MS4 ANNUAL REPORT

Spring Grove Borough,
York County, PA

July 1, 2020 through June 30, 2021

SEPTEMBER 2021

ENGINEER'S PROJECT NO. 10856.29

Prepared by:

ARRO Consulting, Inc.

108 West Airport Road

Lititz, PA 17543

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

ANNUAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) STATUS REPORT

FOR THE PERIOD July 1, 2020 TO JUNE 30, 2021

GENERAL INFORMATION			
Permittee Name:	Borough of Spring Grove	NPDES Permit No.:	PAG133749
Mailing Address:	1 Campus Avenue	Effective Date:	May 1, 2018
City, State, Zip:	Spring Grove, PA, 17362	Expiration Date:	March 15, 2023
MS4 Contact Person:	Kim Hackett	Renewal Due Date:	September 17, 2022
Title:	Manager	Municipality:	Spring Grove
Phone:	717-225-5791	County:	York
Email:	Manager@SpringGroveBoro.com		
Co-Permittees (if applicable):			

Appendix(ces) that permittee is subject to (select all that apply):

☐ Appendix A ☐ Appendix B ☐ Appendix C ☒ Appendix D ☐ Appendix E ☐ Appendix F

WATER QUALITY INFORMATION

Are there any discharges to waters within the Chesapeake Bay Watershed? ☒ Yes ☐ No

Identify all surface waters that receive stormwater discharges from the permittee's MS4 and provide the requested information (see instructions).

Receiving Water Name	Ch. 93 Class.	Impaired?	Cause(s)	TMDL?	WLA?
Codorus Creek	WWF	Yes	Source Unknown-Pathogens	No	No
UNT To Codorus Creek	WWF	Yes	Source Unknown-Pathogens	No	No

GENERAL MINIMUM CONTROL MEASURE (MCM) INFORMATION

Have you completed all MCM activities required by the permit for this reporting period? ☒ Yes ☐ No

List the current entity responsible for implementing each MCM of your SWMP, along with contact name and phone number.

MCM	Entity Responsible	Contact Name	Phone
#1 Public Education and Outreach on Storm Water Impacts	Borough of Spring Grove	Kim Hackett	717-225-5791
#2 Public Involvement/Participation	Borough of Spring Grove	Kim Hackett	717-225-5791
#3 Illicit Discharge Detection and Elimination (IDD&E)	Borough of Spring Grove	Kim Hackett	717-225-5791
#4 Construction Site Storm Water Runoff Control	Borough of Spring Grove	Kim Hackett	717-225-5791
#5 Post-Construction Storm Water Management in New Development and Redevelopment	Borough of Spring Grove	Kim Hackett	717-225-5791
#6 Pollution Prevention / Good Housekeeping	Borough of Spring Grove	Kim Hackett	717-225-5791

MCM #1 – PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

BMP #1: Develop, implement and maintain a written Public Education and Outreach Program.

1. For new permittees only, has the written PEOP been developed and implemented within the first year of permit coverage?

   ☒ Yes ☐ No

2. Date of latest annual review of PEOP: 10/15/20 Were updates made? ☒ Yes ☐ No

3. What were the plans and goals for public education and outreach for the reporting period?

1. The Borough will assess the potential for municipal operations to produce an illicit discharge with the intent of developing educational materials to distribute to Borough personnel.
2. The Borough will distribute an educational public survey aimed at gauging the target audience groups' current understanding of and involement in the stormwater program.
3. The Borough will produce and distribute educational information in zoning and building permit packages based on the target audience group submitting the application.

4. Did the MS4 achieve its goal(s) for the PEOP during the reporting period? ☒ Yes ☐ No

5. Identify specific plans and goals for public education and outreach for the upcoming year:

1. The Borough will produce and distribute educational material relating to stormwater for children and students.
2. The Borough will develop an interactive web map to educate residents about stormwater and their local watershed.

BMP #2: Develop and maintain lists of target audience groups present within the areas served by your MS4.

1. For new permittees only, have the target audience lists been developed and implemented within the first year of permit coverage?

   ☒ Yes ☐ No

2. Date of latest annual review of target audience lists: 10/15/20 Were updates made? ☒ Yes ☐ No

BMP #3: Annually publish at least one educational item on your Stormwater Management Program.

1. For new permittees only, were stormwater educational and informational items produced and published in print and/or on the Internet within the first year of permit coverage?

   ☒ Yes ☐ No

2. Date of latest annual review of educational materials: 10/15/20 Were updates made? ☒ Yes ☐ No

3. Do you have a municipal website? ☒ Yes ☐ No (URL: http://www.springgroveboro.com/)

If Yes, what MS4-related material does it contain?

The quarterly newsletter "Boro Bits", accessable the Borough website contains MS4 materials related to the progress in construction of Pollution Reduction Plan required BMPs, information on what residents can do to improve water quality, information on when and where the public can make comments on the MS4 program, and other MS4 activities.

4. Describe any other method(s) used during the reporting period to provide information on stormwater to the public:

The Borough provides information on stormwater to the public during monthly Borough Council Meetings. During the Borough Council, Matthew Warfel of ARRO Consulting gives information on progress of the MS4 program, such as updates to MS4 mapping. The Borough posts stormwater educational material on their municipal website.

