which the structure is located.

House No. Record the numerical address closest to the structure that was field screened. If the structure was not surrounded by any homes, write "N/A" in this field.

Street. Record the street on which the structure is located.

Stream. Record the stream name closest to the structure that was field screened. The stream name can be found using Google Maps.

Watershed. Record the watershed in which the structure is located.

Setting. Record where the sample was collected.

Visual. Record any observations that were noticed when the sample was collected. Most tracking forms will check "Flow", unless field screening is a result of dumping, or if there was no flow at time of screening.

Odor. Record any odor at the structure or from the sample.

SOP FORM 14
TRACKING FORM – EXPLANATION

Referred By. Record who reported the structure to the field screening crew.

Issue. Record the reason for field screening. Most structures are screened as a result of "dry weather flow." If the structure is a potential illicit discharge, record the suspected reason (e.g., pet waste dumped into MS4).

Determination. Record the final determination of the discharge based on the Residential or Light Commercial Flowchart after all laboratory test results have been received/evaluated.

Landscape Photo. Insert landscape photograph taken when the structure was screened.

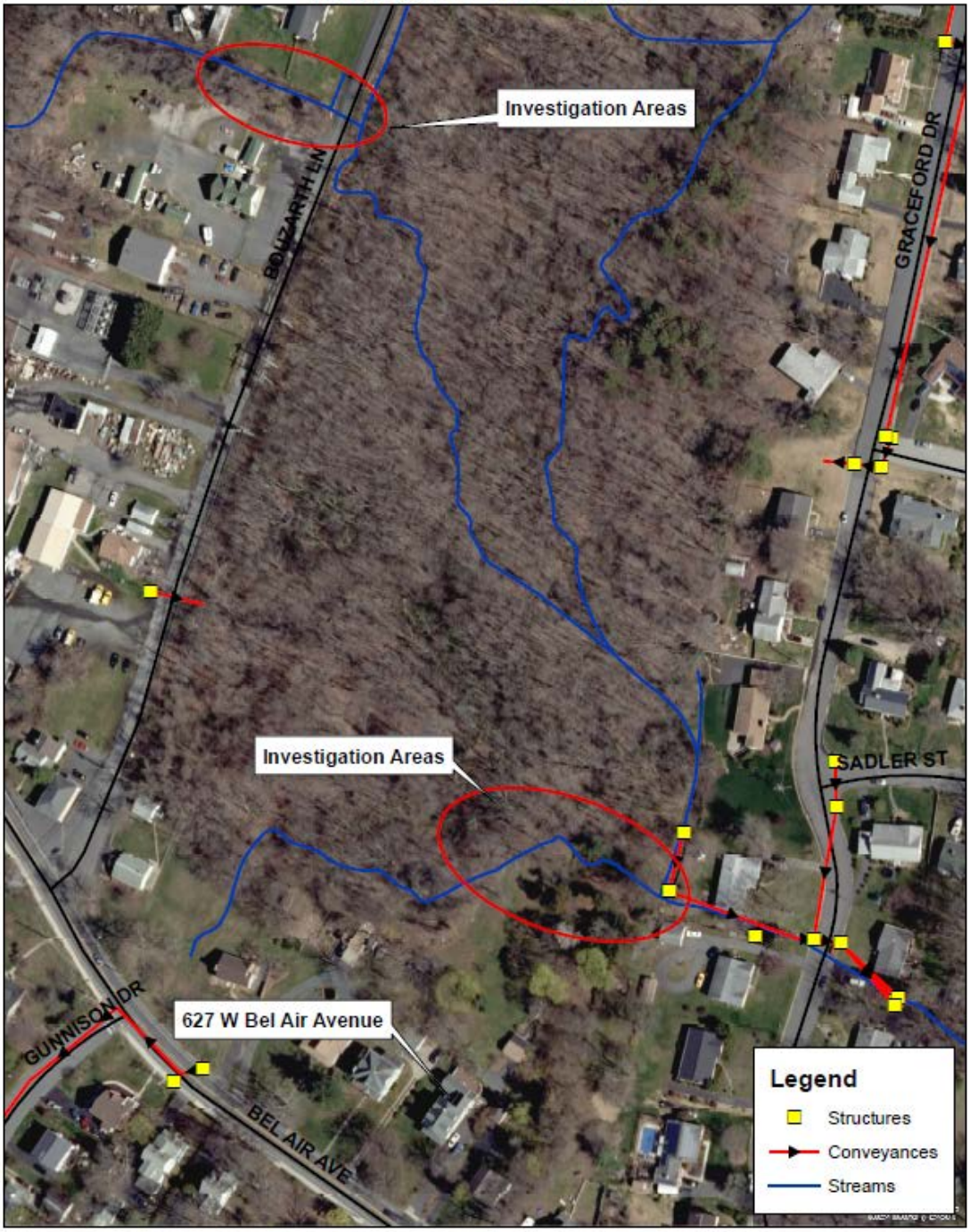
Structure Photo. Insert structure photograph taken when the structure was screened.

Documentation. Check boxes for any additional documentation associated with the field screening. As applicable, options include the following:

- **Location Map** – Include for ALL structures.
- **Summary Memorandum with Photographs** – Include for structures considered potential illicit discharges or with multiple field visits.
- **Field Data Sheet** – Include for all structures with dry weather flow.
- **Laboratory Data** – Include for any structures where sample was taken to laboratory.
- **Door Hanger** – Photocopy/scan pdf; include for structure/neighborhoods, as applicable.
- **Notice of Violation** – Include for any structure for which a Notice of Violation was sent to a property owner.
- **Other** – Include if structure required any additional documentation, such as any email correspondence, door hanger distribution maps, property parcel information, etc.

SOP FORM 15
LOCATION MAP – EXAMPLE

Incident ID No. 2020-4



SOP FORM 16
MEMORANDUM – TEMPLATE

MEMORANDUM

TO: <INSERT NAME>

FROM: <INSERT NAME>

DATE: <INSERT DATE(S)

SUBJECT: **Potential Illicit Discharge Investigation**
Incident ID No. <INSERT NO.>
Structure No. <INSERT NO.>
<INSERT STREET ADDRESS / INSERT NEIGHBORHOOD OR BUSINESS NAME>
<INSERT WATERSHED>

The purpose of this Memorandum is to summarize the field investigation regarding a Potential Illicit Discharge (PID) at <INSERT STREET ADDRESS>. Photos are attached on following pages.

<INSERT DATE>:

An MS4 Inventory and Inspection field crew <INSERT NAMES> observed a Potential Illicit Discharge.

- <INSERT FIELD OBSERVATIONS>.
- <REMEMBER TO TAKE PHOTOS>.

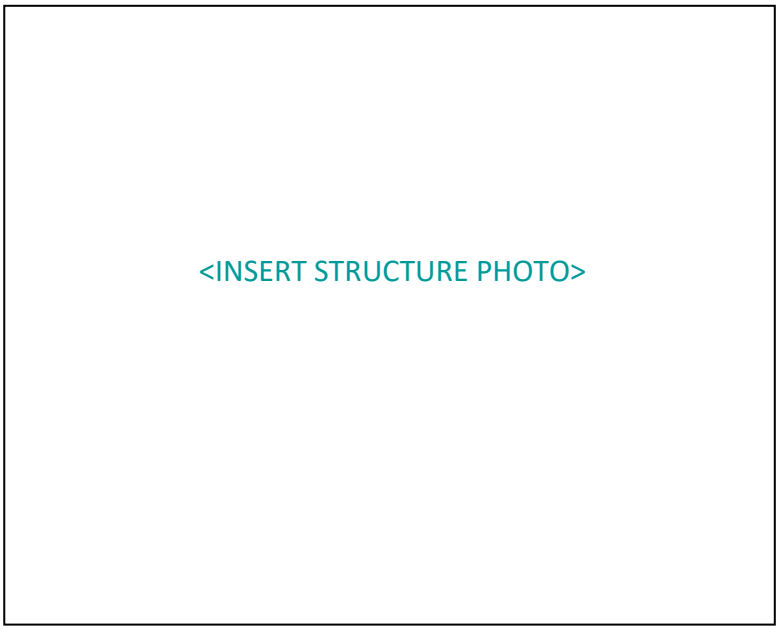
<INSERT DATE>:

An IDDE field crew<INSERT NAME(S)> visited the area to investigate signs of illicit discharge.

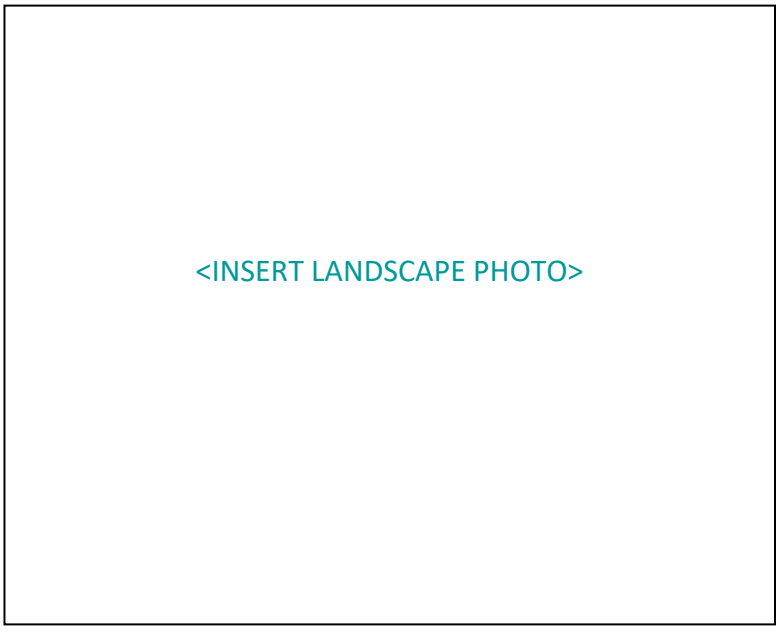
- <INSERT OBSERVATIONS>.
- <REMEMBER TO TAKE PHOTOS>.

Potential Illicit Discharge Investigation Memorandum
Page 26

Incident ID No. <INSERT NO.>
Structure No. <INSERT NO.>
<INSERT STREET ADDRESS / INSERT NEIGHBORHOOD OR BUSINESS NAME>
<INSERT WATERSHED>



<INSERT PHOTO CAPTION>



<INSERT PHOTO CAPTION>

SOP FORM 17
QA / QC FORM

TASK	ACTION	COMPLETED
Field Sheet	Scan and file in electronic and hard copy folders.	
Photos	Upload and label in electronic folder.	
Tracking Form	Complete and update as necessary: lab results, flow chart, NOV, etc.	
Location Map	Create map using ArcGIS.	
Laboratory Data	Save file in electronic folder.	
	Compare to Residential-Light Commercial Flow Chart Method.	
	Make determination and update tracking form and memorandum.	
Memorandum	Create / review / update as necessary.	
Door Hanger	Scan and file in electronic folder.	
Notice of Violation	Scan and file in electronic and hard copy folders.	
Final QA / QC	QA / QC all electronic versus hard copy documentation.	

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

APPENDIX C

HEALTH & SAFETY GUIDELINES

APPENDIX C
HEALTH AND SAFETY GUIDELINES

A. INTRODUCTION

It is recommended that Illicit Discharge Detection and Elimination (IDDE) field inventory, inspection and investigation services follow the Health & Safety Guidelines provided below.

Note: Please refer to end of this document for the *Field Workforce Safety Plan: COVID-19*, (KCI, May 2020), which provides guidance for field procedures during the Coronavirus (COVID-19) Pandemic.

B. RESPONSIBILITIES

Field Staff are responsible for individual safety. The Field Leader is directly responsible to the Project Manager for safety recommendations onsite.

Project Manager: Responsible for Project Safety Procedures

Field Leader: Responsible for Site Safety Procedures.

Field Staff: All personnel conducting field work should check in with the Field Leader. Any activity beyond the normal scope of work must be cleared through the Project Manager.

C. COMMUNICATION PROCEDURES

The Project Manager is the office point of contact for all Field Personnel and determines when site conditions are safe/unsafe for sampling.

Field Staff are responsible for data collection in the field, calibration and maintenance of equipment, and should report unusual/unsafe field conditions to the Project Manager. Field Staff must adhere to decisions made by Project Manager.

Field Leader and Field Staff must remain available by cellular telephone at all times with the Project Manager. If site conditions require evacuation of the area, all Field Staff must leave the site and notify the Project Manager.

D. EMERGENCY PROCEDURES

The Field Leader will evaluate the nature of any personnel injury in the field. Appropriate first aid will be administered onsite if possible. No personnel should reenter the work area until the cause of the injury or symptoms are determined. The Project Manager will be notified of any onsite emergencies and is responsible for ensuring that appropriate procedures are followed.

If emergency medical attention is required, depending on the severity of the injury, Field Staff should call 911 for an ambulance. Verbally call for help if phone use is a not an option. After situation has stabilized, call to alert the Project Manager. When an onsite emergency occurs, personnel shall not resume work operations until:

- The conditions resulting in the emergency have been corrected.
- The hazards have been reassessed.
- The Health and Safety Plan has been reviewed.
- Site personnel have been briefed on any changes to the Health and Safety Plan.

E. GENERAL ITEMS AND CONDUCT

All field staff are expected to:

- Be responsible and accountable for his/her own actions.
- Show professional courtesy to fellow employees, clients, subcontractors, regulators, and visitors.
- Horseplay, practical joking, inattention to work or other inappropriate accident-causing behavior will not be tolerated.
- Conduct smoking, eating, drinking and chewing only in designated areas.
- Use of alcohol or controlled substances is prohibited.
- Obey the following while traveling to and from the job site:
  - Federal, state and local regulations regarding seat belt use;
  - Traffic laws;
  - Cell phone laws;
  - Any other laws regarding proper conduct in public areas.
- Carry mobile phone and first aid kit on all field site visits.
- Carry letter of authorization and identification and be prepared to present each to citizens or interested parties.
- Many outfalls are located in remote areas that may be near gathering places for homeless or transient individuals. Do not enter a potentially hostile area.
- Perform field work in teams of two whenever possible. No staff should be on-site between 12 a.m. and 6 a.m.
- Storm sewer outfalls contain a variety of waterborne bacteria and other harmful chemicals.
  - Wear gloves while collecting/testing water samples.
  - Wash hands, use antibacterial wipes/hand gels liberally, especially prior to eating.
- Possess Safety Data Sheets (SDS) for each test chemical.

F. POTENTIAL HAZARD EVALUATION

A potential hazard evaluation is an analysis or assessment of a work place or work situation, as to the potential for hazards that an employee may encounter while performing the job.

For COVID-19 field procedures, please refer to the *Field Workforce Safety Plan: COVID-19* (KCI, May 2020), located at the end of these Health & Safety Guidelines.

1. Potential Project Hazards (Chemical, Biological, Environmental, Physical)

Chemical: Including but not limited to chemicals in field testing kits.

Reagent Disposal Requirements and Safety Data Sheets (SDS) are located at the end of this document.

Biological: Including but not limited to bacteria/fecal matter in the sampled water.

Environmental: Including but not limited to severe weather (cold, wet, ice, wind, lightening).

Physical: Including but not limited to lifting heavy equipment, animals (dogs, snakes, ticks), debris in water, water currents, broken glass, roadway traffic, slippery and steep slopes, poison ivy.

2. Potential General Hazards

The following potential general hazards could be expected on site: Lightning, heavy winds, water currents, falling branches, poor visibility, extreme weather conditions, floating debris, icy conditions, and heavy automotive and truck traffic adjacent to the sites.

3. Sample Site Equipment

Equipment onsite may occasionally malfunction. Only minor repairs should be performed onsite; Major equipment repair or realignment will be conducted at the office.

G. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Engineering and administrative controls will be used as the primary means of exposure control, as required by the Occupational Safety and Health Administration (OSHA) standards. However, PPE may also be necessary to further minimize potential employee exposure. All employees shall dress appropriately for the tasks to be performed. Specialized health and safety equipment, including PPE, monitoring equipment, and other devices designed to protect the employee shall be issued to the employee on an as-needed basis.

In addition to COVID-19 safety measures [see Appendix A - *Field Workforce Safety Plan: COVID-19* (KCI, May 2020)], the following personal protection category is designated for applicable field work and tasks:

Job Function/Task	**Protection Category**
Contact with Stormwater/Potential Illicit Discharges	**Level D** (see below).

Specific protective equipment for each level of protection is as follows:

- **Level A*:*** *Not Applicable*

  Positive pressure, full face-piece self-contained breathing apparatus (SCBA) and totally-encapsulated chemical-protective suit.

- **Level B:** *Not Applicable*

  Positive pressure, full face-piece self-contained breathing apparatus (SCBA) and hooded chemical-resistant clothing.

- **Level C:** *Not Applicable*

  Full or half-mask, air purifying respirators, hooded chemical-resistant clothing.

- **Level D: Applicable**

  Latex/nitrile gloves, work boots, chest waders, rain gear.

Employees performing field activities and certain laboratory functions have the potential to contact hazardous materials. Many of these hazardous materials can cause significant injury or illness through acute or chronic exposures. For field work (including industrial operations), all field employees are required to wear the following basic PPE:

- Truck with Rooftop Strobe Light.
- Traffic Cones.
- ANSI-approved Class 3 Safety Vest.
- Cellular Phone.
- Emergency Contact Numbers.
- KCI Safety Bag.
- First Aid Kit
- Washwater / Rinse Bottle.
- Chemical Waste Bottle.
- ANSI-approved Safety Goggles.
- ANSI-approved steel-toed, steel-shank boots (as applicable).
- Waterproof boots or waders (as needed).
- Nitrile and Leather Gloves.
- Bug Spray.
- ANSI-approved Hard Hat (when required).
- Ear Protection (as needed).
- Leather / Work Gloves (as needed).
- Hand Warmers (as needed).

All Field Personnel should dress appropriately for weather conditions. There is the potential for extreme cold or extreme heat conditions. If extreme cold conditions exist, the Field Staff shall monitor themselves for signs of frostbite and/or hypothermia. Symptoms such as numbness in extremities, bluish tint to skin or lips, uncontrollable shivering, etc. may be observed. Positive indications for any of the above conditions must be reported to the Field Leader, and the affected person shall be taken to a warm dry location immediately for further evaluation.

If extreme hot conditions exist, the Field Staff shall monitor themselves for signs of heat cramps, heat exhaustion (cold clammy skin) and heat stroke (hot dry skin and possible loss of consciousness). Positive indications for any of the above conditions must be reported to the Field Leader, and the affected person should be taken to a cool dry location immediately for further evaluation. In the event of heat stroke, immediately call 911.

H. CONFINED SPACE ENTRY

A confined space is any location not intended for human occupation, has limited or no ventilation, has the potential for containing dangerous or lethal atmospheres, and has limited ingress/egress. OSHA has addressed confined space entry requirements and procedures in 29 CFR 1910.146 (Permit Required Confined Spaces) and 1926.651 (Excavations). Confined space entry, if necessary, will be performed in accordance with OSHA confined space entry procedures, industry-standard practices, and will be performed by confined space trained personnel.

I. DANGEROUS FLORA AND FAUNA

During the course of field activities, employees may come in contact with a wide range of dangerous or toxic plants and animals. Contact with these organisms can cause effects from simple discomfort (such as from thorny bush scratches) to severe allergic reactions and possibly death. Dangerous animals may include: black widow and brown recluse spiders; fire ants; mosquitoes and biting flies; bees, wasps and hornets; ticks and chiggers; microbial organisms (e.g., found in water, soil, and air and on carrier/host organisms); rabid mammals; and poisonous snakes. Dangerous plants may include: thorny plants; poison ivy, oak, and sumac; and molds, mildews, and fungi (which may cause allergic reactions).

Insect Bites: Use insect repellants (spray outside of clothing) and wear long sleeve shirts as well as pants. If stung by a bee, remove stinger with tweezers, wash and disinfect the wound, and cover and ice bite. Watch for allergic reactions; if one develops seek medical attention.

Ticks: Check for tick bites every day. Wear light-colored clothing with long sleeves and pants tucked into boots to help keep ticks off your body. If bitten, remove the tick with tweezers by grasping it as close to the skin as possible; do not squeeze the tick. Disinfect the bite area and wash hands with soap and water. Look for symptoms of Lyme disease and seek medical attention.

Snakes: During a snake encounter stay calm and look for other snakes in the area. Try to identify

the snake's color, size, and markings/patterns. Leave the area via the same path entered. If bitten, wash and immobilize the affected area and keep it lower than the heart if possible. Seek medical attention. Do not apply ice, cut the wound, or apply a tourniquet.

Dogs: If threatened by a dog, remain calm and avoid eye contact. Don't scream and don't turn and run. Stay still until the dog leaves or back away slowly until you reach safety. If attacked, place something between you and the dog and get to your vehicle or other safe place.

J. BLOODBORNE PATHOGENS

Exposure to bloodborne pathogens (BBP) is possible during a field work emergency situation. Staff may be exposed to body fluids such as blood, saliva, vomit, mucus or others. These fluids could contain pathogens that have the potential for causing disease in humans. Should staff be required to administer life-saving procedures, such as CPR, it is recommended the following procedures are followed to minimize exposure potential, in accordance with 29 CFR (Bloodborne pathogens - 1910.1030). Report any incidence of potential BBP exposure.

- Wear disposable gloves when hand contact with blood, mucus membranes, non-intact skin or other potentially infectious materials could be involved.
- Use disposable mouthpieces, pocket masks or other ventilation devices for administering artificial ventilation.
- Wash hands with soap and water after administering first aid.
- In the case of eye contact, flush eyes using an eye wash for at least 15 minutes.
- Remove garments contacted by blood or other body fluids as soon as possible.
- Do not eat, drink, smoke or handle contact lenses in areas with possible BBP exposure.
- Persons cleaning up an accident scene should not pick up broken glass or other sharp objects by hand.
- All clothes and other items at the first aid scene should be safely secured prior to leaving.

K. REMOTE AREAS, STEEP SLOPES, UNEVEN GROUND

Staff may be located in areas not readily accessible by vehicle. Telephone communication must be maintained from sampling staff to a base station in the event of an emergency. Wear sturdy footwear appropriate for site walk activities. Observe the area for tripping hazards and exercise caution in relying on rocks and trees/tree stumps for support. Whenever possible switchback your way up/down steep areas and maintain a slow pace with firm footing.

L. HEAVY LIFTING

It may be necessary to carry sampling equipment (e.g., coolers, sampling containers, and equipment) during the course of the field activities. Care must be taken to avoid injury while carrying equipment to the sampling locations.

M. HAND TOOLS

Some of the field activities and sampling procedures may require the use of hand tools with sharp edges (e.g., machetes, scissors, clippers, knives, razor blades). Use care during their use to prevent injuries.

N. WEATHER-RELATED HAZARDS

Weather-related hazards include the potential for heat or cold stress, electrical storms, treacherous weather-related working conditions, high winds, and limited visibility. These hazards correlate with the season in which site activities occur. In the event of adverse weather conditions, the Field Team Leader will determine if work can continue without endangering the health and safety of site personnel.

Heat Stress:
Heat stress is a significant potential hazard during the warmer months. Heat stress manifests itself as one of three conditions: heat cramps, heat exhaustion, or heat stroke. Heat cramps are brought about by a prolonged exposure to heat. As an individual sweats, water and salts are lost by the body, triggering painful muscle cramps. The signs and symptoms of heat cramps include:

- Severe muscle cramps, usually in the legs and abdomen.
- Exhaustion, often to the point of collapse.
- Dizziness or periods of faintness.

First aid treatment includes shade, rest, and fluid replacement. Staff should drink electrolyte-replacement fluids (e.g., Gatorade). If not recovered within ½ hour, transport person to the hospital for medical attention.

Heat exhaustion usually occurs in a healthy individual who has been exposed to excessive heat while working or exercising. Blood collects near the skin in an effort to rid the body of excess heat. The signs and symptoms of heat exhaustion include:

- Rapid and shallow breathing.
- Weak pulse.
- Cold and clammy skin, with heavy perspiration.
- Skin appears pale.
- Fatigue, weakness, and/or dizziness.
- Elevated body temperature.

First aid treatment includes cooling the victim, elevating the feet, and replacing fluids. If not recovered in ½ hour, transport person to the hospital for medical attention.

Heat stroke occurs when an individual is exposed to excessive heat, and their body systems become overwhelmed by heat and begin to stop functioning. This condition is a medical emergency, requiring the immediate cooling of the victim and transport to the hospital immediately. The signs and symptoms of heat stroke include:

- Victim has stopped sweating.
- Dry, hot, red skin.
- Body temperature approaching or above 105 °F.
- Dilated (large) pupils.
- Loss of consciousness; victim may lapse into a coma.

Local weather conditions may produce an environment which will require restricted work schedules in order to protect employees. The Field Team Leader will observe workers for any potential symptoms of heat stress. Adaptation of work schedules and training in recognition of heat stress conditions will help prevent heat-related illnesses from occurring.

Cold Stress:

Cold stress is a danger at low temperatures and when the wind chill factor is low. Cold stress is generally described as a local cooling (frost nip, frost bite, and freezing) or a general cooling (hypothermia). Personnel working outdoors in temperatures at or below freezing may be subject to local cooling. Areas of the body that have a high surface area-to-volume ratio, such as fingers, toes, and ears, are the most susceptible. The three categories of local cooling include:

- Frost nip - characterized by a blanching or whitening of the skin.
- Frost bite - skin has a waxy or white appearance and is firm to the touch, but the tissue beneath is resilient.
- Freezing - skin tissue is cold, pale, and solid.

Frost nip and frost bite first aid includes covering the affected area with warmth and retreating to a warm area. Frozen tissue is a medical emergency, and the victim should be transported to the hospital immediately.

General cooling (hypothermia) occurs when exposure to cold reduces body temperature. With prolonged exposure, the body becomes unable to maintain its proper internal temperature. Without treatment, hypothermia will lead to stupor, collapse, and death.

The signs and symptoms of mild hypothermia include:

- Shivering;
- Numbness; and
- Drowsiness.

First aid for mild hypothermia includes using heat to raise the individual's body temperature. Heat may be applied to the victim in the form of heat packs, hot water bottles, and blankets.

The signs and symptoms of severe hypothermia include:

- Unconsciousness.
- Slowed respiration or respiratory arrest.
- Slowed pulse or cardiac arrest.
- Irrational or stuporous state.
- Muscular rigidity.

First aid for severe hypothermia includes handling the victim very gently. Rough handling may set off an irregular heartbeat. Do not attempt to re-warm the severely hypothermic victim; re-warming may cause the development of an irregular heartbeat. Severe hypothermia is a medical emergency, and the victim should be transported to the hospital immediately.

Prevention of cold stress is a function of whole body protection. Adequate insulated clothing should be worn when the air temperature drops below 50 °F. Reduced work periods may be necessary in extreme conditions to allow adequate periods in a warm area.

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

FIELD WORKFORCE SAFETY PLAN: COVID 19

FIELD WORKFORCE SAFETY PLAN:

COVID-19

Effective immediately and until further notice, all crews are expected to practice the following personal protection procedures and social distancing guidelines whenever possible regarding working or traveling with others in the field. This includes the following changes to standard operating procedures:

Fit for Duty/Employee Wellness:

- If an employee is sick or has any COVID-19 symptoms including fever, coughing or shortness of breath – STAY HOME. Employees should not report to work if you:
    - Have a body temperature above 99.5 degrees OR
    - Have experienced first degree exposure to someone with the virus (defined as personal interaction with someone who has been positively diagnosed with the virus or is awaiting test results) or second-degree exposure (defined as living with someone who has a first-degree exposure or is experiencing symptoms of COVID-19)
- "High Risk" employees, including those with chronic disease, respiratory disorders, immunodeficiency, or pregnant, can take PTO and may extend their leave balance up to negative 80 hours if needed. See guidelines on Baseline for approval and re-accrual requirements
- On-site supervisors/crew leaders should ask employees the following questions prior to starting work at a jobsite. Any employee answering "yes" to any of these questions should be sent home until cleared:
    - Have you or anyone in your family been in contact with a person tested for COVID–19?
    - Have you or anyone in your family been in contact with a person that is in the process of being tested for COVID-19?
    - Have you been medically directed to self-quarantine due to possible exposure of COVID-19?
    - Are you having difficulty breathing or have you had any flu like symptoms within the past 48 hours including: fever, shortness of breath, sore throat, runny/stuffy nose, body aches, chills or fatigue?

For further guidance on confirmed positive tests or exposure to COVID-19, contact the KCI's COVID-19 hotline or 410.316.7929 or email hr@kci.com. Employees who appear to have acute respiratory illness symptoms (i.e. cough, shortness of breath) upon arrival to work or become sick during the day should be separated from other individuals and be sent home immediately.

Vehicular Travel:

Crews traveling to project sites are to utilize separate vehicles if six feet of separation is not available for driver and passenger(s) within a vehicle.

- Employees should first attempt to utilize an existing KCI vehicle to allow for separation of crew members to the project site
- If a KCI vehicle is not available, employees should utilize their personal vehicles for transport to the project site and back to the office
- KCI vehicles should be wiped down and disinfected after each trip

Social Distancing:

- Employees should maintain six feet of separation throughout the workday. Modify activities where practical
- Set up work zones and spaces to encourage the public to maintain six feet of distance from workers wherever possible
- No communal coolers or drink stations are allowed
- Do not congregate at lunch or breaks. Bringing your lunch is encouraged
- First line of communication should be by phone, rather than in person
- Use of video conferencing/conference calls is preferable for conducting a meeting. If an in-person meeting is absolutely required and cannot be rescheduled or attended remotely, the meeting should be limited to a maximum of 10 people (unless fewer per state or local executive order) while maintaining social distancing of six feet or more
- Do not shake hands
- Do not share iPads, tablets, pens or clipboards for signing or any other purpose. Take pictures as proof of attendance at meetings

Hygiene:

- Clean hands often by washing with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains 60%-95% alcohol may be used
- Avoid touching your eyes, nose, mouth, or other parts of your face
- Do not breathe, cough, or sneeze on another person or into the open air. Employees should cover their noses and mouth with a tissue when coughing or sneezing (or an elbow or shoulder if no tissue is available)
- When unable to maintain a distance of six feet between personnel, upon completion of tasks employees should sanitize (hand sanitizer and/or washing hands for 20 seconds), avoid touching your face, and wipe down any surfaces that had been handled
- Employees are to wear gloves (of another form of hand cover (i.e., disposal plastic bags)) whenever handling common or shared tools, material or equipment
- Employees are to use soap and water or spray a disinfectant solution (if available) on all work surfaces before starting work and when sharing tools

PPE and Equipment:

- Sharing of Personal Protective Equipment (PPE) is strictly prohibited
- In compliance with CDC guidelines, personnel must wear face coverings when out in the field when social distancing measures are difficult to maintain (i.e. completing a task that requires close proximity to others) **or if required by state or local executive order.** Visit the CDC for directions on how to make a face covering using household items

https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html

- Crews must be equipped with hand washing stations that include the following:
    a. One bucket of water that is renewed each day
    b. One container of anti-bacterial hand or dishwashing soap
    c. Paper towels for hand drying
- Crew members must wash their hands anytime that gloves are removed, before and after breaks and at least once every two hours during the shift
- When working with tools:
    a. Crews must be equipped with work gloves that are worn anytime shared tools are utilized
    b. Crews must be equipped with a Disinfectant Solution such as SimpleGreen™ liquid disinfectant or similar or a solution of 1/3rd cup of bleach per gallon of water for the treatment of tools and working area

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

SAFETY DATA SHEETS (SDS)

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name Buffer Solution (Wash Water) for Detergents

Other means of identification
Product Code(s) 99949

Safety data sheet number M00828

UN/ID no UN3264

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory Use. Buffer.
Uses advised against None.
Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number
+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	Category 1
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word - Danger



Hazard statements

H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

Precautionary statements
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P234 - Keep only in original container
P390 - Absorb spillage to prevent material damage

Other Hazards Known
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
Sulfuric acid	7664-93-9	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous combustion products This material will not burn.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid CAS#: 7664-93-9	TWA: 0.2 mg/m³	TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³	IDLH: 15 mg/m³ TWA: 1 mg/m³

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection Face protection shield.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

General Hygiene Considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this

product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance aqueous solution
Color colorless
Odor None
Odor threshold No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	1.75	
Melting point/freezing point	~ -2 °C / 28 °F	Estimation based on theoretical calculation
Boiling point / boiling range	~ 100 °C / 212 °F	Estimation based on theoretical calculation
Evaporation rate	0.59 (water = 1)	
Vapor pressure	23.552 mm Hg / 3.14 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.016	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity
Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate 7.67 mm/yr / 0.3 in/yr
Aluminum Corrosion Rate 5.84 mm/yr / 0.23 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfuric acid	7664-93-9	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point No data available

Flammability Limit in Air
Upper flammability limit No data available
Lower flammability limit No data available

Oxidizing properties No data available.

Bulk density No data available

Particle Size No information available

Particle Size Distribution No information available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stability Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
Conditions to avoid Exposure to air or moisture over prolonged periods.

Incompatible materials

Incompatible materials Oxidizing agent. Acids. Bases.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact May cause irritation.

Ingestion Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Aggravated Medical Conditions Eye disorders. Skin disorders. Respiratory disorders. Preexisting eye disorders. Teeth.

Toxicologically synergistic products None known.

Toxicokinetics, metabolism and distribution See ingredients information below.

Chemical name	Toxicokinetics, metabolism and distribution
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	The corrosivity of sulfuric acid makes it difficult to assess its effects on metabolism. Its corrosivity is also the main contributor to acute deaths, therefore it is not classified for acute toxicity.

Product Acute Toxicity Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available

ATEmix (inhalation-gas)	No information available

Ingredient Acute Toxicity Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Human TD_{Lo}	0.144 mg/L	5 minutes	**Lungs, Thorax, or Respiration** Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route If available, see data below

Aspiration toxicity
No data available

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route	No data available.
Respiratory Sensitization Exposure Route	No data available.

Ingredient Sensitization Data

Skin Sensitization Exposure Route If available, see data below.
Respiratory Sensitization Exposure Route If available, see data below.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route No data available.
Dermal Exposure Route No data available.
Inhalation (Dust/Mist) Exposure Route No data available.
Inhalation (Vapor) Exposure Route No data available.
Inhalation (Gas) Exposure Route No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Human TC_{Lo}	.003 mg/L	168 days	**Musculoskeletal** Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route If available, see data below

Product Carcinogenicity Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sulfuric acid	7664-93-9	A2	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Germ Cell Mutagenicity *invitro* **Data**

No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data**

If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%)	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	No information available

CAS#: 7664-93-9						

Product Germ Cell Mutagenicity *invivo* **Data**

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Germ Cell Mutagenicity *invivo* **Data**

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Product Reproductive Toxicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Rabbit TC_{Lo}	.02 mg/L	7 hours	**Specific Developmental Abnormalities** Musculoskeletal system	No information available

Inhalation (Gas) Exposure Route If available, see data below

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product Ecological Data

Aquatic toxicity

Fish	No data available
Crustacea	No data available
Algae	No data available

Ingredient Ecological Data

Aquatic toxicity

Fish	If available, see ingredient data below
Crustacea	If available, see ingredient data below
Algae	No data available

Other Information

Persistence and degradability

Product Biodegradability Data
No data available.

Ingredient Biodegradability Data

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Bioaccumulation Data

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number D002

Special instructions for disposal Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain.

14. TRANSPORT INFORMATION

U.S. DOT

UN/ID no	UN3264
Proper shipping name	Corrosive Liquid, Acidic, Inorganic, N.O.S.
DOT Technical Name	(Sulfuric acid < 3%)
Hazard Class	8
Packing Group	III
Emergency Response Guide Number	154

TDG

UN/ID no	UN3264
Proper shipping name	Corrosive Liquid, Acidic, Inorganic, N.O.S.

TDG Technical Name	(Sulfuric acid < 3%)
Hazard Class	8
Packing Group	III

IATA

UN/ID no	UN3264
Proper shipping name	Corrosive Liquid, Acidic, Inorganic, N.O.S.
IATA Technical Name	(Sulfuric acid < 3%)
Hazard Class	8
Packing Group	III
ERG Code	154

IMDG

UN/ID no	UN3264
IMDG Technical Name	(Sulfuric acid < 3%)
Hazard Class	8
Packing Group	III

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Sulfuric acid (CAS #: 7664-93-9)	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid 7664-93-9	1000 lb	-	-	X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. - DEA (Drug Enforcement Administration) List I & List II

Chemical name	U.S. - DEA (Drug Enforcement Administration) - List I or Precursor Chemicals	U.S. - DEA (Drug Enforcement Administration) - List II or Essential Chemicals
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Not Listed	50 gallon Export Volume (exports, transshipments and international transactions to designated countries)

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Sulfuric acid (CAS #: 7664-93-9)	Carcinogen

WARNING: This product can expose you to chemicals including Sulfuric acid, which is known to the State of California to cause cancer.
For more information, go to http://www.P65Warnings.ca.gov

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sulfuric acid	180.0910	21 CFR 184.1095

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL)
Not applicable

NFPA and HMIS Classifications

NFPA	**Health hazards** - 3	**Flammability** - 0	**Instability** - 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** - 3	**Flammability** - 0	**Physical Hazards** - 0	**Personal protection** - X - See section 8 for more information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 02-Jul-2018

Revision Date 17-Aug-2018

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site

safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2018

End of Safety Data Sheet

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name Chloroform

Other means of identification
Product Code(s) 1445849

Safety data sheet number M00190

UN/ID no UN1888

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory Use. Solvent.
Uses advised against Consumer use.
Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number
+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word
Danger



Hazard statements
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements
P270 - Do not eat, drink or smoke when using this product
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P501 - Dispose of contents/ container to an approved waste disposal plant
P271 - Use only outdoors or in a well-ventilated area
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P311 - Call a POISON CENTER or doctor/physician
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P273 - Avoid release to the environment

Other Hazards Known
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	Chloroform
Chemical Family	Halogenated hydrocarbons.
Formula	$CHCl_3$
CAS No	67-66-3
Chemical nature	Organic solvents and additives.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
Chloroform	67-66-3	100%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Hazardous combustion products This material will not burn.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.

Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Keep people away from and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Chloroform CAS#: 67-66-3	TWA: 10 ppm	(vacated) TWA: 2 ppm (vacated) TWA: 9.78 mg/m^3 Ceiling: 50 ppm Ceiling: 240 mg/m^3	IDLH: 500 ppm STEL: 2 ppm 60 min STEL: 9.78 mg/m^3 60 min

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations

Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

General Hygiene Considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	clear	**Color**	colorless
Odor	Ether-like	**Odor threshold**	200 ppm

Property	Values	Remarks • Method
Molecular weight	119.37 g/mole	
pH	No data available	
Melting point/freezing point	-64 °C / -83.2 °F	
Boiling point / boiling range	61 °C / 141.8 °F	
Evaporation rate	0.6 (ether = 1)	
Vapor pressure	159.016 mm Hg / 21.2 kPa at 20 °C / 68 °F	
Vapor density (air = 1)	4.36	
Specific gravity (water = 1 / air = 1)	1.49	
Partition Coefficient (n-octanol/water)	log K_{ow} = 1.97	
Soil Organic Carbon-Water Partition Coefficient	log K_{oc} = 1.71	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	8000 mg/L	20 °C / 68 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F
Benzene	Soluble	> 1000 mg/L	25 °C / 77 °F
Carbon disulfide	Soluble	> 1000 mg/L	25 °C / 77 °F
Carbon tetrachloride	Soluble	> 1000 mg/L	25 °C / 77 °F
Ether	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content
This Product is by Weight 100% an Individual Pure Chemical Substance See ingredients information below

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Chloroform	67-66-3	100%	X

Explosive properties

Upper explosion limit Not applicable
Lower explosion limit Not applicable

Flammable properties

Flash point No data available

Flammability Limit in Air
Upper flammability limit No data available
Lower flammability limit No data available

Oxidizing properties No data available.

Bulk density Not applicable

10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products
Phosgene. Hydrogen chloride. Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation	May cause irritation of respiratory tract. Toxic by inhalation.
Eye contact	Irritating to eyes. Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.
Symptoms	Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.

Acute toxicity
Harmful if swallowed
Toxic if inhaled

Product Acute Toxicity Data
If available, see ingredient data below.

Ingredient Acute Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Rat LD_{50}	695 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data

Chloroform (100%) CAS#: 67-66-3	Rat LC_{50}	47.702 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	None reported	None reported	None reported	None reported	No information available

Unknown Acute Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)
Not applicable
The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data
If available, see ingredient data below.

Ingredient Skin Corrosion/Irritation Data
Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Standard Draize Test	Rabbit	None reported	None reported	Skin irritant	ECHA (The European Chemicals Agency)

Serious eye damage/irritation
Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data
If available, see ingredient data below.

Ingredient Eye Damage/Eye Irritation Data
Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Standard Draize Test	Rabbit	20 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
If available, see ingredient data below.

Ingredient Sensitization Data
Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA (The European Chemicals Agency)

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Single Exposure Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Man LD_{Lo}	2514 mg/kg	None reported	**Kidney, Ureter, or Bladder** Changes in tubules (including acute renal failure, acute tubular necrosis)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Human TC_{Lo}	171 mg/L	4 hours	**Behavioral** Hallucinations, Distorted perceptions	RTECS (Registry of Toxic Effects of Chemical Substances)

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure.

Product Specific Target Organ Toxicity Repeat Dose Data
If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Rat TD_{Lo}	540 mg/kg	3 days	**Biochemical** Intermediary metabolism (other proteins) **Kidney, Ureter, or Bladder** Changes in tubules (including acute renal failure, acute tubular necrosis)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Rat TC_{Lo}	90 mg/L	90 days	**Kidney, Ureter, or Bladder** Changes in tubules (including acute renal failure, acute tubular necrosis) **Liver** Hepatitis (hepatocellular necrosis), diffuse **Nutritional and Gross Metabolic** Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Human TC_{Lo}	0.010 mg/L	365 days	**Gastrointestinal** Nausea or vomiting Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)

Carcinogenicity
Classification based on data available for ingredients. Contains a known or suspected carcinogen.

Product Carcinogenicity Data
If available, see ingredient data below.

Ingredient Carcinogenicity Data
Test data reported below.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Chloroform	67-66-3	A3	Group 2B	Reasonably Anticipated	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)	Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)	Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Mouse NOAEL	5 mg/L	2 years	**Kidney, Ureter, or Bladder** Kidney tumors	ECHA (The European Chemicals Agency)

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* **Data**
If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity *invitro* **Data**
Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Mutation in microorganisms	*Salmonella typhimurium*	5%	24 hours	Negative test result for mutagenicity	ECHA (The European Chemicals Agency)

Product Germ Cell Mutagenicity *invivo* **Data**
If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity *invivo* **Data**
Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Micronucleus test	Rat	480 mg/kg	5 days	Negative test result for mutagenicity	ECHA (The European Chemicals Agency)

Reproductive toxicity
Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Mouse NOAEL	15.9 mg/kg	Multiple generations	**Effects on Fertility** Male fertility index (e.g. # males impregnating females per # males exposed to fertile nonpregnant females) Spermatogenesis (including genetic material, sperm morphology, motility, and count)	ECHA (The European Chemicals Agency)

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	Rat NOAEL	3 mg/L	9 days	**Effects on Embryo or Fetus** Fetotoxicity (except death e.g. stunted fetus)	ECHA (The European Chemicals Agency)

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
If available, see ingredient data below.

Aquatic Chronic Toxicity
If available, see ingredient data below.

Ingredient Ecological Data

Aquatic Acute Toxicity
Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	96 hours	*Oncorhynchus mykiss*	LC_{50}	18 mg/L	IUCLID (The International Uniform Chemical Information Database)

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	48 Hours	*Daphnia magna*	EC_{50}	29 mg/L	IUCLID (The International Uniform Chemical Information Database)

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100%) CAS#: 67-66-3	72 Hours	*Selenastrum capricornutum*	EC_{50}	13.3 mg/L	ECHA (The European Chemicals Agency)

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) log K_{ow} = 1.97

Mobility

Soil Organic Carbon-Water Partition Coefficient $\log K_{oc} = 1.71$

Other adverse effects
Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number U044 D022

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Chloroform 67-66-3	U044	Included in waste streams: F024, F025, F039, K009, K010, K019, K020, K021, K029, K073, K116, K149, K150, K151, K158	6.0 mg/L regulatory level	U044

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chloroform 67-66-3	Category I - Volatiles	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes production.

Special instructions for disposal Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

UN/ID no	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
Reportable Quantity (RQ)	Chloroform: RQ kg= 4.54
Description	UN1888, Chloroform, 6.1, III, RQ
Emergency Response Guide Number	151

TDG

UN/ID no	UN1888

Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
Description	UN1888, Chloroform, 6.1, III

IATA

UN/ID no	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
ERG Code	6A

IMDG

UN/ID no	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
EmS-No	F-A, S-A

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Chloroform (CAS #: 67-66-3)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chloroform 67-66-3	10 lb	X	X	X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Chloroform 67-66-3	10 lb 1 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

Chemical name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Chloroform (100%) CAS#: 67-66-3	Release - Toxic

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Chloroform (CAS #: 67-66-3)	Carcinogen Developmental

WARNING: This product can expose you to chemicals including Chloroform, which is known to the State of California to cause cancer and birth defects or other reproductive harm.
For more information, go to http://www.P65Warnings.ca.gov

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Chloroform 67-66-3	X	X	X

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Chloroform 67-66-3	Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	**Health hazards** - 4	**Flammability** - 0	**Instability** - 0	**Physical and chemical properties** -
HMIS	**Health hazards** - 3 - *	**Flammability** - 0	**Physical hazards** - 0	**Personal protection** - X

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By	Hach Product Compliance Department
Issue Date	13-May-2019
Revision Date	13-May-2019
Revision Note	SDS sections updated 2

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2019

End of Safety Data Sheet

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name Detergents Reagent

Other means of identification
Product Code(s) 105932

Safety data sheet number M00831

Recommended use of the chemical and restrictions on use
Recommended Use Determination of detergents.
Uses advised against None.
Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number
+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word - Danger



Hazard statements

H315 - Causes skin irritation
H318 - Causes serious eye damage
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P273 - Avoid release to the environment

Other Hazards Known
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
Sulfuric acid	7664-93-9	1 - 5%	-
Chloroform	67-66-3	<1%	-
Sodium arsenite	7784-46-5	<0.1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact Get immediate medical advice/attention. Rinse immediately with plenty of water, also under

	the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	This material will not burn.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid CAS#: 7664-93-9	TWA: 0.2 mg/m³	TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³	IDLH: 15 mg/m³ TWA: 1 mg/m³
Chloroform CAS#: 67-66-3	TWA: 10 ppm	(vacated) TWA: 2 ppm (vacated) TWA: 9.78 mg/m³ Ceiling: 50 ppm Ceiling: 240 mg/m³	IDLH: 500 ppm STEL: 2 ppm 60 min STEL: 9.78 mg/m³ 60 min
Sodium arsenite CAS#: 7784-46-5	TWA: 0.01 mg/m³	TWA: 10 µg/m³	IDLH: 5 mg/m³ As Ceiling: 0.002 mg/m³ As 15 min

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	**Color**	blue
Odor	Not determined	**Odor threshold**	No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	1.2	
Melting point/freezing point	~ -38 °C / -36 °F	Estimation based on theoretical calculation
Boiling point / boiling range	~ 110 °C / 230 °F	Estimation based on theoretical calculation
Evaporation rate	0.52 (water = 1)	
Vapor pressure	22.727 mm Hg / 3.03 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	0.63 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.142	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content
See ingredients information below

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfuric acid	7664-93-9	No data available	-
Chloroform	67-66-3	100%	X
Sodium arsenite	7784-46-5	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point No data available

Flammability Limit in Air
Upper flammability limit No data available
Lower flammability limit No data available

Oxidizing properties No data available.

Bulk density No data available

Particle Size No information available

Particle Size Distribution No information available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stability Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
Conditions to avoid None known based on information supplied.

Incompatible materials
Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.
Aggravated Medical Conditions	Eye disorders. Skin disorders. Respiratory disorders. Preexisting eye disorders. Teeth.
Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	See ingredients information below.

Chemical name	Toxicokinetics, metabolism and distribution
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	The corrosivity of sulfuric acid makes it difficult to assess its effects on metabolism. Its corrosivity is also the main contributor to acute deaths, therefore it is not classified for acute toxicity.
Chloroform (<1%) CAS#: 67-66-3	A specific liver enzyme converts chloroform into toxic metabolites resulting in hepatotoxicity.

Product Acute Toxicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Unknown Acute Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	100.20 mg/L
ATEmix (inhalation-vapor)	600.00 mg/L
ATEmix (inhalation-gas)	No information available

Ingredient Acute Toxicity Data
Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data

Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat LD_{50}	41 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	Rabbit LD_{50}	> 20000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat LD_{50}	150 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	Rat LC_{50}	4.7702 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	Man LD_{Lo}	2514 mg/kg	None reported	**Kidney, Ureter, or Bladder** Changes in tubules (including acute renal failure, acute tubular necrosis)	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Human TD_{Lo}	0.144 mg/L	5 minutes	**Lungs, Thorax, or Respiration** Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)
Chloroform (<1%) CAS#: 67-66-3	Human TC_{Lo}	171 mg/L	4 hours	**Behavioral** Hallucinations, Distorted perceptions	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route If available, see data below

Aspiration toxicity
No data available

Product Skin Corrosion/Irritation Data
Test data reported below.

Test method	Species	Reported dose	Exposure time	Results
United States Department of Transportation (DOT) Skin Corrosion Test	Rabbit	0.5 mL	4 hours	Not corrosive to skin

Ingredient Skin Corrosion/Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)
Chloroform (<1%) CAS#: 67-66-3	Open Irritation Test	Rabbit	10 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Existing human experience	Human	None reported	None reported	Skin irritant	No information available

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)
Chloroform (<1%) CAS#: 67-66-3	Standard Draize Test	Rabbit	20 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Existing human experience	Human	None reported	None reported	Eye irritant	No information available

Sensitization Information

Product Sensitization Data
Skin Sensitization Exposure Route No data available.
Respiratory Sensitization Exposure Route No data available.

Ingredient Sensitization Data
Skin Sensitization Exposure Route If available, see data below.
Respiratory Sensitization Exposure Route If available, see data below.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data
Oral Exposure Route No data available.
Dermal Exposure Route No data available.
Inhalation (Dust/Mist) Exposure Route No data available.
Inhalation (Vapor) Exposure Route No data available.
Inhalation (Gas) Exposure Route No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	Rat TD_{Lo}	540 mg/kg	3 days	**Biochemical** Intermediary metabolism (other proteins) **Kidney, Ureter, or Bladder**	RTECS (Registry of Toxic Effects of Chemical Substances)

				Changes in tubules (including acute renal failure, acute tubular necrosis)	

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	Rat TC_{Lo}	90 mg/L	90 days	**Kidney, Ureter, or Bladder** Changes in tubules (including acute renal failure, acute tubular necrosis) **Liver** Hepatitis (hepatocellular necrosis), diffuse **Nutritional and Gross Metabolic** Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Human TC_{Lo}	.003 mg/L	168 days	**Musculoskeletal** Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)
Chloroform (<1%) CAS#: 67-66-3	Human TC_{Lo}	0.010 mg/L	365 days	**Gastrointestinal** Nausea or vomiting Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route If available, see data below

Product Carcinogenicity Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sulfuric acid	7664-93-9	A2	Group 1	Known	X
Chloroform	67-66-3	A3	Group 2B	Reasonably Anticipated	X
Sodium arsenite	7784-46-5	A1	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A2 - Suspected Human Carcinogen A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below

Inhalation (Gas) Exposure Route If available, see data below

Product Germ Cell Mutagenicity *invitro* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data**
If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	No information available
Sodium arsenite (<0.1%) CAS#: 7784-46-5	DNA damage	Human liver	0.001 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	**Test**	**Cell Strain**	**Reported dose**	**Exposure time**	**Results**	**Key literature references and sources for data**
Sodium arsenite (<0.1%) CAS#: 7784-46-5	DNA damage	Human lung	0.001 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity *invivo* **Data**
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Germ Cell Mutagenicity *invivo* **Data**
Oral Exposure Route If available, see data below

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Specific locus test	Mouse	140 mg/kg	10 weeks	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	**Test**	**Species**	**Reported dose**	**Exposure time**	**Results**	**Key literature references and sources for data**
Sodium arsenite (<0.1%) CAS#: 7784-46-5	DNA damage	Mouse	100 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Reproductive Toxicity Data
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat TD_{Lo}	0.05478 mg/kg	None reported	**Effects on Embryo or Fetus** Abortion **Effects on Newborn** Stillbirth	RTECS (Registry of Toxic Effects of Chemical Substances)

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat TD_{Lo}	41 mg/kg	None reported	**Effects on Embryo or Fetus** Fetal death Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Rabbit TC_{Lo}	.02 mg/L	7 hours	**Specific Developmental Abnormalities** Musculoskeletal system	No information available

Inhalation (Gas) Exposure Route If available, see data below

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects

Product Ecological Data

Aquatic toxicity

Fish No data available
Crustacea No data available
Algae No data available

Ingredient Ecological Data

Aquatic toxicity

Fish If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	96 hours	*Oncorhynchus mykiss*	LC_{50}	18 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	96 hours	*Esox masquinongy*	LC_{50}	0.55 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Crustacea If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (<1%) CAS#: 67-66-3	48 Hours	*Daphnia magna*	EC_{50}	29 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	48 Hours	None reported	EC_{50}	1.27 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Algae If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	96 hours	None reported	EC_{50}	0.07 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Other Information

Persistence and degradability

Product Biodegradability Data
No data available.

Ingredient Biodegradability Data

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Bioaccumulation Data

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Other adverse effects
Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number D002, U044 D022

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Chloroform 67-66-3	U044	Included in waste streams: F024, F025, F039, K009, K010, K019, K020, K021, K029, K073, K116, K149, K150, K151,	6.0 mg/L regulatory level	U044

		K158		

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chloroform 67-66-3	Category I - Volatiles	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes production.

Special instructions for disposal Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

U.S. DOT Not regulated
Emergency Response Guide Number 154

TDG Not regulated

IATA Not regulated
ERG Code 154

IMDG Not regulated

Note: No special precautions necessary.

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories
TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories
EINECS/ELINCS Complies
ENCS Does not comply
IECSC Complies
KECL Complies
PICCS Complies
TCSI Complies
AICS Complies

NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Sulfuric acid (CAS #: 7664-93-9)	1.0
Chloroform (CAS #: 67-66-3)	0.1
Sodium arsenite (CAS #: 7784-46-5)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid 7664-93-9	1000 lb	-	-	X
Chloroform 67-66-3	10 lb	X	X	X
Sodium arsenite 7784-46-5	1 lb	X	-	X

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Chloroform 67-66-3	10 lb 1 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ
Sodium arsenite 7784-46-5	1 lb	1 lb	RQ 1 lb final RQ RQ 0.454 kg final RQ

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

Chemical name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Chloroform (<1%) CAS#: 67-66-3	Release - Toxic

U.S. - DEA (Drug Enforcement Administration) List I & List II

Chemical name	U.S. - DEA (Drug Enforcement Administration) - List I or Precursor Chemicals	U.S. - DEA (Drug Enforcement Administration) - List II or Essential Chemicals
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Not Listed	50 gallon Export Volume (exports, transshipments and international transactions to designated countries)

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Sulfuric acid (CAS #: 7664-93-9)	Carcinogen
Chloroform (CAS #: 67-66-3)	Carcinogen Developmental
Sodium arsenite (CAS #: 7784-46-5)	Carcinogen

WARNING: This product can expose you to chemicals including Chloroform, Sulfuric acid, Sodium arsenite, which are known to the State of California to cause cancer or birth defects or reproductive harm.
For more information, go to http://www.P65Warnings.ca.gov

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X
Chloroform 67-66-3	X	X	X
Sodium arsenite 7784-46-5	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sulfuric acid	180.0910	21 CFR 184.1095

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Sodium arsenite 7784-46-5	Declarable Substance (FA)	0.05 % 0.01 %

NFPA and HMIS Classifications

NFPA	**Health hazards** - 3	**Flammability** - 0	**Instability** - 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** - 3	**Flammability** - 0	**Physical Hazards** - 0	**Personal protection** - X - See section 8 for more information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By	Hach Product Compliance Department
Issue Date	16-Aug-2018
Revision Date	16-Aug-2018
Revision Note	None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name Nessler Reagent

Other means of identification
Product Code(s) 2119432

Safety data sheet number M00503

UN/ID no UN2922

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory reagent. Determination of ammonium nitrogen.
Uses advised against None.
Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number
+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 2
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2
Aquatic Acute Toxicity	Category 1
Chronic aquatic toxicity	Category 1

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word - Danger



Hazard statements

H290 - May be corrosive to metals
H301 - Toxic if swallowed
H310 - Fatal in contact with skin
H314 - Causes severe skin burns and eye damage
H331 - Toxic if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements
P270 - Do not eat, drink or smoke when using this product
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P262 - Do not get in eyes, on skin, or on clothing
P310 - Immediately call a POISON CENTER or doctor/physician
P271 - Use only outdoors or in a well-ventilated area
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P363 - Wash contaminated clothing before reuse
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P273 - Avoid release to the environment
P391 - Collect spillage
P234 - Keep only in original container
P390 - Absorb spillage to prevent material damage

Other Hazards Known
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
Sodium hydroxide	1310-73-2	10 - 20%	-
Mercuric iodide	7774-29-0	5 - 10%	-
Sodium iodide	7681-82-5	3 - 7%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Immediate medical attention is required.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.