5. Identify specific plans for the publication of stormwater materials for the upcoming year:

The Borough will continue to produce quarterly newsletters containing MS4 related materials and continue to foster discussion on MS4 related topics during monthly Borough Council Meetings.

The Borough plans on completing a MS4 program analysis to determine the most likely sources of contamination and will produce and provide publications of stormwater materials pertainant to those likely sources of contamination.

BMP #4: Distribute stormwater educational materials to the target audiences.

Identify the two additional methods of distributing stormwater educational materials during the previous reporting period (e.g., displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements, bill stuffers, posters, presentations, conferences, meetings, fact sheets, giveaways, or storm drain stenciling).

1. The Borough will continue to produce quarterly newsletters containing MS4 related materials.
2.A stormwater program update has been uploaded to the municipal website for the target audiences to review.

MCM #1 Comments:

Attachment 1.1: Public Education and Outreach Plan
Attachment 1.2: Municipal Website
Attachment 1.3: Educational Materials
Attachment 1.4: Program Update
Attachment 1.5: MS4 Goals & Accomplishments

MCM #2 – PUBLIC INVOLVEMENT/PARTICIPATION

BMP #1: Develop, implement and maintain a written Public Involvement and Participation Program (PIPP)

1. For new permittees only, was the PIPP developed and implemented within one year of permit coverage?

☒ Yes ☐ No

2. Date of latest annual review of PIPP: 10/15/20 Were updates made? ☒ Yes ☐ No

BMP #2: Advertise to the public and solicit public input on ordinances, SOPs, Pollutant Reduction Plans (PRPs) (if applicable) and TMDL Plans (if applicable), including modifications thereto, prior to adoption or submission to DEP:

1. Was an MS4-related ordinance, SOP, PRP or TMDL Plan developed during the reporting period? ☐ Yes ☒ No

2. If Yes, describe how you advertised the draft document(s) and how you provided opportunities for public review, input and feedback:

-

3. If an ordinance, SOP or plan was developed or amended during the reporting period, provide the following information:

Ordinance / SOP / Plan Name	Date of Public Notice	Date of Public Hearing	Date Enacted or Submitted to DEP
-	-	-	-

BMP #3: Regularly solicit public involvement and participation from the target audience groups using available distribution and outreach methods.

1. At least one public meeting or other MS4 event must be held during the 5-year permit coverage period to solicit participation and feedback from target audience groups. Was this meeting or event held during the reporting period?

   ☒ Yes ☐ No If Yes, Date of Meeting or Event: Every month the members of the Spring Grove Borough meets for the Borough Council Meeting. All residents and members of the target audience groups are invited to speak and wiegh in on the progress of the MS4 program during the meetings. Examples are provided as attachment 2.1.

2. Report instances of cooperation and participation in MS4 activities; presentations the permittee made to local watershed and conservation organizations; and similar instances of participation or coordination with organizations in the community.

   The Borough continued to work together with the York County Planning Commision in order to more efficiently and effectively maintain BMPs and educate the residents on MS4 information.

3. Report activities in which members of the public assisted or participated in the meetings and in the implementation of the SWMP, including education activities or efforts such as cleanups, monitoring, storm drain stenciling, or others.

   The Borough published a public survey on the Borough MS4 webpage, and also provided printed copies that were distributed to residents, businessess, and staff through the Borough office. For the reporting cycle, the Boroough had over 60 participants in the survey. The hard copy survey has been provided under attachment 2.2.

MCM #2 Comments:

Attachment 2.1: Borough Council Meeting Minutes
Attachment 2.2: Public Involvement and Participation Plan

MCM #3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDD&E)

BMP #1: Develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the regulated small MS4.

1. For new permittees only, was the written IDD&E program developed within one year of permit coverage?

   ☒ Yes ☐ No

2. Date of latest annual review of IDD&E program: 10/15/20 Were updates made? ☒ Yes ☐ No

BMP #2: Develop and maintain map(s) that show permittee and urbanized area boundaries, the location of all outfalls and, if applicable, observation points, and the locations and names of all surface waters that receive discharges from those outfalls. Outfalls and observation points shall be numbered on the map(s).

1. Have you completed a map(s) that includes all components of BMP #2? ☒ Yes ☐ No

   If Yes and you are a new permittee and have not submitted the map(s) previously, attach the map(s) to this report.

   If No, date by which permittee expects map(s) to be completed:

2. Date of last update or revision to map(s): 11/21/21

3. Total No. of Outfalls in MS4: 17 Total No. of Outfalls Mapped: 17

4. Total No. of Observation Points: 6 Total No. of Observation Points Mapped: 6

5. During the reporting period, have you identified any existing outfalls that have not been previously reported to DEP in an NOI, application or annual report, or are any new MS4 outfalls proposed for the next reporting period?

☐ Yes ☒ No If Yes, select: ☐ Existing Outfall(s) Identified ☐ New Outfall(s) Proposed

BMP #3: In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), the permittee shall develop and maintain map(s) that show the entire storm sewer collection system within the permittee's jurisdiction that are owned or operated by the permittee (including roads, inlets, piping, swales, catch basins, channels, and any other components of the storm sewer collection system), including privately-owned components of the collection system where conveyances or BMPs on private property receive stormwater flows from upstream publicly-owned components.