Skin contact Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous combustion products Mercury. Sodium oxides. Iodine compounds.

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Attention! Corrosive material. Keep people away from and upwind of spill/leak. Do not breathe vapor or mist.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
Reference to other sections	See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Do not breathe vapor or mist.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.
Flammability class	Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide CAS#: 1310-73-2	Ceiling: 2 mg/m³	TWA: 2 mg/m³ (vacated) Ceiling: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³
Mercuric iodide CAS#: 7774-29-0	TWA: 0.025 mg/m³ TWA: 0.01 ppm S*	(vacated) Ceiling: 0.1 mg/m³	IDLH: 10 mg/m³ Hg Ceiling: 0.1 mg/m³ Hg TWA: 0.05 mg/m³ except Organo alkyls Hg vapor
Sodium iodide CAS#: 7681-82-5	TWA: 0.01 ppm	NDF	NDF

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection Face protection shield.

Skin and body protection Impervious clothing. Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

General Hygiene Considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Do not breathe vapor or mist.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance aqueous solution **Color** yellow
Odor Not determined **Odor threshold** No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	12.1	
Melting point/freezing point	~ -21 °C / -6 °F	Estimation based on theoretical calculation
Boiling point / boiling range	110 °C / 230 °F	

Evaporation rate	1.07 (water = 1)	Estimation based on theoretical calculation
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	No data available 0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.265	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	110 °C / 230 °F	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Other Information

Metal Corrosivity
Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium hydroxide	1310-73-2	No data available	-
Mercuric iodide	7774-29-0	No data available	-
Sodium iodide	7681-82-5	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available

Flammability Limit in Air

Upper flammability limit	No data available
Lower flammability limit	No data available

Oxidizing properties	No data available.
Bulk density	No data available
Particle Size	No information available
Particle Size Distribution	No information available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stability Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials
Incompatible materials Oxidizing agent. Acids. Bases.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Product Information

Inhalation	Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Toxic by inhalation.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Fatal in contact with skin. May cause irritation.
Ingestion	Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.

Aggravated Medical Conditions Eye disorders. Skin disorders. Respiratory disorders. Preexisting eye disorders. Kidney disorders.

Toxicologically synergistic products None known.

Toxicokinetics, metabolism and distribution No information available.

Product Acute Toxicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	189.00 mg/kg
ATEmix (dermal)	53.00 mg/kg
ATEmix (inhalation-dust/mist)	0.53 mg/L
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Ingredient Acute Toxicity Data

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	Rat LD_{50}	18 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Rat LD_{50}	4340 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Aspiration toxicity
No data available

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	Patch test	Human	20 mg	24 hours	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	Standard Draize Test	Rabbit	0.05 mg	24 hours	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Standard Draize Test	Rabbit	100 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Sensitization Information

Product Sensitization Data
Skin Sensitization Exposure Route No data available.
Respiratory Sensitization Exposure Route No data available.

Ingredient Sensitization Data
Skin Sensitization Exposure Route If available, see data below.
Respiratory Sensitization Exposure Route If available, see data below.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data
Oral Exposure Route No data available.
Dermal Exposure Route No data available.
Inhalation (Dust/Mist) Exposure Route No data available.
Inhalation (Vapor) Exposure Route No data available.
Inhalation (Gas) Exposure Route No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Carcinogenicity Data
Oral Exposure Route No data available

Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sodium hydroxide	1310-73-2	-	-	-	-
Mercuric iodide	7774-29-0	-	Group 3	-	-
Sodium iodide	7681-82-5	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Germ Cell Mutagenicity *invitro* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data**
No data available

Product Germ Cell Mutagenicity *invivo* **Data**
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Germ Cell Mutagenicity *invivo* **Data**
Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Reproductive Toxicity Data
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Reproductive Toxicity Data
Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Woman TD_{Lo}	9240 mg/kg	43 weeks	**Effects on Newborn** Other neonatal measures or effects **Specific Developmental**	RTECS (Registry of Toxic Effects of Chemical Substances)

				Abnormalities Endocrine System	

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	Rat TC_{Lo}	0.000004870 mg/L	22 days	**Effects on Embryo or Fetus** Fetal death **Effects on Fertility** Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects

Product Ecological Data

Aquatic toxicity

Fish No data available
Crustacea No data available
Algae No data available

Ingredient Ecological Data

Aquatic toxicity

Fish If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	96 hours	*Oncorhynchus mykiss*	LC_{50}	45.4 mg/L	IUCLID (The International Uniform Chemical Information Database)
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	96 hours	*Leuciscus idus*	LC_{50}	0.13 mg/L	Vendor SDS
Sodium iodide (3 - 7%) CAS#: 7681-82-5	96 hours	*Oncorhynchus mykiss*	LC_{50}	3780 mg/L	EPA (United States Environmental Protection Agency)

Crustacea If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	48 Hours	*Daphnia sp.*	EC_{50}	40.4 mg/L	IUCLID (The International Uniform Chemical Information Database)
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	48 Hours	*Daphnia magna*	EC_{50}	0.0052 mg/L	Vendor SDS
Sodium iodide (3 - 7%) CAS#: 7681-82-5	48 Hours	*Daphnia magna*	EC_{50}	0.17 mg/L	EPA (United States Environmental Protection Agency)

Algae No data available

Other Information

Persistence and degradability

Product Biodegradability Data
No data available.

Ingredient Biodegradability Data

Chemical name	Test method	Biodegradation	Exposure time	Results
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	None reported	None reported	None reported	Readily biodegradable
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	None reported	None reported	None reported	Not readily biodegradable
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Inorganic Salt	None reported	None reported	Not readily biodegradable

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Bioaccumulation Data

Chemical name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	None reported	None reported	None reported	BCF >= 500	Has the potential to bioaccumulate

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Other adverse effects
Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number D002, D009

Special instructions for disposal Decontaminate any equipment or surfaces that have come in contact with mercury with commercially available mercury absorbing compounds. Dispose of all mercury contaminated material at an E.P.A. hazardous waste facility. Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

U.S. DOT

UN/ID no	UN2922
Proper shipping name	Corrosive Liquid, Toxic, N.O.S.
DOT Technical Name	(Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class	8
Subsidiary class	6.1
Packing Group	II
Emergency Response Guide Number	154

TDG

UN/ID no	UN2922
Proper shipping name	Corrosive Liquid, Toxic, N.O.S.
TDG Technical Name	(Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class	8
Subsidiary class	6.1
Packing Group	II

IATA

UN/ID no	UN2922
Proper shipping name	Corrosive Liquid, Toxic, N.O.S.
IATA Technical Name	(Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class	8
Subsidiary hazard class	6.1
Packing Group	II
ERG Code	154

IMDG

UN/ID no	UN2922
Proper shipping name	Corrosive Liquid, Toxic, N.O.S.
IMDG Technical Name	(Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class	8
Subsidiary hazard class	6.1
Packing Group	II
Marine pollutant	This material meets the definition of a marine pollutant

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Mercuric iodide (CAS #: 7774-29-0)	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2	1000 lb	-	-	X
Mercuric iodide 7774-29-0	-	X	-	-

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hydroxide 1310-73-2	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Mercuric iodide (CAS #: 7774-29-0)	Developmental

WARNING: This product can expose you to chemicals including Mercuric iodide, which is known to the State of California to cause birth defects or other reproductive harm.
For more information, go to http://www.P65Warnings.ca.gov

IMERC: Contains Mercury Dispose of in accordance with local, state and federal regulations or laws.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium hydroxide 1310-73-2	X	X	X
Mercuric iodide 7774-29-0	X	-	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium hydroxide	180.0910	21 CFR 184.1763
Sodium iodide	180.0940	-

Canada - CEPA - Mercury Containing Products

Chemical name	Canada - CEPA - Mercury Containing Products
Mercuric iodide CAS#: 7774-29-0	Applies

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

This product contains mercury and may be subject to reporting and recordkeeping requirements

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Mercuric iodide 7774-29-0	Prohibited Substance (LR) Declarable Substance (LR)	0.0 % 0.1 %

NFPA and HMIS Classifications

NFPA	**Health hazards** - 3	**Flammability** - 0	**Instability** - 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** - 3	**Flammability** - 0	**Physical Hazards** - 0	**Personal protection** - X - See section 8 for more information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.

SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By	Hach Product Compliance Department
Issue Date	16-Aug-2018
Revision Date	17-Aug-2018
Revision Note	SDS sections updated 2

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name Rochelle Salt Solution

Other means of identification
Product Code(s) 172533

Safety data sheet number M00304

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory reagent.
Uses advised against None.
Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number
+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word
None

Hazard statements
The product contains no substances which at their given concentration, are considered to be hazardous to health

Other Hazards Known
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

4. FIRST AID MEASURES

Description of first aid measures

General advice — No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.

Inhalation — Remove to fresh air.

Eye contact — Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact — Wash skin with soap and water.

Ingestion — Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms — See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians — Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media — Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media — Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical — No information available.

Hazardous combustion products — No information available.

Special protective equipment for fire-fighters — Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice — Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection No special protective equipment required.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance aqueous solution
Color colorless
Odor Odorless
Odor threshold No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	7.4	
Melting point/freezing point	~ -18 °C / 0 °F	
Boiling point / boiling range	~ 105 °C / 221 °F	
Evaporation rate	0.75 (water = 1)	
Vapor pressure	16.577 mm Hg / 2.21 kPa at 20 °C / 68 °F	
Vapor density (air = 1)	0.62	
Specific gravity (water = 1 / air = 1)	1.250	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Ethyl alcohol	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available

Flammability Limit in Air

Upper flammability limit	No data available
Lower flammability limit	No data available

Oxidizing properties	No data available.
Bulk density	No data available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Strong oxidizing agents, strong acids, and strong bases.

Hazardous Decomposition Products
Sodium oxides. Potassium oxide. Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
No data available.

Unknown Acute Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
Based on available data, the classification criteria are not met.

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
No data available.

Serious eye damage/irritation
Based on available data, the classification criteria are not met.

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
No data available.

Ingredient Sensitization Data
No data available.

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

Carcinogenicity
Based on available data, the classification criteria are not met.

Product Carcinogenicity Data
No data available.

Ingredient Carcinogenicity Data
No data available.

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data**
No data available.

Product Germ Cell Mutagenicity *invivo* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invivo* **Data**
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Based on available data, the classification criteria are not met.

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Special instructions for disposal Dilute to 3 to 5 times the volume with cold water. If permitted by regulation. Open cold water tap completely, slowly pour the material to the drain. Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

Note: No special precautions necessary.

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Does not comply

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL)
Not applicable
NFPA and HMIS Classifications

NFPA	**Health hazards** - 0	**Flammability** - 0	**Instability** - 0	**Physical and chemical properties** -
HMIS	**Health hazards** - 0	**Flammability** - 0	**Physical hazards** - 0	**Personal protection** - X

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
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SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 29-Jul-2019

Revision Date	30-Jul-2019
Revision Note	None

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End of Safety Data Sheet

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

STANDARD OPERATING PROCEDURES

APPENDIX D

PUBLIC INTERACTION GUIDELINES

APPENDIX D
PUBLIC INTERACTION GUIDELINES

It is recommended that Illicit Discharge Detection and Elimination (IDDE) field inventory, inspection and investigation services follow the Public Interaction Guidelines provided below.

Note: Please refer to end of this document for the *Field Workforce Safety Plan: COVID-19*, (KCI, May 2020), which provides guidance for field procedures during the Coronavirus (COVID-19) Pandemic.

During field investigations, it is not uncommon for the public to interact with field crews. The intent of these guidelines is to provide the field crews with a consistent approach to providing information to the public, while minimizing the chances of the public misinterpreting the authority or function of the field crews.

At all times, each field crew member should recognize the importance of being polite and providing accurate information to the public with regard to the purpose of the field work. Field staff are required to wear KCI safety vests (Refer to **Appendix C - Health & Safety Guidelines**).**-** A photo ID badge must be displayed in a prominent place.

1. Necessary Documentation for Public Interaction

The Field Work Authorization Letter verifies that field staff have the authority by the Permittee to conduct field work. Ten copies of the Permittee -specific Field Work Authorization Letter should be carried with each field crew at all times. The Field Work Authorization Letter is located in **Appendix B - SOP Form 2**.

2. Sample Public Interactions

The following are common situations or concerns that field crews may experience during interaction with the public. The proper field staff responses are provided below.

a. Public Inquires about what You are Doing

The field staff should respond that KCI is under contract with the Permittee, who is required to inventory and inspect the storm drain system. Provide the person with the Permittee -specific Field Work Authorization Letter **(Appendix B - SOP Form 2)** and explain the purpose of the field work.

b. Public Presents a Drainage / Maintenance Concern

(1) Concern Needs Immediate Attention/Action

The field crew should report the issue to the KCI Field Team Manager, who will then contact the appropriate Permittee staff to discuss the field observations and recommended corrective actions. Examples of immediate action concerns include missing or damaged grates or other situations that could pose an immediate dangerous situation.

(2) Concern Does Not Need Immediate Attention/Action

The field crew should listen to the public's concern and respond that KCI is under contract with the Permittee, who is required to conduct storm drain system inventory and inspection. State that you do not have the authority to investigate this concern and recommend they contact the Permittee as written on the Field Work Authorization Letter **(Appendix B - SOP Form 2)**.

UNDER NO CIRCUMSTANCES OFFER A POSSIBLE SOLUTION TO THE CONCERN.

c. Public Presents You with an Illicit Discharge Concern

(1) Illicit Discharge Not of Their Doing

The field crew should obtain the location of the illicit discharge and inform the person that staff will investigate the concern. Alert the KCI IDDE Field Manager, who will determine whether the discharge should be tested immediately or if it can wait until the next day.

(2) Previous Illicit Discharge Notification Concerning Their Property

The field crew should recommend the person contact the Permittee as written on the notification.

d. Public Does Not Want You on Their Property

Respond that you are working for the Permittee to inventory and inspect the storm drain system, and that you have the right to be there. Provide them with the Permittee-specific Field Work Authorization Letter (**Appendix B - SOP Form 2**) and explain the purpose of the field work. If they still do not want you there, attempt to obtain their name, address, and phone number so that the Permittee or KCI Project Manager can contact them. If they become aggressive, leave the premises.

DO NOT ARGUE WITH ANYONE UNDER ANY CIRCUMSTANCES!

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT II-MCM 3-2

FISCAL YEAR 2020
ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM ANNUAL REPORT

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM FISCAL YEAR 2020 ANNUAL REPORT

Prepared For:

CITY OF ABERDEEN
Department of Public Works

Prepared By:

KCI TECHNOLOGIES, INC.
Delaware Water Resources Practice
KCI Project No. 17158575E

JUNE 15, 2020

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

FISCAL YEAR 2020 ANNUAL REPORT

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CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM

General Discharge Permit No. 03-IM-5500 / General NPDES No. MDR055500

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM
FISCAL YEAR 2020 ANNUAL REPORT

As part of the City of Aberdeen's (City) National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements, KCI Technologies, Inc. (KCI) was contracted to conduct work in Fiscal Year (FY) 2020 in support of the City's Illicit Discharge Detection and Elimination (IDDE) Program. KCI's responsibilities included performing dry weather outfall field screening of the City-owned municipal separate storm sewer system (MS4) to identify potential illicit discharges (PIDs) and providing on-call investigations of PID reports. Summarized below are the IDDE Program activities conducted by KCI during the reporting period of July 1, 2019 through June 30, 2020.

1. DRY WEATHER OUTFALL FIELD SCREENING

The dry weather outfall field screening helps to identify potential illicit discharges (PIDs) into the MS4. Detailed information regarding the field screening protocol is located in the City of Aberdeen *Illicit Discharge Detection and Elimination Program Standard Operating Procedures* (2017).

The City's Phase II MS4 Permit requires that 20 percent of the City's outfalls be screened annually for illicit discharges. KCI used the City's MS4 mapping to divide the City into five areas, each containing approximately 20 percent of all outfalls (**Figure 1**). During FY 2020, the 53 outfalls located within Area 3 were screened, with the results listed below.

- One outfall was unable to be located.
- One outfall did not exist.
- 51 outfalls were located, confirmed to be outfalls, and screened for dry weather flow (**Table 1, Figure 2**).

a. Dry Weather Flow

In FY 2020, of the 51 outfalls screened, six had dry weather flow and were field-tested for ammonia and detergents. The field testing results indicated that none of the six outfalls had any evidence of illicit discharge.

Screened outfalls that had dry weather flow were field-tested and assigned an Incident ID Number, which was based on the current year and the order in which the outfall was screened (i.e., 2020-1). **Appendix A** contains the documentation for the six outfalls with flow (i.e., tracking form, location map, field data sheet). **Appendix B** contains the field data sheets for those outfalls screened that did not have flow.

TABLE 1
FY 2020 DRY WEATHER OUTFALL FIELD SCREENING - SUMMARY

Structure No. (Numerical Order)	Incident ID No.	Investigation Results
SWO-013	n/a	No Flow, No evidence of illicit discharge.
SWO-014	n/a	No Flow, No evidence of illicit discharge.
SWO-015	n/a	No Flow, No evidence of illicit discharge.
SWO-016	n/a	No Flow, No evidence of illicit discharge.
SWO-025	n/a	No Flow, No evidence of illicit discharge.
SWO-026	n/a	No Flow, No evidence of illicit discharge.
SWO-037	n/a	No Flow, No evidence of illicit discharge.
SWO-038	n/a	Could Not Access/Could Not Locate
SWO-039	n/a	No Flow, No evidence of illicit discharge.
SWO-040	n/a	No Flow, No evidence of illicit discharge.
SWO-041	n/a	No Flow, No evidence of illicit discharge.
SWO-043	n/a	No Flow, No evidence of illicit discharge.
SWO-044	n/a	No Flow, No evidence of illicit discharge.
SWO-045	n/a	No Flow, No evidence of illicit discharge.
SWO-046	n/a	No Flow, No evidence of illicit discharge.
SWO-047	n/a	No Flow, No evidence of illicit discharge.
SWO-048	n/a	No Flow, No evidence of illicit discharge.
SWO-049	n/a	No Flow, No evidence of illicit discharge.
SWO-050	n/a	No Flow, No evidence of illicit discharge.
SWO-051	n/a	No Flow, No evidence of illicit discharge.
SWO-052	n/a	No Flow, No evidence of illicit discharge.
SWO-053	n/a	No Flow, No evidence of illicit discharge.
SWO-054	n/a	No Flow, No evidence of illicit discharge.
SWO-055	n/a	No Flow, No evidence of illicit discharge.
SWO-056	n/a	No Flow, No evidence of illicit discharge.
SWO-057	2020-2	Flow, Field testing indicated no evidence of illicit discharge.
SWO-058	n/a	No Flow, No evidence of illicit discharge.
SWO-059	n/a	No Flow, No evidence of illicit discharge.
SWO-060	n/a	No Flow, No evidence of illicit discharge.
SWO-061	n/a	No Flow, No evidence of illicit discharge.

TABLE 1
FY 2020 DRY WEATHER OUTFALL FIELD SCREENING - SUMMARY
(Continued)

Structure No. (Numerical Order)	Incident ID No.	Investigation Results
SWO-062	n/a	No Flow, No evidence of illicit discharge.
SWO-063	2020-8	Flow, Field testing indicated no evidence of illicit discharge.
SWO-064	2020-9	Flow, Field testing indicated no evidence of illicit discharge.
SWO-065	n/a	No Flow, No evidence of illicit discharge.
SWO-066	n/a	No Flow, No evidence of illicit discharge.
SWO-067	n/a	No Flow, No evidence of illicit discharge.
SWO-068	n/a	No Flow, No evidence of illicit discharge.
SWO-072	n/a	No Flow, No evidence of illicit discharge.
SWO-073	n/a	No Flow, No evidence of illicit discharge.
SWO-074	n/a	No Flow, No evidence of illicit discharge.
SWO-075	n/a	No Flow, No evidence of illicit discharge.
SWO-076	n/a	No Flow, No evidence of illicit discharge.
SWO-077	n/a	No Flow, No evidence of illicit discharge.
SWO-160	n/a	No Flow, No evidence of illicit discharge.
SWO-172	n/a	No Flow, No evidence of illicit discharge.
SWO-199	n/a	No Flow, No evidence of illicit discharge.
SWO-205	n/a	No Flow, No evidence of illicit discharge.
SWO-210	2020-7	Flow, Field testing indicated no evidence of illicit discharge.
SWO-216	2020-6	Flow, Field testing indicated no evidence of illicit discharge.
SWO-217	2020-5	Flow, Field testing indicated no evidence of illicit discharge.
SWO-249A	n/a	No Flow, No evidence of illicit discharge.
SWO-249B	n/a	No Flow, No evidence of illicit discharge.

	Outfall with Flow – See **Appendix A**.
	Outfall with No Flow – See **Appendix B**.

FIGURE 1
FIVE-YEAR OUTFALL SCREENING BREAKDOWN

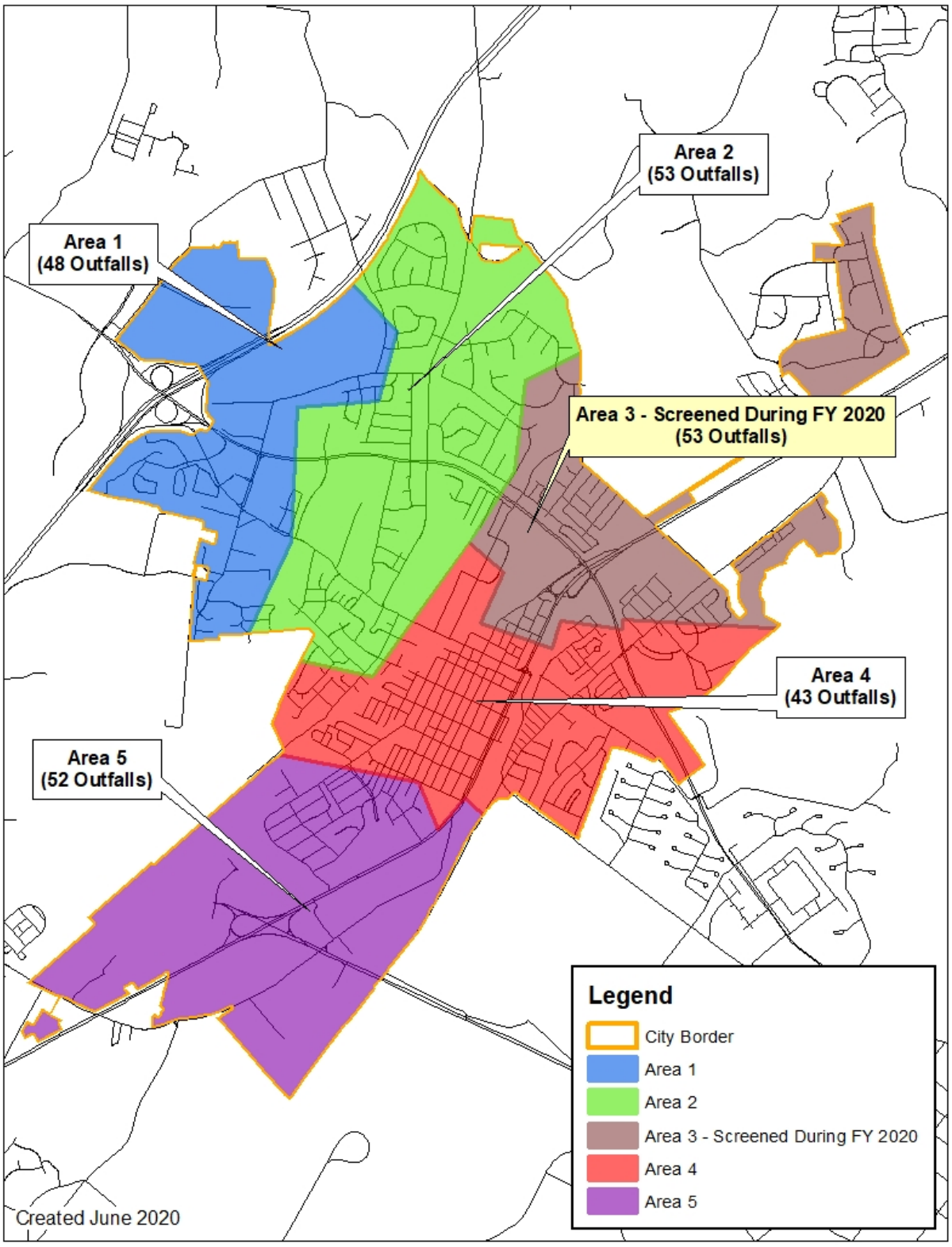
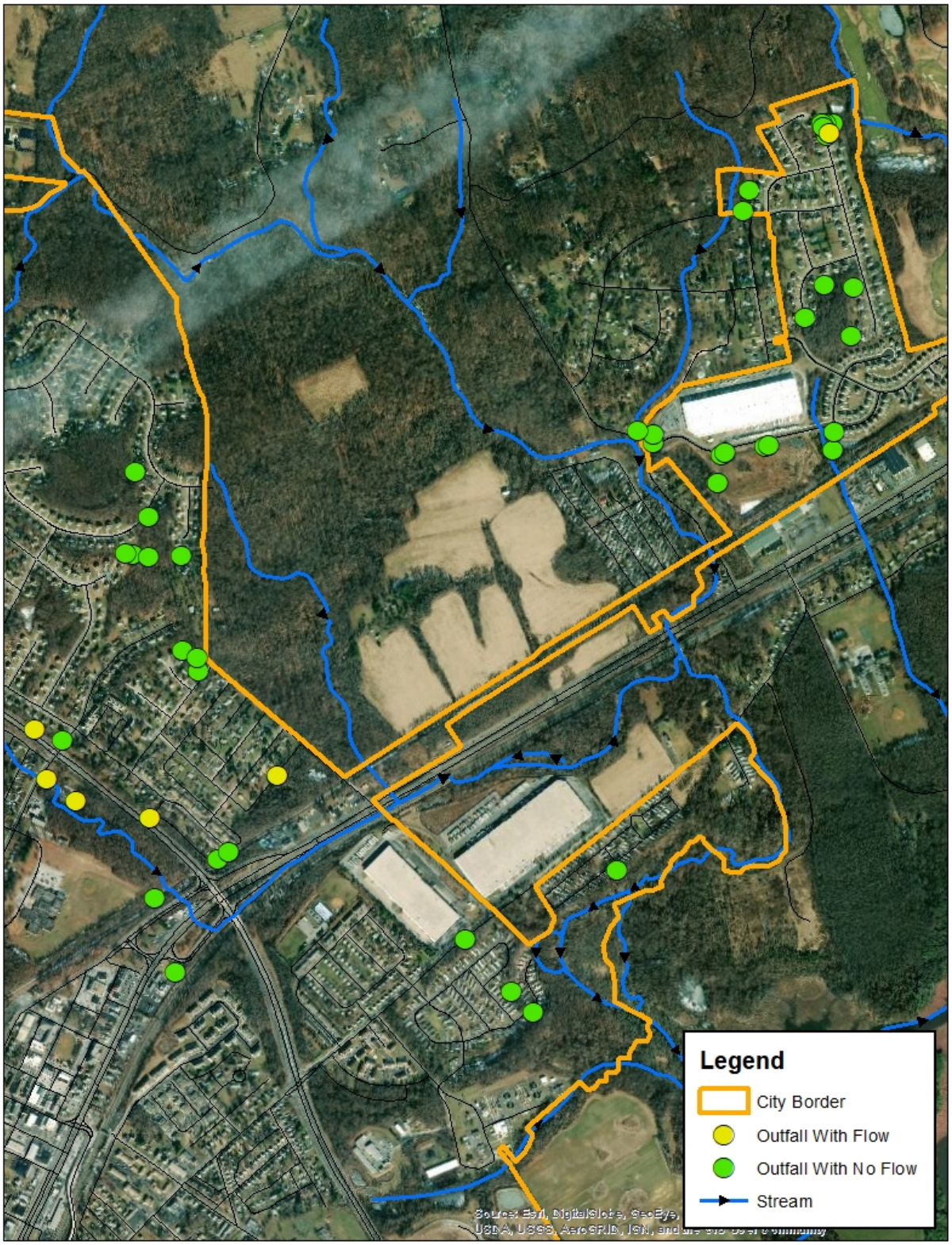


FIGURE 2

FY 2020 DRY WEATHER OUTFALL FIELD SCREENING – OUTFALL LOCATIONS



b. Miscellaneous Reports

In FY 2020, KCI received three Miscellaneous Reports of PIDs from both City staff and private citizens. PID investigations were assigned Incident ID Numbers based on the method discussed in Section 1.a. Documentation for the three PIDs investigated, as identified by the following Incident ID Numbers and addresses, are located in **Appendix A**.

- 2020-1 212 N Philadelphia Boulevard
- 2020-3 123 W Bel Air Avenue
- 2019-4 627 W Bel Air Avenue

2. TRACKING AND ELIMINATION OF ILLICIT DISCHARGES

Field screening was conducted in accordance with the City's *Illicit Discharge Detection & Elimination Program Standard Operating Procedures* (2017). The field screening and inspection results determine if steps for illicit discharge elimination are necessary. If a discharge is determined to be illicit, KCI staff follow up to track the source of the discharge. The category of illicit discharge (e.g. wastewater, dumping) determines what additional steps are necessary to locate and identify the responsible party and to eliminate the illicit discharge.

As described in Section 1.a, none of dry weather outfalls screened in FY 2020 had any evidence of illicit discharge.

As described in Section 1.b, there were three miscellaneous report PID investigations. Upon investigation, two of the incidents were determined to have evidence of illicit discharge. Steps were taken to eliminate the illicit discharges, including issuing Notices of Violation to business owners. **Appendix A** contains the KCI investigation tracking forms, location maps, memorandums, photos, and the City's Notice of Violation for each incident.

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

FISCAL YEAR 2020 ANNUAL REPORT

APPENDIX A

DRY WEATHER OUTFALL SCREENING

➢ FLOW & POTENTIAL ILLICIT DISCHARGES

- 2020-1 212 N Philadelphia Boulevard
- 2020-2 Structure SWO-057
- 2020-3 123 W Bel Air Avenue
- 2020-4 627 W Bel Air Avenue
- 2020-5 Structure SWO-217
- 2020-6 Structure SWO-216
- 2020-7 Structure SWO-210
- 2020-8 Structure SWO-063
- 2020-9 Structure SWO-064

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-1 **Date: 09-03-19**
Structure No. SWO-069

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ☐ NO ■ TBD

LOCATION:
Subdivision: Hillcrest Manor **House No:** 212 **Stream:** NA
Zip Code: 21001 **Street:** N Philadelphia BLVD **Watershed:** Swan Creek

SETTING:

■	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	■	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 72 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: City of Aberdeen

Issue: Water leaving laundry mat and draining into storm water basin.

Determination: Evidence of Illicit Discharge; Further Action Required.

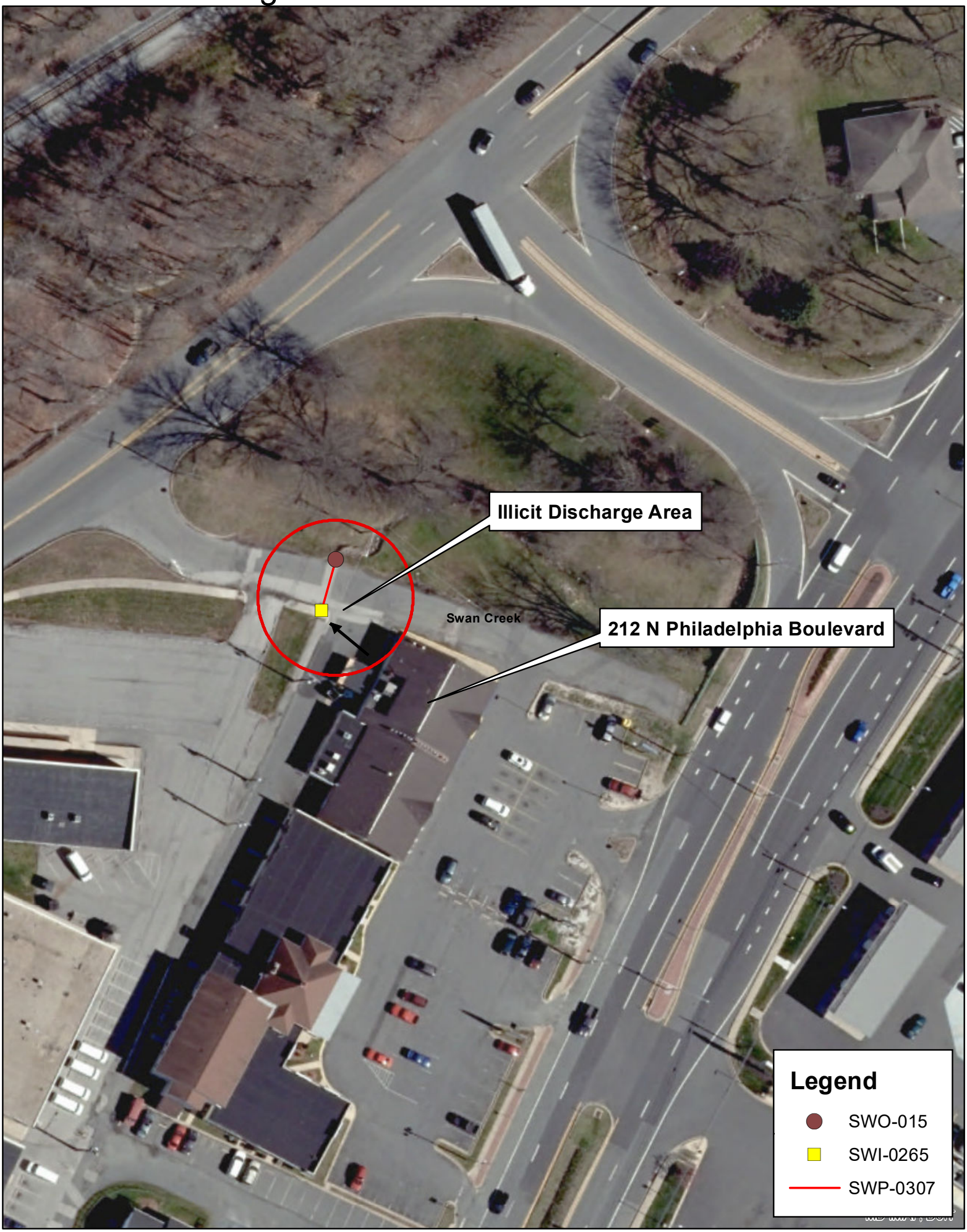


DOCUMENTATION:

- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



Figure 1 - Incident ID No. 2020-1



City Engineer
(410) 272-1600 Ext.222

-----Original Message-----
From: Whichard, Taylor
Sent: Monday, July 22, 2019 1:50 PM
To: Torster, Kyle <ktorster@aberdeenmd.gov>
Cc: Hess, Parley <phess@aberdeenmd.gov>
Subject: RE: Illicit Discharge from 212 N Philadelphia Blvd.

Kyle,

The letter was sent out this afternoon.

Regards,

Taylor Whichard
City Engineer
City of Aberdeen
60 N. Parke St.
Aberdeen, MD 21001
410-272-1600

-----Original Message-----
From: Torster, Kyle <ktorster@aberdeenmd.gov>
Sent: Friday, July 19, 2019 4:59 PM
To: Hess, Parley <phess@aberdeenmd.gov>; Whichard, Taylor <twhichard@aberdeenmd.gov>
Cc: Torster, Kyle <ktorster@aberdeenmd.gov>
Subject: RE: Illicit Discharge from 212 N Philadelphia Blvd.

Taylor,

Please address a letter next week to the owner for non-compliance of their sanitary sewer system.

Sincerely,

Kyle E. Torster, P.E.
Director of Public Works

-----Original Message-----
From: Hess, Parley <phess@aberdeenmd.gov>
Sent: Friday, July 19, 2019 1:40 PM
To: Torster, Kyle <ktorster@aberdeenmd.gov>
Subject: Illicit Discharge from 212 N Philadelphia Blvd.