1. Have you completed a map(s) that includes all components of BMP #3? ☒ Yes ☐ No

   If Yes and you are a new permittee and have not submitted the map(s) previously, attach the map(s) to this report.

   If No, date by which permittee expects map(s) to be completed:

2. If Yes to #1, is the map(s) on the same map(s) as for outfalls and receiving waters? ☒ Yes ☐ No

3. Date of last update or revision to map(s): 11/15/21

BMP #4: Conduct dry weather screenings of MS4 outfalls to evaluate the presence of illicit discharges. If any illicit discharges are present, the permittee shall identify the source(s) and take appropriate actions to remove or correct any illicit discharges. The permittee shall also respond to reports received from the public or other agencies of suspected or confirmed illicit discharges associated with the storm sewer system, as well as take enforcement action as necessary. The permittee shall immediately report to DEP illicit discharges that would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property.

For new permittees, all identified outfalls (and if applicable observation points) must be screened during dry weather at least twice within the 5-year period following permit coverage. For existing permittees, all identified outfalls (and if applicable observation points) must be screen during dry weather at least once within the 5-year period following permit coverage and, for areas where past problems have been reported or known sources of dry weather flows occur on a continual basis, outfalls must be screened annually during each year of permit coverage.

1. How many unique outfalls (and if applicable observation points) were screened during the reporting period? 9

2. Indicate the percentage of all outfalls screened in the past five years. 80%

3. Indicate the percent of outfalls screened during the reporting period that revealed dry weather flows: 11.1%

4. Did any dry weather flows reveal color, turbidity, sheen, odor, floating or submerged solids? ☐ Yes ☒ No

5. If Yes for #4, attach all sample results to this report with a map identifying the sample location. Explain the corrective action(s) taken in the attachment.

6. Do you use the MS4 Outfall Field Screening Report form (3800-FM-BCW0521) provided in the permit?

   ☐ Yes ☒ No

   If No, attach a copy of your screening report form.

BMP #5: Enact a Stormwater Management Ordinance or SOP to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the regulated small MS4.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that prohibits non-stormwater discharges? ☒ Yes ☐ No

   If Yes, indicate the date of the ordinance or SOP: 12/03/2012

2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) with respect to authorized non-stormwater discharges? ☐ Yes ☒ No

   If Yes to #2 and the ordinance or SOP has not been submitted to DEP previously, attach the ordinance or SOP.

3. Were there any violations of the ordinance or SOP during the reporting period? ☐ Yes ☒ No

If Yes to #3, complete the table below (attach additional sheets as necessary).

Violation Date	Nature of Violation	Responsible Party	Enforcement Taken
-	-	-	-

4. Did you approve any waiver or variance during the reporting period that allowed an exception to non-stormwater discharge provisions of an ordinance or SOP? ☐ Yes ☒ No

If Yes to #4, identify the entity that received the waiver or variance and the type of non-stormwater discharge approved.

BMP #6: Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.

1. Was IDD&E-related information distributed to public employees, businesses, and the general public during the reporting period? ☒ Yes ☐ No

   If Yes, what was distributed? Yes, IDD&E-related information distributed to public employees, businesses, and the general public during the reporting period. Note the following: Information on the Penn Waste Residential Recycling Program; Information on the York County Solid Waste Authority Electronics Recycling Program; Information on the Borough's Property Maintenance Code.

2. Is there a well-publicized method for employees, businesses and the public to report stormwater pollution incidents?

   ☒ Yes ☐ No

3. Do you maintain documentation of all responses, action taken, and the time required to take action? ☒ Yes ☐ No

MCM #3 Comments:

Attachment 3.1: Outfall Reconnaissance Inventory/ Sample Collection Field
Attachment 3.2: MS4 Map
Attachment 3.3: Illicit Dischare Reporting Form (Public Facing)

MCM #4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Are you relying on PA's statewide program for stormwater associated with construction activities to satisfy this MCM?

☒ Yes ☐ No

(If Yes, respond to questions for BMP Nos. 1, 2 and 3 only in this section. If No, respond to questions for all BMPs in this section)

BMP #1: The permittee may not issue a building or other permit or final approval to those proposing or conducting earth disturbance activities requiring an NPDES permit unless the party proposing the earth disturbance has valid NPDES Permit coverage (i.e., not expired) under 25 Pa. Code Chapter 102.

During the reporting period, did you comply with 25 Pa. Code § 102.43 (relating to withholding building or other permits or approvals until DEP or a county conservation district (CCD) has approved NPDES permit coverage)?

☒ Yes ☐ No ☐ Not Applicable (no building permit applications received)

BMP #2: A municipality or county which issues building or other permits shall notify DEP or the applicable CCD within 5 days of the receipt of an application for a permit involving an earth disturbance activity consisting of one acre or more, in accordance with 25 Pa. Code § 102.42.

During the reporting period, did you comply with 25 Pa. Code § 102.42 (relating to notifying DEP/CCD within 5 days of receiving an application involving an earth disturbance activity of one acre or more)?