Following up, I agree that this is a Sanitary Sewer Overflow (SSO) not a IDDE. The property owner should be notified of the violation and any repair actions should be documented. It does not require a field investigation by KCI.

Thanks,
Parley

-----Original Message-----
From: Quesenbery, Josh
Sent: Monday, July 15, 2019 10:48 AM
To: Torster, Kyle <ktorster@aberdeenmd.gov>; Monath, Fred <fmonath@aberdeenmd.gov>; Randy Cole <Randy.Cole@kci.com>; Bruce Thompson <Bruce.Thompson@kci.com>
Cc: Hess, Parley <phess@aberdeenmd.gov>; Whichard, Taylor <twhichard@aberdeenmd.gov>
Subject: RE: Illicit Discharge from 212 N Philadelphia Blvd.

Kyle,
This manhole is privately owned. It has a pump system in it for the laundry mat. We have responded to several backups at this location and have informed the laundry mat to contact a plumber which they have each time. It is pumped through a series of cleanouts and the private lateral lines for that particular shopping center until it reaches our main further up Beech Alley at SMH-1375. It is gray water from the laundry mat so it could be considered an SSO by the privately owned manhole. We were not contacted to our knowledge for a backup on Saturday. They may have stopped calling us due to the fact that they need to contact a plumber. In the long term they need to find a solution to these backups to prevent this in the future. Let me know if you have any additional questions.

Thanks,
Josh Quesenbery
City Of Aberdeen
Office:(410) 272-1414

-----Original Message-----
From: Torster, Kyle
Sent: Monday, July 15, 2019 9:40 AM
To: Monath, Fred <fmonath@aberdeenmd.gov>; Quesenbery, Josh <jquesenbery@aberdeenmd.gov>; Randy Cole <Randy.Cole@kci.com>; Bruce Thompson <Bruce.Thompson@kci.com>
Cc: Torster, Kyle <ktorster@aberdeenmd.gov>; Hess, Parley <phess@aberdeenmd.gov>; Whichard, Taylor <twhichard@aberdeenmd.gov>
Subject: FW: Illicit Discharge from 212 N Philadelphia Blvd.

Josh,

Would you check to see if this is an SSO from the manhole? Is it our manhole or privately owned? I've also cc'd KCI for assistance in documentation under the illicit discharge program. Please let me know what you find out.

Sincerely,

Kyle E. Torster, P.E.
Director of Public Works

-----Original Message-----
From: buckley, christine <cmbuckley@harfordcountymd.gov>
Sent: Monday, July 15, 2019 7:48 AM
To: Torster, Kyle <ktorster@aberdeenmd.gov>
Cc: hiob, michael <mghiob@harfordcountymd.gov>; dobson, michele <mgdobson@harfordcountymd.gov>
Subject: FW: Illicit Discharge from 212 N Philadelphia Blvd.

Kyle, Enclosed for your consideration is an IDDE / hotspot for your consideration. Please let us know if you have any questions. Thanks. Christine

-----Original Message-----
From: hiob, michael <mghiob@harfordcountymd.gov>
Sent: Monday, July 15, 2019 7:03 AM
To: buckley, christine <cmbuckley@harfordcountymd.gov>; dobson, michele <mgdobson@harfordcountymd.gov>
Cc: davies, michael <mtdavies@harfordcountymd.gov>; pistel, tom <tapistel@harfordcountymd.gov>
Subject: Illicit Discharge from 212 N Philadelphia Blvd.

Christine / Michelle,

This past Saturday morning, I discovered this illicit discharge of gray water coming out of a manhole behind the "Family Wash Day" Laundromat located at 212 N. Philadelphia Blvd in Aberdeen.
It runs across the paved alley, into a storm drain, under Locust Lane and directly into a small stream. I was going to do and IDDE, but this system did not show up in the Collector app. Please advise.

Thanks,
Michael G.Hiob
Construction Inspector III
Harford County DPW/BCI
212 S. Bond Street
Bel Air, MD 21014
(410) 937-5538
mghiob@harfordcountymd.gov

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-2 **Date: 10-11-19**
Structure No. SWO-057

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:
Subdivision: The Green At Rock Glenn **House No:** 40 **Stream:** NA
Zip Code: 21001 **Street:** Glen Rock Rd **Watershed:** Swan Creek

SETTING:

☐	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
■	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Targeted

Issue: Dry Weather Flow

Determination: No Evidence of Illicit Discharge; No Further Action Required.



DOCUMENTATION:
- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



2020-2 SWO-057



CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-057
Incident ID #: 2020-2
Subdivision: The Greens at Rock Glenn
Address/Location: 40 Glen Rock Road

Personnel		JS / RB
Date		10-11-19
Time		10:06
Air Temperature (F)		62°
Photograph	Yes(Y), No(N)	Y
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	6
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	PVC
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	M
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		0.001
Flow Volume Method	Container Size (oz) = 1L Time to Fill (sec) = 100	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		61°
pH (units)		7.8
Turbidity (ntu)		4.56
Surfactants (mg/L)	**Field Tested:**	0
	Lab Tested:	—
	Follow Up Lab Tested:	—
Ammonia (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Potassium (mg/L)	**Lab Tested:**	—
	Follow Up Lab Tested:	-
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-3 **Date: 12-06-19**
Structure No. N/A

EVIDENCE OF ILLICIT DISCHARGE: ■ YES ☐ NO ☐ TBD

LOCATION:

Subdivision:	N/A	**Address No:**	123	**Stream:**	NA
Zip Code:	21001	**Street:**	W Bel Air Ave	**Watershed:**	Swan Creek

SETTING:

☐	Storm Drain	☐	Outfall	■	Other (specify): Parking Lot
☐	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

☐	Flow	☐	Soap	☐	Cloudy
■	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
■	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

☐	None	☐	Sulfide (“rotten egg”)	■	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: City of Aberdeen

Issue: Oil Staining / Oil Discharge

Determination: Evidence of Illicit Discharge, Further Action Required.

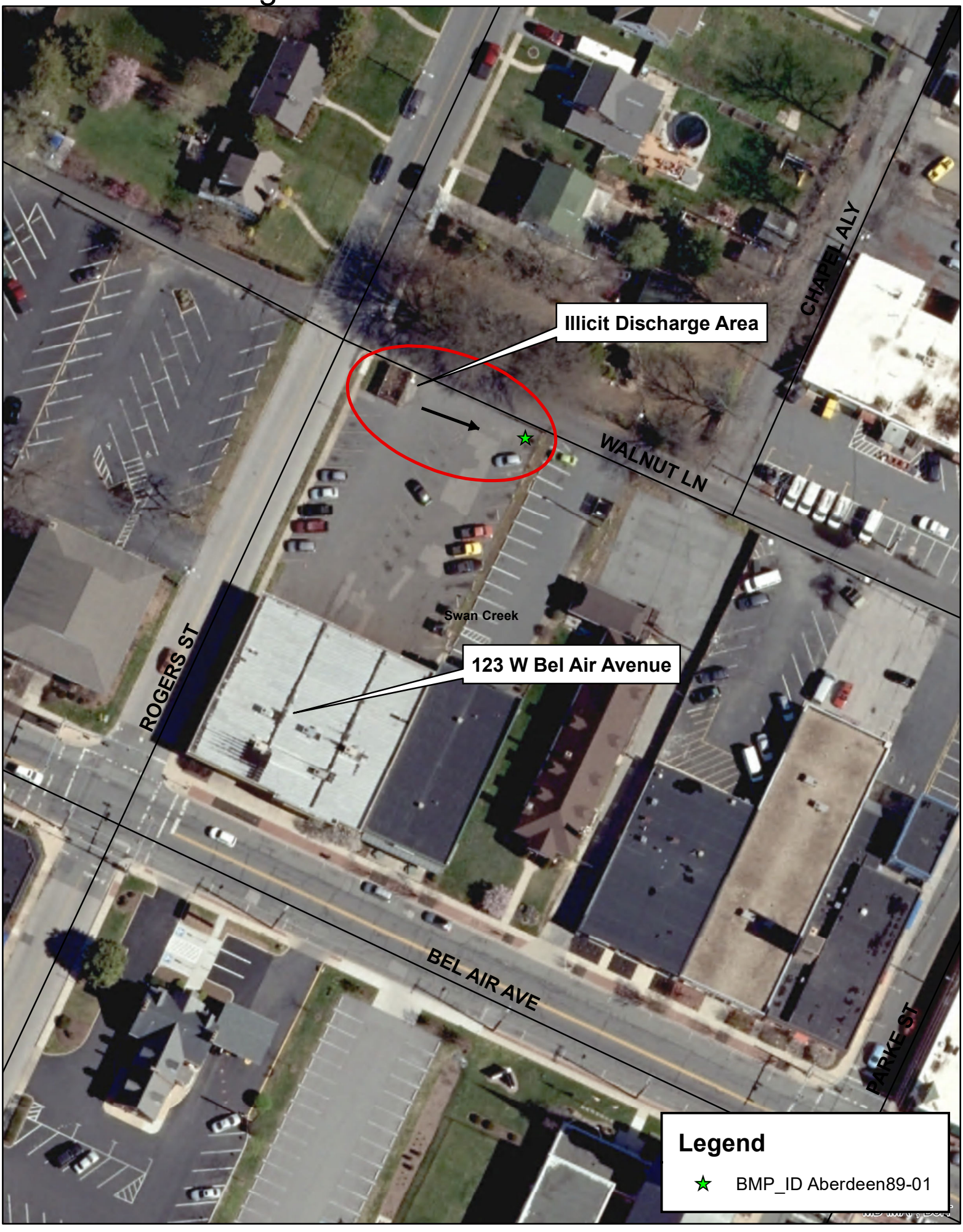


DOCUMENTATION:

- ■ Location Map
- ■ Summary Memorandum with Photographs
- ☐ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



Figure 1 - Incident ID No. 2020-3



KCI TECHNOLOGIES

MEMORANDUM

TO: Kyle Torster, PE City of Aberdeen
Parley Hess, PE City of Aberdeen

FROM: Matt Ortynsky, KCI

DATE: December 6, 2019

SUBJECT: Potential Illicit Discharge Investigation
Incident ID No. 2020-3
123 W Bel Air Avenue
Swan Creek Watershed / Harford County
KCI Project No. 17158575E

The purpose of this Memorandum is to summarize the KCI field investigation regarding a Potential Illicit Discharge (PID) at 123 W Bel Air Avenue in the Swan Creek Watershed in Harford County.

December 6, 2019

City of Aberdeen (Taylor Whichard) requested KCI conduct a PID investigation in the parking lot behind 123 W Bel Air Avenue in relation to oil overflowing out of a designated storage area.

December 6, 2019

A KCI field crew (Ryan Brouillette / Melissa Juber) visited the property and inspected the area.

- The field crew observed evidence of oil overflowing from the designated storage area (**Figure 1**).
- The field crew observed evidence that oil flowing from the storage area has entered an Infiltration Trench (BMP_ID Aberdeen89-01) located approximately 70’ downstream of the storage area (see attached photos).

KCI recommends contacting the owner of Mr. Tire located at 123 W Bel Air Avenue directing them to clean / remove the excess oil overflowing from the storage facility and to implement stronger containment measures.

Incident ID No. 2020-3

123 W Bel Air Avenue

Swan Creek Watershed / Harford County



Evidence of Oil Overflow from Storage Area



Looking Downstream from Storage Area

Incident ID No. 2020-3

123 W Bel Air Avenue

Swan Creek Watershed / Harford County



Oil Staining on Grate of BMP_ID Aberdeen89-01

CITY OF ABERDEEN

December 9, 2019

CERTIFIED/RETURN RECIEPT
Monro, Inc.
200 Hollender Pkwy
Rochester, NY 14615

WARNING NOTICE
§ 250-34: PROHIBITED DISCHARGES
123 W. Bel Air Ave
ABERDEEN, MD 21001

To Whom It May Concern,

A couple of months ago, the City Engineer walked into the Mr. Tire store located at 123 W. Bel Air Ave, Aberdeen, MD to inform the Store Manager at that time of a potential IDDE Violation. The Store Manager assured the City Engineer the issue of the used motor oil, which had spilled onto the ground would be resolved promptly. The City Engineer warned the Store Manager that if it was not resolved in a reasonable amount of time, that a written warning will be sent to the property owner. At the request of the City Engineer, KCI Technologies, who is a contractor for the City, performed an investigation on December 6th 2019. The investigation determined that your property located at 123 W. Bel Air, Aberdeen, MD 21001 was in violation and will require your immediate attention to remedy because it is an environmental hazard.

Under **§ 250-34 (1): Prohibited Discharges; No person shall release or allow to be released any of the following substances into the MS4: Any new or used petroleum product.** In specific to your property, please refer to the included inspection report dated December 6, 2019 provided by KCI Technologies. The report includes pictures, and locations of the storm drains that appeared to have an oil stain.

Please respond, either by phone or mail, within ten (10) business days of receiving this letter to inform the City of your intentions to remediate this and any future issues. Thank you for your prompt attention to this matter. If you have any questions or concerns, please do not hesitate to contact me at City Hall (410) 272-1600 ext. 222.

Sincerely,

Taylor Whichard
City Engineer

Cc: Kyle E. Torster, P.E., Director of Public Works
Matthew Ortynsky, Project Manager, KCI Technologies

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-4 **Date: 01-13-20 to 01-14-20**
Structure No. N/A

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:

Subdivision:	N/A	**Address No:**	627	**Stream:**	Swan Creek
Zip Code:	21001	**Street:**	W Bel Air Ave	**Watershed:**	Swan Creek

SETTING:

☐	Storm Drain	☐	Outfall	☐	Other (specify):
■	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	■	Other: Iron Flocculent

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Citizen Report

Issue: Rust in stream in backyard.

Determination: No Evidence of Illicit Discharge

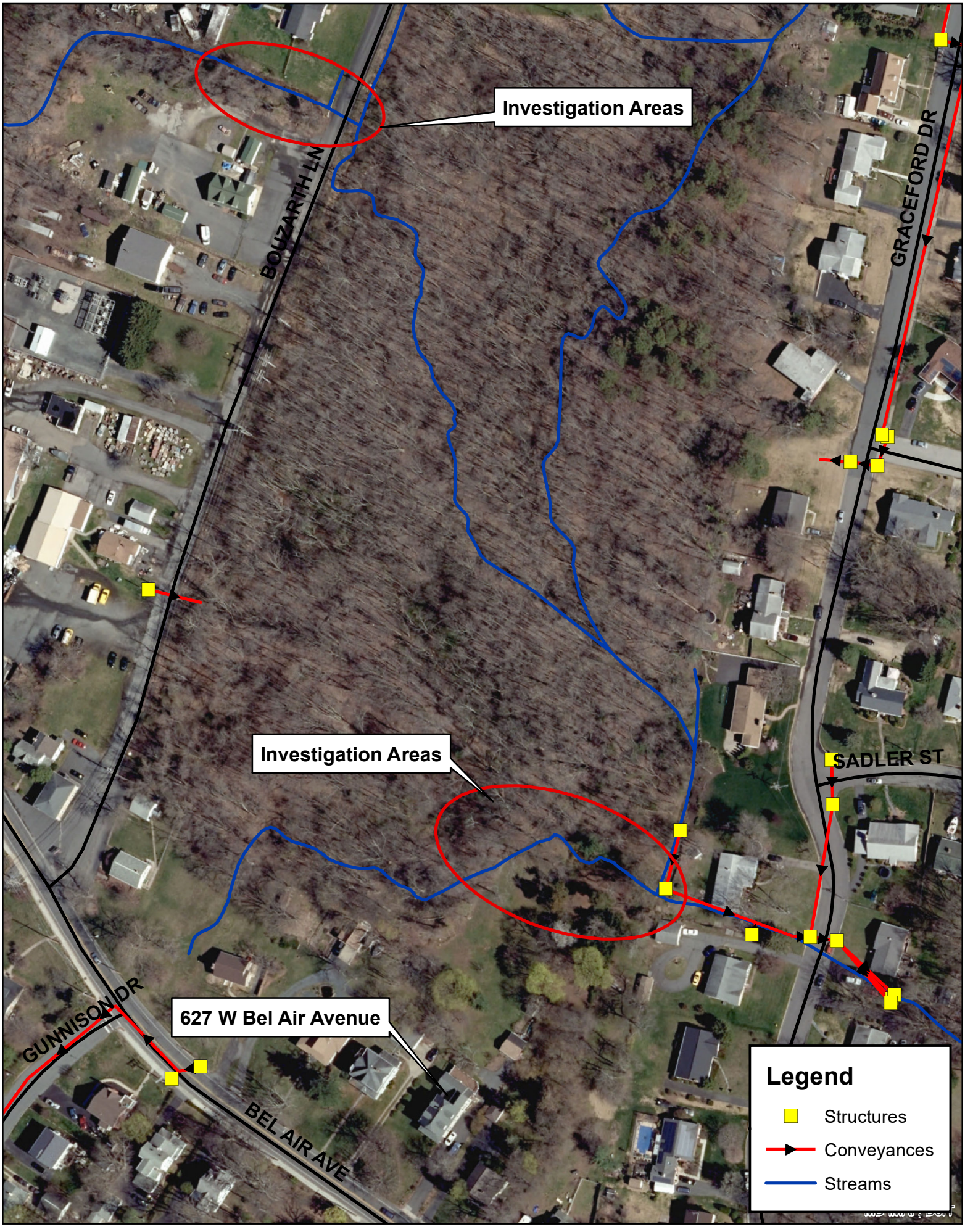


DOCUMENTATION:

- ■ Location Map
- ■ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



Incident ID No. 2020-4



KCI TECHNOLOGIES

MEMORANDUM

TO: Kyle Torster, PE City of Aberdeen
Parley Hess, PE City of Aberdeen
Taylor Whichard, PE City of Aberdeen

FROM: Matt Ortynsky, KCI

DATE: January 13, 2020 – January 14, 2020

SUBJECT: Potential Illicit Discharge Investigation
Incident ID No. 2020-4
627 W Bel Air Avenue
Swan Creek Watershed / Harford County
KCI Project No. 17158575E

The purpose of this Memorandum is to summarize the KCI field investigation regarding a Potential Illicit Discharge (PID) near 627 W Bel Air Avenue in the Swan Creek Watershed in Harford County.

January 13, 2020

City of Aberdeen received a report of a PID from the residents at 627 W Bel Air Avenue.

- The report stated the stream behind their house occasionally seems to have rust it in.
- Kyle Torster contacted KCI and requested an IDDE investigation.

January 14, 2020

A KCI field crew (Julie Scheu/Melissa Juber) visited the property and inspected the area.