☒ Yes ☐ No ☐ Not Applicable (no building permit applications received)

BMP #3: Enact, implement and enforce an ordinance or SOP to require the implementation and maintenance of E&S control BMPs, including sanctions for non-compliance, as applicable.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that requires implementation and maintenance of E&S control BMPs? ☒ Yes ☐ No

   If Yes, indicate the date of the ordinance or SOP: 12/03/2012

2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? ☐ Yes ☒ No

3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

BMP #4: Review Erosion and Sediment (E&S) control plans to ensure that such plans adequately consider water quality impacts and meet regulatory requirements.

Specify the number of E&S Plans you reviewed during the reporting period: N/A

BMP #5: Conduct inspections regarding installation and maintenance of E&S control measures during earth disturbance activities. Maintain records of site inspections, including dates and inspection results, in accordance with the record retention requirements in this permit.

Specify the number of E&S inspections you completed during the reporting period: N/A

BMP #6: Conduct enforcement when installation and maintenance of E&S control measures during earth disturbance activities does not comply with permit and/or regulatory requirements.

Specify the number of enforcement actions you took during the reporting period for improper E&S: N/A

BMP #7: Develop and implement requirements for construction site operators to control waste at construction sites that may cause adverse impacts to water quality. The permittee shall provide education on these requirements to construction site operators.

Specify the method(s) by which you are educating construction site operators on controlling waste at construction sites:

N/A

BMP #8: Develop and implement procedures for the receipt and consideration of public inquiries, concerns, and information submitted by the public to the permittee regarding local construction activities.

1. A tracking system has been established for receipt of public inquiries and complaints. ☐ Yes ☐ No

2. Specify the number of inquiries and complaints received during the reporting period: N/A

MCM #4 Comments:

Attachment 4.1: Stormwater Management Ordinance

MCM #5 – POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

BMP #1: Enact, implement and enforce an ordinance or SOP to require post-construction stormwater management from new development and redevelopment projects, including sanctions for non-compliance.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that requires implementation and maintenance of post-construction stormwater management (PCSM) BMPs? ☒ Yes ☐ No

   If Yes, indicate the date of the ordinance or SOP: 12/03/2012

2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? ☐ Yes ☒ No

3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

BMP #2: Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new development and redevelopment. Measures should also be included to encourage retrofitting LID into existing development. Enact ordinances consistent with LID practices and repeal sections of ordinances that conflict with LID practices.

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that encourages and expands the use of LID in new development and redevelopment? ☒ Yes ☐ No

   If Yes, indicate the date of the ordinance or SOP: 12/03/2012

2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? ☐ Yes ☒ No

3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

BMP #3: Ensure adequate O&M of all post-construction stormwater management BMPs that have been installed at development or redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale.

1. Do you have an inventory of all PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003? ☒ Yes ☐ No

   If Yes to #1, complete Table 1 on the next page.

2. Has proper O&M occurred during the reporting period for all PCSM BMPs? ☐ Yes ☒ No

3. If No to #2, explain what action(s) the permittee has taken or plans to take to ensure proper O&M.

   One small basin/swale on a private property was found to have excess sediment and debris at the base of the inlet to the MS4 system. Borough staff visited the property and spoke with the responsible party about proper O&M required for this structure. The property owner remediated the issue. The Borough will send letters to private property owners with stormwater management facilities prior to 2021-2022 inspections and will send subsequent violation letters if nessecary.

If you are relying on PA's statewide program for stormwater associated with construction activities, you may skip to MCM #6, otherwise complete all questions for BMPs #4 - #6 in this section.

BMP #4: Require the implementation of a combination of structural and/or non-structural BMPs that are appropriate to the local community, that minimize water quality impacts, and that are designed to maintain pre-development runoff conditions.

1. Specify the number of PCSM Plans reviewed during the reporting period for projects disturbing greater than or equal to one acre (including projects less than one acre that are part of a larger common plan of development or sale): N/A

2. Has a tracking system been established and maintained to record qualifying projects and their associated BMPs?

☐ Yes ☐ No

PCSM BMP INVENTORY

Table 1. To complete the information needed for MCM #5, BMP #3, list all existing structural BMPs that discharge stormwater to the permittee's MS4 that were installed to satisfy PCSM requirements for earth disturbance activities under Chapter 102, and provide the requested information (see instructions).

BMP No.	BMP Name	DA (ac)	Entity Responsible for O&M	Latitude	Longitude	Date Installed	O&M Requirements	NPDES Permit No.
1	Infiltration Basin	6.18	Private	39°53'29"	76°51'55"	2014	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
2	Vegetated Swale	3.63	Spring Grove Borough	39°53'40"	76°51'46"	2014	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
3	Wet Pond Retention Basin	7.11	Private	39°53'40"	76°51'38"	2014	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
4	Infiltration Basin	3.47	Private	39°53'29"	76°51'30"	2014	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
5	Vegetated Swale	3.47	Private	39°53'25"	76°51'31"	2014	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
6	Subsurface Infiltration Bed	1.53	Private	39°52'46"	76°51'48"	2010	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	PAG2006710025 R
7	Infiltration Basin	0.17	Private	39°52'30"	76°51'43"	2008	Annual visual screening; minimum O&M defined	-

							in the BMP SOP Mannual	
8	Pervious Pavement Infiltration Bed	0.11	Private	39°52’23”	76°51’39”	2015	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
9	Subsurface Storage Facility	0.15	Private	39°52’28”	76°51’58”	2015	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
10	Dry Detention Basin	100.30	Spring Grove Borough	39°53’17”	76°51’37”	1990	Annual visual screening; minimum O&M defined in the BMP SOP Mannual	-
11				° ’ ”	° ’ ”	-		
12				° ’ ”	° ’ ”	-		
13				° ’ ”	° ’ ”	-		
14				° ’ ”	° ’ ”	-		
15				° ’ ”	° ’ ”	-		
16				° ’ ”	° ’ ”	-		