- The stream behind 627 W Bel Air appeared to be clean, with no discoloration or other signs of illicit discharge.
- A sample was collected from this portion of the stream and field tested for ammonia and detergents.
- Field testing results: ammonia = 0; detergents = 0.
- Based on these results, there is no evidence of illicit discharge.
- The field crew also looked at the upstream portion of the stream near Bouzarth Lane.
- There was a section of stream near 112 Bouzarth Lane with large amounts of iron flocculent, a naturally occurring bacteria commonly found in streams.

Incident ID No. 2020-3

627 W Bel Air Avenue

Swan Creek Watershed / Harford County



Stream Behind 627 W Bel Air Avenue



Iron in Stream near 112 Bouzarth Lane

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: N/A

Incident ID #: 2020-4

Subdivision: N/A

Address/Location: 627 W Bel Air Avenue

Personnel		JS/MJ
Date		1-14-20
Time		10:00AM
Air Temperature (F)		40
Photograph	Yes(Y), No(N)	Y
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	N/A
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	↓
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R/C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N/A
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	Y
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		1.0
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) = 1	--
Flow Depth (ft) = 0.5	Flow Width (ft) = 1 Travel Time (sec) = 1.5	--
Water Temperature (F)		46.5
pH (units)		8.7
Turbidity (ntu)		2.05
Surfactants (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Ammonia (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Potassium (mg/L)	**Lab Tested:**	-
	Follow Up Lab Tested:	-
Other	As applicable	-
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	O-iron
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C/orange
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		NO evidence of illicit discharge

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-5 **Date: 1-22-20**
Structure No. SWO-217

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:
Subdivision: N/A **House No:** N/A **Stream:** Swan Creek
Zip Code: 21001 **Street:** Mount Royal Ave **Watershed:** Swan Creek

SETTING:

☐	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
■	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Targeted

Issue: Dry Weather Flow

Determination: No Evidence of Illicit Discharge; No Further Action Required.



DOCUMENTATION:

- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



2020-5 SWO-217



CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-217
Incident ID #: 2020-5
Subdivision: N/A
Address/Location: Mount Royal Ave

Personnel		JS | RB
Date		1-22-20
Time		11:00
Air Temperature (F)		33
Photograph	Yes(Y), No(N)	Y
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	12
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	PVC
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		0.001
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		40.8
pH (units)		7.7
Turbidity (ntu)		33.01
Surfactants (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Ammonia (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Potassium (mg/L)	**Lab Tested:**	-
	Follow Up Lab Tested:	-
Other	As applicable	-
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-6 **Date: 1-22-20**
Structure No. SWO-216

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:
Subdivision: Northwood **House No:** 236 **Stream:** Swan Creek
Zip Code: 21001 **Street:** Mount Royal Ave **Watershed:** Swan Creek

SETTING:

☐	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
■	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Targeted

Issue: Dry Weather Flow

Determination: No Evidence of Illicit Discharge; No Further Action Required.



DOCUMENTATION:

- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



2020-6 SWO-216



CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-216
Incident ID #: 2020-6
Subdivision: Northwood
Address/Location: 236 Mount Royal Ave

Personnel		JS|RB
Date		1-22-20
Time		10:52
Air Temperature (F)		33
Photograph	Yes(Y), No(N)	Y
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	36
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		0.015
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		44.3
pH (units)		7.8
Turbidity (ntu)		5.98
Surfactants (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Ammonia (mg/L)	**Field Tested:**	0.1
	Lab Tested:	-
	Follow Up Lab Tested:	-
Potassium (mg/L)	**Lab Tested:**	-
	Follow Up Lab Tested:	-
Other	As applicable	-
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-7 **Date: 1-22-20**
Structure No. SWO-210

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:
Subdivision: North Hills **House No:** 390 **Stream:** Swan Creek
Zip Code: 21001 **Street:** Hillcrest Drive **Watershed:** Swan Creek

SETTING:

☐	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Targeted

Issue: Dry Weather Flow

Determination: No Evidence of Illicit Discharge; No Further Action Required.



DOCUMENTATION:
- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



2020-7 SWO-210



CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-210
Incident ID #: 2020-7
Subdivision: North Hills
Address/Location: 390 Hillcrest Dr

Personnel		JS|RB
Date		1-22-20
Time		10:32
Air Temperature (F)		32
Photograph	Yes(Y), No(N)	Y
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	36
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	Y
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		0.015
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		42.5
pH (units)		8.1
Turbidity (ntu)		54.06
Surfactants (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Ammonia (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Potassium (mg/L)	**Lab Tested:**	-
	Follow Up Lab Tested:	-
Other	As applicable	-
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-8 **Date: 1-22-20**
Structure No. SWO-063

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:
Subdivision: Green Valley **House No:** 194 **Stream:** Swan Creek
Zip Code: 21001 **Street:** Farm Road **Watershed:** Swan Creek

SETTING:

☐	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Targeted

Issue: Dry Weather Flow

Determination: No Evidence of Illicit Discharge; No Further Action Required.

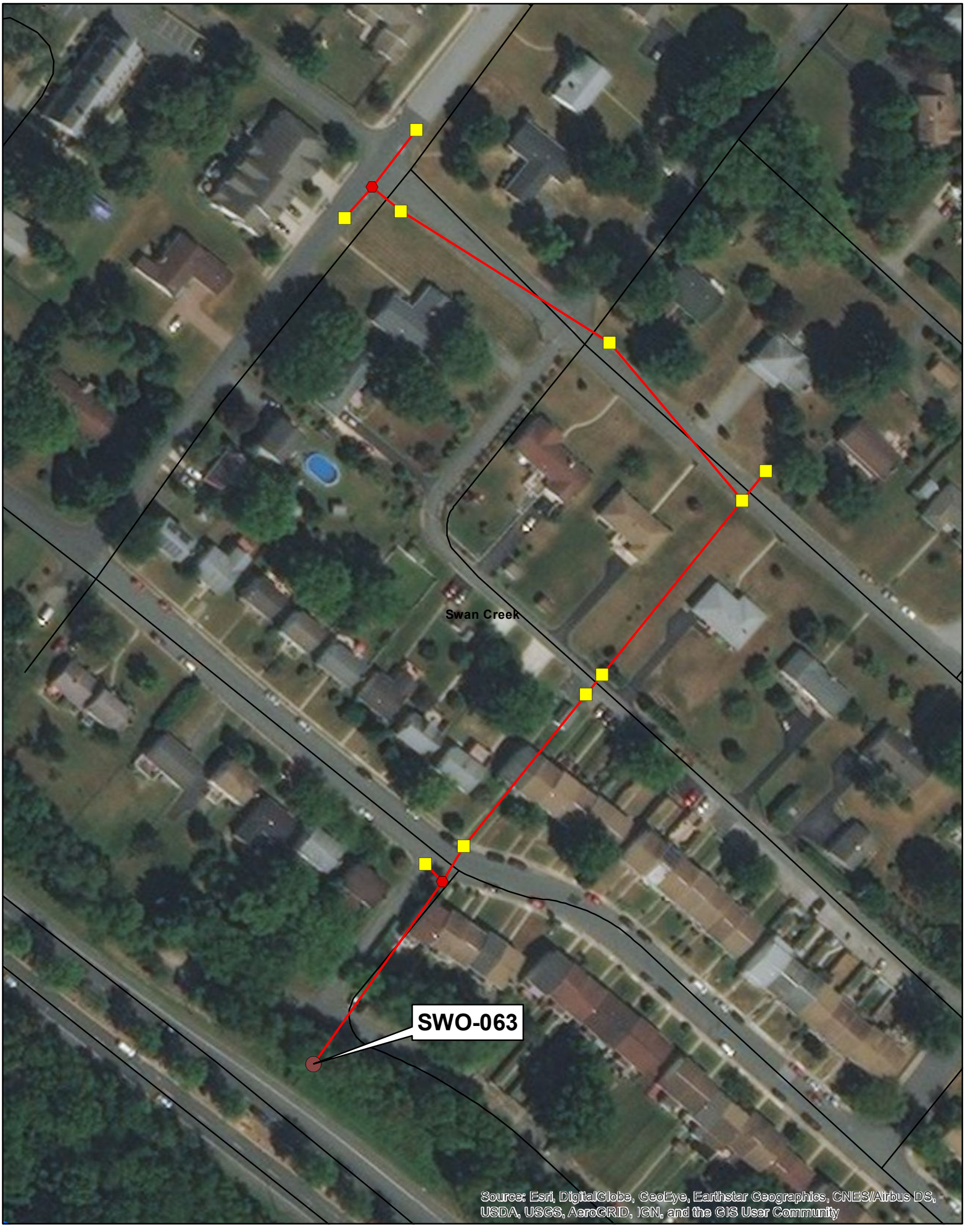


DOCUMENTATION:

- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



2020-8 SWO-063



CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-063
Incident ID #: 2020-8
Subdivision: Green Valley
Address/Location: 194 Farm Road

Personnel		JS|RB
Date		1-22-20
Time		10:20
Air Temperature (F)		32
Photograph	Yes(Y), No(N)	Y
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	34 x 26
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	Arch
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		0.01
Flow Volume Method	Container Size (oz) = / Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = / Travel Time (sec) =	--
Water Temperature (F)		48.0
pH (units)		8.2
Turbidity (ntu)		1.40
Surfactants (mg/L)	**Field Tested:**	0
	Lab Tested:	-
	Follow Up Lab Tested:	-
Ammonia (mg/L)	**Field Tested:**	0.1
	Lab Tested:	-
	Follow Up Lab Tested:	-
Potassium (mg/L)	**Lab Tested:**	-
	Follow Up Lab Tested:	-
Other	As applicable	-
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

IDDE INVESTIGATION TRACKING FORM

Incident ID No. 2020-9 **Date: 1-22-20**
Structure No. SWO-064

EVIDENCE OF ILLICIT DISCHARGE: ☐ YES ■ NO ☐ TBD

LOCATION:
Subdivision: Bar Kress Heights **House No:** 408 **Stream:** Swan Creek
Zip Code: 21001 **Street:** Railbird Alley **Watershed:** Swan Creek

SETTING:

☐	Storm Drain	■	Outfall	☐	Other (specify):
☐	In Stream	☐	Along Bank		
☐	Stormwater Pond	☐	Upland		

VISUAL:

■	Flow	☐	Soap	☐	Cloudy
☐	Staining	☐	Floatables (toilet paper, etc)	☐	Algae
☐	Oil / Oil Sheen	☐	Dead Fish	☐	Precip w/in 48 hrs
☐	Antifreeze	☐	Yard Waste	☐	Other:

ODOR:

■	None	☐	Sulfide (“rotten egg”)	☐	Gas/Oil
☐	Sewage	☐	Other (specify):		

IDDE INVESTIGATION SUMMARY:

Referred By: Targeted

Issue: Dry Weather Flow

Determination: No Evidence of Illicit Discharge; No Further Action Required.

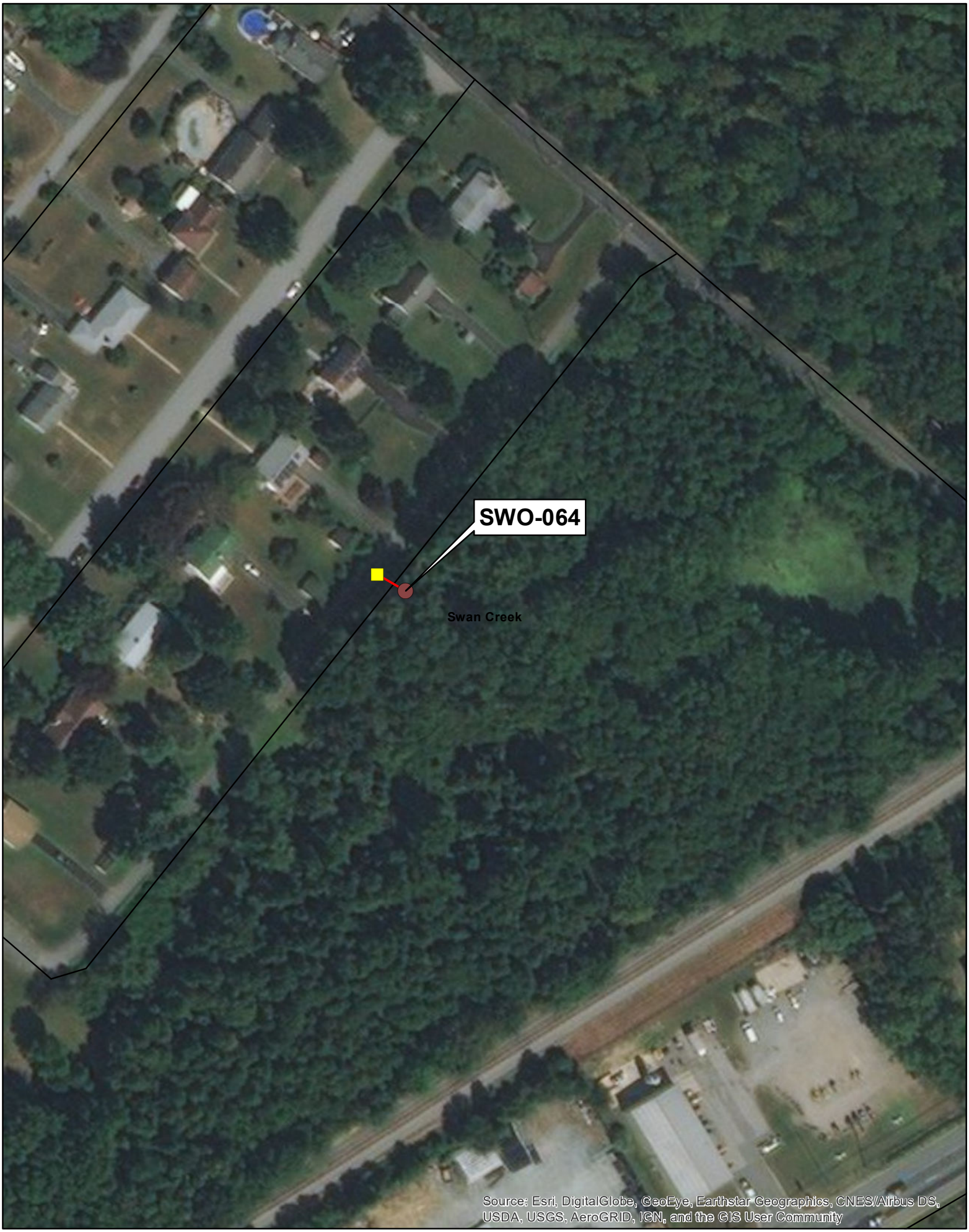


DOCUMENTATION:

- ■ Location Map
- ☐ Summary Memorandum with Photographs
- ■ Field Data Sheet
- ☐ Laboratory Data
- ☐ Door Hanger
- ☐ Notice of Potential Illicit Discharge
- ☐ Other: _____



2020-9 SWO-064



CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-064
Incident ID #: 2020-9
Subdivision: Barkess Heights
Address/Location: 408 Railbird Alley

Personnel		JS|RB
Date		1-22-20
Time		9:55
Air Temperature (F)		31
Photograph	Yes(Y), No(N)	Y
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	Y
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	Y
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		0.001
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		54.3
pH (units)		7.4
Turbidity (ntu)		18.90
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	C
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

FISCAL YEAR 2020 ANNUAL REPORT

APPENDIX B

DRY WEATHER OUTFALL SCREENING OUTFALLS

➢ NO FLOW / NO EVIDENCE OF ILLICIT DISCHARGE

- SWO-013
- SWO-014
- SWO-015
- SWO-016
- SWO-025
- SWO-026
- SWO-037
- SWO-038
- SWO-039
- SWO-040
- SWO-041
- SWO-043
- SWO-044
- SWO-045
- SWO-046
- SWO-047
- SWO-048
- SWO-049
- SWO-050
- SWO-051
- SWO-052
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- SWO-059
- SWO-060
- SWO-061
- SWO-062
- SWO-065
- SWO-066
- SWO-067
- SWO-068
- SWO-072
- SWO-073
- SWO-074
- SWO-075
- SWO-076
- SWO-077
- SWO-160
- SWO-072
- SWO-199
- SWO-205
- SWO-249A
- SWO-249

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-013
Incident ID #: N\A
Subdivision: N\A
Address/Location: 102 N Rogers St

Personnel		JS\RB
Date		1-22-20
Time		12:32
Air Temperature (F)		37
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	54 x 2
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	Y-Stream
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-014

Incident ID #: NIA

Subdivision: NIA

Address/Location: 102 N Rogers St

Personnel		JS|RB
Date		1-22-20
Time		12:37
Air Temperature (F)		37
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	18 x 2
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-015
Incident ID #: N/A
Subdivision: N/A
Address/Location: 212 N Philadelphia Blvd

Personnel		JS/RB
Date		1-22-20
Time		12:20
Air Temperature (F)		37
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWD-016
Incident ID #: N/A
Subdivision: N/A
Address/Location: 212 N Philadelphia Blvd

Personnel		JS/RB
Date		1-22-20
Time		12:22
Air Temperature (F)		38
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-17-20
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-025
Incident ID #: N/A
Subdivision: Winstons Choice
Address/Location: 71 Taft St

Personnel		JS/RB
Date		1-22-20
Time		12:08
Air Temperature (F)		32
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	30
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: CWO-026
Incident ID #: N/A
Subdivision: Winstons Choice
Address/Location: 71 Taft St

Personnel		JS/RB
Date		1-22-20
Time		12:11
Air Temperature (F)		34
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-19-20
Outfall Dimensions	(inches)	3
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	PVC
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SLO-037
Incident ID #: N/A
Subdivision: Spring Valley Mobile Home Park
Address/Location: Valley Bottom RD

Personnel		RB
Date		2-18-20
Time		8:10 am
Air Temperature (F)		43°
Photograph	Yes(Y), No(N)	N
Date Last Rain		2-13-20
Outfall Dimensions	(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-038
Incident ID #: N/A
Subdivision: Spring Valley Mobile Home Park
Address/Location: Hawkins Drive

Personnel			RB
Date			2-18-20
Time			8.15 am
Air Temperature (F)			43°
Photograph		Yes(Y), No(N)	N
Date Last Rain			2-13-20
Outfall Dimensions		(inches)	CA/CL
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)		
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)		
Flow Observed		Yes(Y), No(N)	
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)		
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)		
Erosion (Outfall Area)		None(N), Moderate(M), Severe(S)	
Algae Growth		Yes(Y), No(N)	
Vegetative Condition (Outfall Area)		Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	
Flow Rate (cfs)			
Flow Volume Method	Container Size (oz) =	Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method		Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) =	Travel Time (sec) =	--
Water Temperature (F)			
pH (units)			
Turbidity (ntu)			
Surfactants (mg/L)	**Field Tested:**		
	Lab Tested:		
	Follow Up Lab Tested:		
Ammonia (mg/L)	**Field Tested:**		
	Lab Tested:		
	Follow Up Lab Tested:		
Potassium (mg/L)	**Lab Tested:**		
	Follow Up Lab Tested:		
Other		As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)		
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)		
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)		
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)		
DETERMINATION (FROM IDDE FLOWCHART)			

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-039
Incident ID #: N/A
Subdivision: Trailer Rancho Mobile Home Park
Address/Location: Inca Street

Personnel		RB
Date		2-18-20
Time		7:45 am
Air Temperature (F)		43°
Photograph	Yes(Y), No(N)	N
Date Last Rain		2-13-20
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	OD
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	S
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-040
Incident ID #: N/A
Subdivision: N/A
Address/Location: N. Post Road

Personnel		RR
Date		2-18-20
Time		7:55 am
Air Temperature (F)		43°
Photograph	Yes(Y), No(N)	N
Date Last Rain		2-13-20
Outfall Dimensions	(inches)	24
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	O - Road
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-041
Incident ID #: N/A
Subdivision: N/A
Address/Location: Rock Glen Blvd

Personnel		RB / DG
Date		1-16-20
Time		10:10
Air Temperature (F)		54°
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	O- Roadway
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-043

Incident ID #: N/A

Subdivision:

Address/Location: Rock Glenn Blvd

Personnel		JS | RB
Date		10-11-19
Time		12:40
Air Temperature (F)		70
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-044

Incident ID #: N/A

Subdivision:

Address/Location: Rock Glenn Blvd

Personnel		JS/RB
Date		10-11-19
Time		12:45
Air Temperature (F)		70
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-045

Incident ID #: N/A

Subdivision:

Address/Location: ROCK Glenn Blvd

Personnel		JS/RB
Date		10-11-19
Time		1:00
Air Temperature (F)		70
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of ~~illicit discharge~~

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-046
Incident ID #: N/A
Subdivision: N/A
Address/Location: Rock Glen Blvd

Personnel			RB / DG
Date			1-16-20
Time			540
Air Temperature (F)			10:15
Photograph		Yes(Y), No(N)	N
Date Last Rain			1-12-20
Outfall Dimensions		(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)		R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)		HDPE
Flow Observed		Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)		O - Roadway
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)		N
Erosion (Outfall Area)		None(N), Moderate(M), Severe(S)	N
Algae Growth		Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)		Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)			
Flow Volume Method	Container Size (oz) =	Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method		Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) =	Travel Time (sec) =	--
Water Temperature (F)			
pH (units)			
Turbidity (ntu)			
Surfactants (mg/L)		**Field Tested:**	
		Lab Tested:	
		Follow Up Lab Tested:	
Ammonia (mg/L)		**Field Tested:**	
		Lab Tested:	
		Follow Up Lab Tested:	
Potassium (mg/L)		**Lab Tested:**	
		Follow Up Lab Tested:	
Other		As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)		
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)		N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)		
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)		
DETERMINATION (FROM IDDE FLOWCHART)			No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-047

Incident ID #: N/A

Subdivision: N/A

Address/Location: Rock Glen Blvd

Personnel		RB / DG
Date		1-16-20
Time		10:15
Air Temperature (F)		54°
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	O - Roadway
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-048
Incident ID #: N/A
Subdivision: N/A
Address/Location: Robin Hood RD

Personnel		RB / DG
Date		1-16-20
Time		10:15
Air Temperature (F)		54°
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	O - Roadway
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWD-049
Incident ID #: N/A
Subdivision: The Forest at Rock Glenn
Address/Location: 2005 Rock Glenn Blvd

Personnel		JS|RB
Date		10-11-19
Time		12:15
Air Temperature (F)		70
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	36
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-050

Incident ID #: NIA

Subdivision: The Greens at Rock Glenn

Address/Location: 2085 Titan Terrace

Personnel		JS | RB
Date		10-11-19
Time		9:35
Air Temperature (F)		63
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	30
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-051

Incident ID #: N/A

Subdivision: The Greens at Rock Glenn

Address/Location: 55 Pegasus Way

Personnel		JS/RB
Date		10-11-19
Time		9:45
Air Temperature (F)		63
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-052

Incident ID #: N/A

Subdivision: The Greens at Rock Glenn

Address/Location: 50 Fearless Ct

Personnel		JS/RB
Date		10-11-19
Time		10:30
Air Temperature (F)		61
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of ~~illicit discharge~~

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWU-053

Incident ID #: N/A

Subdivision: The Greens at Rock Salem

Address/Location: 50 Fearless Ct

Personnel		JS/RB
Date		10-11-19
Time		10:32
Air Temperature (F)		61
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	6
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	PVC
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of ~~illicit discharge~~

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-054

Incident ID #: N/A

Subdivision: The Greens at Buck Calvin

Address/Location: 50 Fearless Ct

Personnel		JS/RB
Date		10-11-19
Time		10:25
Air Temperature (F)		61
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-055

Incident ID #: N/A

Subdivision: The Greens at Rock Glenn

Address/Location: 40 Glen Rock Road

Personnel		JS|RB
Date		10-11-19
Time		10:10
Air Temperature (F)		61
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	Swale end
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	↓
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-056
Incident ID #: N/A
Subdivision: The Greens at Rock Glenn
Address/Location: 40 Glen Rock Road

Personnel		JS/RB
Date		10-11-19
Time		10:15
Air Temperature (F)		61
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-058

Incident ID #: N/A

Subdivision: The Greens at Rock Glenn

Address/Location: 9 Rock Glen Road

Personnel		JS/RB
Date		10-11-19
Time		9:05
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	27
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	N
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	N
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-059
Incident ID #: N/A
Subdivision: The Greens at Rock Glenn
Address/Location: 1 Rock Glen Road

Personnel		JS | RB
Date		10-11-19
Time		9:00
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-060

Incident ID #: N/A

Subdivision: The Greens at Rock Glenn

Address/Location: 2098 Gemini Court

Personnel		JS | RB
Date		10-11-19
Time		9:15
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	24
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-061

Incident ID #: N/A

Subdivision: The Greens at Rock Glenn

Address/Location: 2106 Gemini Court

Personnel		JS/RB
Date		10-11-19
Time		9:18
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-062
Incident ID #: N/A
Subdivision: Green Valley Townhouse
Address/Location: 132 Farm Road

Personnel		JS | RB
Date		1-22-20
Time		10:07
Air Temperature (F)		31
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	24
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-065
Incident ID #: N/A
Subdivision: Meadows At Barr Ness
Address/Location: 401 Devonshire CT

Personnel		RB/OG
Date		1-16-20
Time		10:35
Air Temperature (F)		55°
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	O - Iron
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-066
Incident ID #: N/A
Subdivision: Meadows At Berr Ness
Address/Location: 405 Devonshire CT

Personnel		RB / DG
Date		1-16-20
Time		10:35
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	36
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-067
Incident ID #: N/A
Subdivision: Meadows At Barr Ness
Address/Location: 405 Devonshire CT

Personnel		RB/DG
Date		1-16-20
Time		10:30
Air Temperature (F)		54°
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-068
Incident ID #: N/A
Subdivision: North Hills
Address/Location: 386 Hillcrest Dr

Personnel		JS | RB
Date		1-22-20
Time		10:41
Air Temperature (F)		33
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	30
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-072
Incident ID #: N/A
Subdivision: Windemere Estates
Address/Location: 582 Windsong DR

Personnel			RD/DG
Date			1-16-20
Time			10:55
Air Temperature (F)			55
Photograph	Yes(Y), No(N)		N
Date Last Rain			1-12-20
Outfall Dimensions	(inches)		
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)		
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)		
Flow Observed	Yes(Y), No(N)		N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)		R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)		N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)		M
Algae Growth	Yes(Y), No(N)		N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)		N
Flow Rate (cfs)			
Flow Volume Method	Container Size (oz) =	Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method		Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) =	Travel Time (sec) =	--
Water Temperature (F)			
pH (units)			
Turbidity (ntu)			
Surfactants (mg/L)	**Field Tested:**		
	Lab Tested:		
	Follow Up Lab Tested:		
Ammonia (mg/L)	**Field Tested:**		
	Lab Tested:		
	Follow Up Lab Tested:		
Potassium (mg/L)	**Lab Tested:**		
	Follow Up Lab Tested:		
Other	As applicable		
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)		
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)		N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)		
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)		
DETERMINATION (FROM IDDE FLOWCHART)			No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-073
Incident ID #: N/A
Subdivision: Windemere Estates
Address/Location: 582 Windsong DR

Personnel		RB / DG
Date		1-16-20
Time		10:55
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-074
Incident ID #: N/A
Subdivision: Windemere Estates
Address/Location: 582 Windsong DR

Personnel		RB/DG
Date		1-16-20
Time		11.00
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	24
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-075
Incident ID #: N/A
Subdivision: Windemere Estates
Address/Location: Windsong Drive

Personnel		RB/DG
Date		1-16-20
Time		11:00
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	24
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-076
Incident ID #: N/A
Subdivision: Windemere Estates
Address/Location: 338 Penrith Way

Personnel		RB/DG
Date		1-16-20
Time		11:10
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	No evidence of
DETERMINATION (FROM IDDE FLOWCHART)		illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-077
Incident ID #: N/A
Subdivision: Windemere Estates
Address/Location: 411 Grasmere OR

Personnel		RB/OG
Date		1-16-20
Time		11:15
Air Temperature (F)		55
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-12-20
Outfall Dimensions	(inches)	21
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-160
Incident ID #: N/A
Subdivision: N/A
Address/Location: Williams Street

Personnel		RB
Date		2-18-20
Time		8:30 am
Air Temperature (F)		43°
Photograph	Yes(Y), No(N)	N
Date Last Rain		2-13-20
Outfall Dimensions	(inches)	33
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	O- School
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SW0-172
Incident ID #: N/A
Subdivision: The Greens at Rock Glenn
Address/Location: 50 Fearless Ct

Personnel		JS/RB
Date		10-11-19
Time		10:35
Air Temperature (F)		61
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	6
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	Iron
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-199
Incident ID #: N/A
Subdivision: N/A
Address/Location: S Philadelphia Blvd

Personnel			JS/RB
Date			1-22-20
Time			12:00
Air Temperature (F)			34
Photograph		Yes(Y), No(N)	N
Date Last Rain			1-18-20
Outfall Dimensions		(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)		R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)		RCP
Flow Observed		Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)		C
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)		N
Erosion (Outfall Area)		None(N), Moderate(M), Severe(S)	N
Algae Growth		Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)		Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)			
Flow Volume Method	Container Size (oz) =	Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method		Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) =	Travel Time (sec) =	--
Water Temperature (F)			
pH (units)			
Turbidity (ntu)			
Surfactants (mg/L)	**Field Tested:**		
	Lab Tested:		
	Follow Up Lab Tested:		
Ammonia (mg/L)	**Field Tested:**		
	Lab Tested:		
	Follow Up Lab Tested:		
Potassium (mg/L)	**Lab Tested:**		
	Follow Up Lab Tested:		
Other		As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)		N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)		N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)		
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)		
DETERMINATION (FROM IDDE FLOWCHART)			No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-205
Incident ID #: N/A
Subdivision: Spring Valley Mobile Home Park
Address/Location: Valley Bottom RD

Personnel		
Date		2-18-20
Time		8:05 am
Air Temperature (F)		43°
Photograph	Yes(Y), No(N)	N
Date Last Rain		2-13-20
Outfall Dimensions	(inches)	15
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	O - HDPE
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-249
Incident ID #: N/A
Subdivision: The Forests at Rock Glenn
Address/Location: 2005 Rock Glenn Blvd

Personnel		JS/RB
Date		10-11-19
Time		12:10
Air Temperature (F)		70
Photograph	Yes(Y), No(N)	N
Date Last Rain		10-8-19
Outfall Dimensions	(inches)	33
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	RCP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN
ILLICIT DISCHARGE DETECTION & ELIMINATION
FIELD SHEET

Outfall ID: SWO-249
Incident ID #: N/A
Subdivision: Green Valley Townhouse
Address/Location: 130 Farm Road

Personnel		JS/RB
Date		1-22-20
Time		10:05
Air Temperature (F)		31
Photograph	Yes(Y), No(N)	N
Date Last Rain		1-18-20
Outfall Dimensions	(inches)	18
Outfall Shape	Round(R), Oval(O), Box(B), V-Ditch(VD), Trap Ditch(TD)	R
Outfall Type	Corrugated Metal Pipe(CMP), Reinforced Concrete Pipe(RCP) Polyvinyl Chloride Pipe(PVC), Other(O-explain)	CMP
Flow Observed	Yes(Y), No(N)	N
Land Use	Industrial(I), Commercial(C), Residential(R), Other(O-explain)	R
Structural Condition	Normal(N), Concrete Spauling(SP) Peeling Paint(PP), Concrete Cracking(CC) Outfall Damaged(OD), Submerged(S), Metal Corrosion(MC), Other(O-explain)	N
Erosion (Outfall Area)	None(N), Moderate(M), Severe(S)	N
Algae Growth	Yes(Y), No(N)	N
Vegetative Condition (Outfall Area)	Normal(N), Inhibited Growth(IG) Excessive Growth(EG), Other(O-explain)	N
Flow Rate (cfs)		
Flow Volume Method	Container Size (oz) = Time to Fill (sec) =	--
Velocity and Cross-Sectional Area Method	Fixed Length (ft) =	--
Flow Depth (ft) =	Flow Width (ft) = Travel Time (sec) =	--
Water Temperature (F)		
pH (units)		
Turbidity (ntu)		
Surfactants (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Ammonia (mg/L)	**Field Tested:**	
	Lab Tested:	
	Follow Up Lab Tested:	
Potassium (mg/L)	**Lab Tested:**	
	Follow Up Lab Tested:	
Other	As applicable	
Odor	None(N), Rancid-Sour(RS), Gas(G),Sewage(S), Oil(O), Sulfur(S), Other(O-explain)	N
Deposits/Stains	None(N), Sediment(S), Oil(OY), Other(O-explain)	N
Color	Clear(C), Gray(G), Red(R), Yellow(Y), Brown(B), Green(GR), Other(O-explain)	
Floatables	None(N), Trash(T), Oil Sheen(OS), Sewage(S), Other(O-explain)	
DETERMINATION (FROM IDDE FLOWCHART)		No evidence of illicit discharge

CITY OF ABERDEEN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500
Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2020 PHASE II MS4 ANNUAL REPORT YEAR 2

ATTACHMENT II-MCM 6

PUBLIC WORKS MAINTENANCE FACILITY COMPREHENSIVE SITE COMPLIANCE EVALUATION

CITY OF ABERDEEN
COMPREHENSIVE SITE COMPLIANCE EVALUATION

Facility: Aberdeen P.W. Maintenance Shop	**Date:** 06/05/20	**Temp:** 84°	**Inspector:** Danielle Gruber

INSPECTION CATEGORIES	YES, NO, N/A	RECOMMENDED ACTIONS [1]
Records Review / Management		
Copy of SWMP on-site?	Yes	
SWMP current and accurate, including map?	Yes	
Training records available?	Yes	
Inspection records available?	Yes	2020 2nd quarterly inspection missing.
Spill records available?	Yes	
Facility fenced and locked after business hours?	Yes	Cameras have also been installed throughout the yard.
Vehicle Maintenance Activities		
Vehicle maintenance activities conducted indoors and not able to migrating outside?	Yes	
Fluid leaks?	No	
Shop floor debris / spill material properly disposed?	Yes	
Stains present?	No	
Drip pans provided?	Yes	
Spill absorbent material/kits provided?	Yes	
Vehicle and equipment washing activities conducted in designated area so wash water can discharge to sanitary system?	Yes	Trash trucks washed at Blue Beacon truck wash.
Vehicle / Storage Bays		
Stains present?	No	
Fluids stored properly?	Yes	
Spill absorbent material provided?	Yes	
Spill material properly disposed?	Yes	Clean up used oil-dri on pavement (was just put down) **(Photo 1)**.
Fluid Management		
Inspect all tanks and drums. Functioning properly?	Yes	
Labels provided for tanks and drums?	Yes	
Stains present?	No	
Secondary Containment Provided? Need to be Drained?	Yes/Yes	Pump out secondary containment for waste oil **(Photo 2)**.
Fluids stored in centralized location?	Yes	
Drums under cover?	Yes	
Drums on spill decks?	Yes	
Do drums have spill pads?	Yes	
Stormwater Conveyance System		
Catch basins and conveyance system kept clean?	Yes	
Catch basin inserts in good working condition?	Yes	Basins have filter cloth that is changed regularly **(Photo 3)**.
Visible evidence of oil sheen, foam, or floating solids at stormwater outfall or downstream?	No	

CITY OF ABERDEEN
COMPREHENSIVE SITE COMPLIANCE EVALUATION

Potential Significant Materials		
Engines, cores, transmissions and other fluid-containing parts stored: (1) inside building; (2) in leak-proof container; or (3) on covered and curbed impermeable surface provided with spill controls?	Yes	
Empty gas tanks stored where they can ventilate and not accumulate precipitation?	Yes	
Batteries stored under cover?	Yes	
Parking lot clean?	Yes	
Other:	No	
Material Stockpile Areas		
Salt and salt/sand mix piles stored under roof or tarped?	Yes	
Erosion control devices in place around street sweeping pile?	Yes	
Area free of trash and debris?	Yes	
Other material stockpiles contained?	Yes	
Salt Best Management Practices		
Salt storage structure in good condition?	Yes	
Loading area clean?	Yes	
Any salt or mix stored outside a structure?	No	
• Pile covered?	N/A	
• Cover in good condition?	N/A	
Fueling Activities		
Spill containment kit at fueling station?	Yes	
Fuel dispensed from above ground storage tank?	Yes	
• Tank double walled?	Yes	
• If not double walled, is there secondary containment?	N/A	

[1] Per General Permit, within 14 days after discovery, you must document corrective action(s) to be taken.

[1] Summary of Required Corrective Actions	Initials and Date of Corrective Actions
1. Clean up used oil-dri **(Photo 1)**.	Swept up 6/09/20 JQ
2. Pump out secondary containment for waste oil **(Photo 2)**.	Cleaned out 6/10 /20 JQ

Additional Comments
Josh Quesenbery and his staff maintain a clean maintenance shop. Their passion for the environment and pollution prevention is evident throughout the facility and the care they take keeping the pond and stream below the yard clean.

CITY OF ABERDEEN
COMPREHENSIVE SITE COMPLIANCE EVALUATION

Facility: Aberdeen P.W. Maintenance Shop	**Date:** 06/05/20	**Temp:** 84°	**Inspector:** Danielle Gruber

PHOTOS



Photo 1



Photo 2



Photo 3

CITY OF ABERDEEN
COMPREHENSIVE SITE COMPLIANCE EVALUATION

Facility: Aberdeen P.W. Maintenance Shop	**Date:** 06/05/20	**Temp:** 84°	**Inspector:** Danielle Gruber

GOOD HOUSEKEEPING



Absorbent Mats on Chemical Drums


Chemical Drums on Rolling Spill Decks


Spill Kit Stocked


Sand Contained Under Cover