BMP #5: Ensure that controls are installed that shall prevent or minimize water quality impacts. The permittee shall inspect all qualifying development or redevelopment projects during the construction phase to ensure proper installation of the approved structural PCSM BMPs. A tracking system (e.g., database, spreadsheet, or written list) shall be implemented to track the inspections conducted and to track the results of the inspections (e.g., BMPs were, or were not, installed properly).

1. During the reporting period have you inspected all qualifying development and redevelopment projects during the construction phase to ensure proper installation of approved structural BMPs?

   ☐ Yes ☐ No ☐ Not Applicable (no qualifying projects during reporting period)

2. Has a tracking system been established and maintained to record results of inspections?

   ☐ Yes ☐ No

BMP #6: Develop a written procedure that describes how the permittee shall address all required components of this MCM.

Have you developed a written plan that addresses: 1) minimum requirements for use of structural and/or non-structural BMPs in plans for development and redevelopment; 2) criteria for selecting and standards for sizing stormwater BMPs; and 3) implementation of an inspection program to ensure that BMPs are properly installed? ☐ Yes ☐ No

MCM #5 Comments:

Attachment 5.1: BMP Standard Operation Procedures
Attachment 5.2: BMP Inspections Report

MCM #6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

BMP #1: Identify and document all operations that are owned or operated by the permittee and have the potential for generating pollution in stormwater runoff to the MS4. This includes activities conducted by contractors for the permittee.

1. Have you identified all facilities and activities owned and operated by the permitee that have the potential to generate stormwater runoff into the MS4? ☒ Yes ☐ No

2. When was the inventory last reviewed? 5/4/21

3. When was it last updated? 5/4/2021

BMP #2: Develop, implement and maintain a written O&M program for all operations that could contribute to the discharge of pollutants from the MS4, as identified under BMP #1. This program shall address stormwater collection or conveyance systems within the regulated MS4.

1. Have you developed a written O&M program for the operations identified in BMP #1? ☒ Yes ☐ No

2. Date of last review or update to written O&M program: 5/4/21

BMP #3: Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from operations to the regulated small MS4. All relevant employees and contractors shall receive training.

1. Have you developed an employee training program? ☒ Yes ☐ No

2. Date of last review or update to training program: 6/4/21 Date of latest training: 6/8/21

3. Training topics covered:

   Spring Grove MS4 SWMP, Good Housekeeping of the Municipal Facilities, Illicit Discharge Control, and Standard Operating Procedures.

4. Name(s) of training presenter(s):

   Andrew Tuleya

5. Names of training attendees:

   Kim Hackett, Rebecca Magnani, Scott Zeigler, and Robert Staub Jr.

MCM #6 Comments:

Attachment 6.1: Training Documentation and Sign In Sheet

Attachment 6.2: Good Housekeeping Operation & Maintenance Program

The municipality has developed a Good Housekeeping Plan as part of its Stormwater Program. Many of the components that make up the Good Housekeeping Plan currently exist as stand-alone documents within the annual report. It is the goal of the municipality to consolidate these attachments and update the current state of the Good Housekeeping Plan. The municipality will provide an update to this effort within the next annual report.

POLLUTANT CONTROL MEASURES (PCMs)

Indicate the status of implementing PCMs in Appendices A, B and/or C by completing the table below. Skip this section if PCMs are not applicable.

Task	Date Completed	Attached	Anticipated Completion Date
Storm Sewershed Map(s)		☐	
Source Inventory		☐	
Investigation of Suspected Sources		☐	
Ordinance/SOP for Controlling Animal Wastes		☐	

PCM Comments:

Not a requirement of Spring Grove Borough during this permit cycle.

POLLUTANT REDUCTION PLANS (PRPs) AND TMDL PLANS

1. Complete this section if the development and submission of a PRP and/or TMDL Plan was required as an attachment to the latest NOI or application or was required by the permit, regardless of whether DEP has approved the plan(s).

Type of Plan	Submission Date	DEP Approval Date	Surface Waters Addressed by Plan
☒ Chesapeake Bay PRP (Appendix D)	9/29/2017	04/06/2018	Chesapeake Bay
☐ Impaired Waters PRP (Appendix E)			
☐ TMDL Plan (Appendix F)			
☐ Combined Chesapeake Bay / Impaired Waters PRP			Chesapeake Bay,

☐ Combined PRP / TMDL Plan			

☐ Joint Plan *(if checked, list the name of the MS4 group or names of all entities participating in the joint plan below)*

Joint Plan Participants:

2. Identify the pollutants of concern and pollutant load reduction requirements under the permit (see instructions).

Type of Plan	TSS Load Reduction (lbs/yr)	TP Load Reduction (lbs/yr)	TN Load Reduction (lbs/yr)
☒ Chesapeake Bay PRP (Appendix D)	28,076.90	-	-
☐ Impaired Waters PRP (Appendix E)			
☐ TMDL Plan (Appendix F)			
☐ Combined Chesapeake Bay / Impaired Waters PRP			
☐ Combined PRP / TMDL Plan			

3. Date Final Report Demonstrating Achievement of Pollutant Load Reductions Due: May 1, 2023

4. Have any modifications to the plan(s) occurred since DEP approval? ☐ Yes ☒ No

If Yes to #4, was the updated plan(s) submitted to DEP? ☐ Yes ☐ No

If Yes to #4, did you comply with the public participation requirements of the applicable appendix? ☐ Yes ☐ No

If Yes to #4, describe the plan modifications.

N/A

5. Summary of progress achieved during reporting period.

The Borough has reviewed and maintained the mapping of their MS4 system. The construction of the stream restoration described in the Spring Grove Pollution Reduction Plan is complete completion. Inspections and maintenance will be conducted if nessecary within each reporting cycle.

6. Anticipated activities for next reporting period.

The Borough will continue to conduct O&M on stream restoration Campus Ave project as needed. The MS4 mapping will be continually reviewed and updated as needed.

PRP/TMDL Plan Comments:

N/A

NEW BMPs FOR PRP/TMDL PLAN IMPLEMENTATION

Table 2. List all new structural BMPs installed and ongoing non-structural BMPs implemented during the reporting period that are being used toward achieving load reductions in the permittee's PRP and/or TMDL Plan (see instructions).

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed or Implemented	Planning Area?	Ch. 102?	Annual Sediment Load Reduction (lbs/yr)
11	Campus Ave Stream Restoration	N/A	n/	1250	LF	39°54'04"	76°51'59"	2019	☒	☐	1318.43
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	

BMP INVENTORY FOR PRP/TMDL PLAN IMPLEMENTATION

Table 3. List all existing structural BMPs that have been installed in prior reporting periods and are eligible to use toward achieving load reductions in the permittee's PRP and/or TMDL Plan (see instructions).

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed	Annual Sediment Load Reduction (lbs/yr)	Date of Latest Inspect -ion	Satis-factory?
	N/A					° ' "	° ' "				☐
						° ' "	° ' "				☐
						° ' "	° ' "				☐
						° ' "	° ' "				☐
						° ' "	° ' "				☐

						° ' "	° ' "				☐

CERTIFICATION

For PAG-13 Permittees: I have read the latest PAG-13 General Permit issued by DEP and agree and certify that (1) the permittee continues to be eligible for coverage under the PAG-13 General Permit and (2) the permittee will continue to comply with the conditions of that permit, including any modifications thereto. I understand that if I do not agree to the terms and conditions of the PAG-13 General Permit, I will apply for an individual permit within 90 days of publication of the General Permit. I also acknowledge that any facility construction needed to comply with the General Permit requirements shall be designed, built, operated, and maintained in accordance with operative laws and regulations.

For All Permittees: I certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Name of Responsible Official	Signature
Telephone No.	Date

ATTACHMENTS

Attachment 1.1 - Stormwater Management Program

Attachment 1.2 - Municipal Website

Attachment 1.3 – Educational Materials

Attachment 1.4 – Program Update

Attachment 1.5 – MS4 Goals & Accomplishments

Attachment 2.1 - Borough Council Meeting Minutes

Attachment 2.2 – Public Involvement and Participation Plan

Attachment 3.1 - Outfall Reconnaissance Inventory/Sample Collection field Sheets

Attachment 3.2 - MS4 Map

Attachment 3.3 – Illicit Discharge Reporting Form

Attachment 4.1 - Stormwater Management Ordinance

Attachment 5.1 – BMP Standard Operation Procedures

Attachment 5.2 – BMP Inspections Report

Attachment 6.1 - Training Documentation and sign in sheet

Attachment 6.2 – Good Housekeeping Operation & Maintenance Program

ATTACHMENT 1.1

STORMWATER MANAGEMENT PROGRAM

Spring Grove Borough

Stormwater Management Program

(SWMP)

ARRO Consulting, Inc.
108 West Airport Road
Lititz, PA 17543

SEPTEMBER 2021 ARRO NO. 10856.29

Spring Grove Borough
Municipal Separate Storm Sewer System
Stormwater Management Program
(MS4 SWMP)

In order to establish a more thorough understanding of the causes and impacts of stormwater pollution in Spring Grove Borough (Borough), ARRO consulting, Inc. (ARRO) completed a Target Audience Analysis to identify Target Audience Groups (TAGs) that will most likely contribute to local waterway impairments or produce Illicit Discharges. The Target Audience Analysis was conducted in Geographic Information Systems (GIS) with Spring Grove Borough's Urbanized Area 2010 (UA), and Appendix D Watersheds, that were identified from the Pennsylvania Department of Environmental Protection (PA DEP) Municipal Requirements table. The data was obtained from the United States Geological Survey (USGS) Stream Stats Application and Land Use information from 2020 York County parcel data. TAGs were identified by comparing Appendix D Watershed, and the UA areas with Google Earth Aerial Imagery. By understanding the most likely sources for pollution, the Borough has the ability to establish location-specific Minimum Control Measures (MCMs) and associated Best Management Practices (BMPs) for their MS4 program.

Figure 1. Pennsylvania Department of Environmental Protection Municipal Requirements Table

MS4 Name	NPDES ID	Individual Permit Required?	Reason	Impaired Downstream Waters or Applicable TMDL Name	Requirements	Other Cause(s) of Impairment
York County						
Spring Grove Borough		No		Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	

Figure 1 shows the Appendix D streams that were used to delineate watersheds.

As dictated by the Borough's MS4 Permit, the following sections of this document address each of the 6 required MCMs and the associated BMPs.

MCM #1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

BMP #1: PUBLIC EDUCATION AND OUTREACH PROGRAM (PEOP):

The Borough will engage in a PEOP with the TAGs through the activities listed under MCM #1; BMP #3 and MCM #1; BMP #4, which are outlined later in this document.

The PEOP was designed to achieve measurable improvements in the TAG's understanding of the causes and impacts of stormwater pollution and the steps they may take to prevent it. TAGs are identified under MCM #1; BMP #2 which is outlined later in this document.

The Borough may partner with other MS4s, the county, schools, watershed associations and/or environmental organizations to improve the TAG's understanding of MS4 related topics.

Listed below are the Borough's PEOP objectives and goals. PEOP objectives are intended to be the short-term means for achieving the long-term program goals. The Borough's annual MS4 reports will evaluate the effectiveness of each PEOP objective and provide a method to measure improvements in the TAG's understanding. Annual MS4 reporting of the PEOP to include the following:

- Assess what actions the MS4 permit holder took during the reporting period to achieve measurable improvements in the TAGs understanding.
- Describe what the MS4 permit holder has learned as a result of implementing the PEOP objectives over the course of the reporting period.
- Based on what was learned during that reporting year, outline what actions the MS4 permit holder will undertake over the course of next annual reporting period to achieve measurable improvements in the TAGs understanding.

GENERAL PUBLIC

- *Objective* – Define the methods to expose the general public to stormwater related information outside of a municipal setting.
  - Long Term Goal –Increase the public's (residential, commercial and industrial, institutional, and Borough staff/elected officials to the Borough) awareness and understanding of the Borough's MS4 program, causes and impacts of stormwater pollution, and how to prevent pollutant discharges into the Borough's regulated MS4.

Each MS4 reporting year the Borough will review the PEOP and update as necessary to maintain relevancy.

BMP #2: TARGET AUDIENCE GROUPS:

The Borough's TAGs have been defined as (1) Residential Uses/Residential Activities, (2) Commercial and Industrial Users, (3) Institutional Areas/Uses, (4) Borough Elected Officials/Borough staff. Each Target Audience will be reviewed and updated as necessary as part of each annual MS4 report. A description of each Target Audience is as follows:

Land Use		Total	
		Acres	%
Apartments	*A*	134.65	23.12
Commercial	*C*	51.56	8.85
Institutional	*E*	55.49	9.53
Farm	*F*	26.40	4.53
Industrial	*I*	70.48	12.10
Residential	*R*	243.77	41.86
		582.34	

Rank	
#1	Residential (41.86%)
#2	Apartments (23.12%)
#3	Industrial (12.10%)
#4	Institutional (9.53%)
#5	Commercial (8.85%)
#6	Farm (4.53%)

Land use information derived from 2020 York County parcel data.

TARGET AUDIENCE GROUP 1:

- Residential Uses/ Residential Activities: The Borough is primarily built-out with limited options for new development or redevelopment; therefore, the primary sources of pollution to the regulated MS4 Conveyance System are likely caused from existing residential uses and activities. 42% of the Borough's land use is residential, so the probability of illicit discharges from residential activities is high. Sources of pollution from residential uses include everyday activities such as car washing, law maintenance, power washing, storage of materials (trash, recyclables, etc.) and vehicle and equipment maintenance. In order to address pollutants generated from residential uses the Borough must consider methods for source control to retain pollutants at the locations where those pollutants are generated. This presents the necessity for a rigorous public education and outreach program that involves residents in the community in the MS4 improvement process. This can be done by educating the public how to use and practice proper homeowner best management practices. Furthermore, instructing the public to use residential BMPs, such as rain gardens and rain barrels will supplement the Borough's effort in reducing the effect that the community has upon the local waterways.

TARGET AUDIENCE GROUP 2:

- Commercial and Industrial Areas/Uses: Commercial and industrial areas/uses present the potential for pollution to the regulated MS4 Conveyance System through everyday business activities. 21% of the Borough's land use is classified as either commercial or industrial. In order to address pollution generated from commercial and industrial areas/uses the Borough must assess each commercial and industrial activity and determine (1) the ability of that commercial or industrial operation to generate pollution that could impact the regulated MS4 Conveyance System and (2) the ability of that commercial or industrial operation to address a pollution release. This can be done by establishing a comprehensive list of commercial and industrial businesses and activities in the Borough, determining what commercial and industrial uses have the potential for an offsite pollution discharge, then establishing partnerships with those commercial and industrial businesses in order to prevent a potential discharge.

TARGET AUDIENCE GROUP 3:

- Institutional Areas and Activities: Institutional areas and activities present the potential for pollution to the regulated MS4 Conveyance System through everyday activities. 10% of the Borough's land use is classified as institutional. In order to address pollution generated from institutional uses the Borough must assess each institutional activity and determine (1) the ability of that institutional operation to generate pollution that could impact the regulated MS4 Conveyance System and (2) the ability of that institutional operation to address a pollution release. This can done be by establishing a comprehensive list of institutions and activities in the Borough, determining what institutional uses have the potential for an offsite pollution discharge then establish partnerships with those institutions in order to prevent any potential discharge.

TARGET AUDIENCE GROUP 4:

- Elected Officials and Borough Staff: The Borough Council is an elected representative group of the Spring Grove Borough community. The Borough Council guides the Borough through the major decision-making processes such as budget approval and the passing of ordinances. Because of the unique position the Borough Council holds, having an educated group of elected officials on all the uses, activities, and changes to the MS4 program that may impact the regulated MS4 Conveyance System is important. The Borough must consider methods for source control to retain pollutants at the locations where those pollutants are generated and reduce the Borough's impact on waterways of the United States. This presents the necessity for a rigorous education and outreach program that involves elected officials in the decision-making process to improve the Borough's MS4 program. This can be done by educating elected officials on necessary changes and processes that need to be implemented. The Borough Staff is in charge of proper O&M of Borough-owned stormwater facilities and to ensure that compliance is achieved for their MS4 Permit.

Each annual MS4 reporting year, the Borough will review the Target Audience list and methods for distributing educational materials to these groups and update as necessary.

BMP #3: PUBLISH STORMWATER INFORMATION:

On an annual basis, the Borough will produce stormwater education material and informational items about the Borough's Stormwater Management Program that will be published in print and/or on the internet. Each annual MS4 reporting year the Borough will review, update and maintain published stormwater education material and informational items about the Borough's Stormwater Management Program, general stormwater information and the Boroughs stormwater management activities.

The Borough utilizes many different forms of handouts, flyers, newsletters and brochures along with the Borough website and other avenues to present general stormwater educational material and informational items about the Borough's Stormwater Management Program, and information on the Boroughs stormwater management activities to the community and TAGs. The Borough will continue the aforementioned and will attempt to partner with other MS4s, the county, schools, watershed associations and/or environmental organizations to meet this BMP.

The Borough will utilize the above referenced methods for developing MS4 related material and updates for the public. As the knowledge of each TAG increases, the Borough will evaluate other methods for producing stormwater education material and informational items about the Borough's Stormwater Management Program, general stormwater information and information on the Boroughs stormwater management activities.

(Please reference educational materials attached in the Annual Report.)

BMP #4: DISTRIBUTE STORMWATER EDUCATIONAL MATERIALS AND/OR INFORMATION:

The Borough will utilize at least four methods of distribution of stormwater education material and informational items about the Borough's Stormwater Management Program to the public and the TAGs.

The Borough utilizes the displays, posters, signs, pamphlets, booklets, and/or brochures (Method 1) located in the Borough Office and displayed at monthly Borough Council meetings (Method 2). Information provided on the Borough's website (Method 3) and made available through email upon request (Method 4) as the 4 methods of distribution. The Borough will continue the aforementioned and will attempt to locate additional distribution methods based on the TAGs.

The Borough will utilize the above referenced methods for reporting MS4 related material and updates to the public. As the knowledge of each TAG increases, the Borough will evaluate other distribution methods.

MCM #2: PUBLIC INVOLVEMENT / PARTICIPATION

BMP #1: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM (PIPP):

The Borough will engage in a PIPP with the TAGs listed under MCM #1, BMP #2 through activities listed under MCM #2 BMP #3 and MCM #2 #4, which are outlined later in this document. The PIPP is connected to the PEOP so updates to one program will be reflected in the other program.

The Borough may partner with other MS4s, the county, schools, watershed associations and/or environmental organizations to improve the public and TAGs understanding of the causes and impacts of stormwater pollution and the steps they can take to prevent it.

Annual MS4 reporting of the PIPP to include the following:

- Opportunities for the public to participate in the decision making processes associated with the development, implementation and updating of programs and activities associated with the Borough's MS4 permit.
  - The Borough conducts open public meetings, which have also been held online due to Coronavirus concerns and social distancing recommendations, once a month on a regularly scheduled basis. These meetings are properly advertised in accordance with all applicable State and local public notice requirements. Each of the aforementioned public meetings will have a scheduled time on the agenda for public participation on any item, which may include items related to the Borough's Stormwater Program. Any comments received at these meetings regarding the Borough's Stormwater Management Program will be recorded in the meeting minutes. The Borough Staff that is responsible for the Stormwater Management Program will make appropriate follow-up contact with public participants, to ensure that their comments or concerns are addressed.
  - In addition to the public meetings, public comment on the Stormwater Management Program can be received at the Borough office during normal business hours by phone or by contact through the Borough Website.

- Methods for routine communication for groups that operate within proximity to the MS4 conveyance system or receiving waters.
  - Have discussions regarding MS4 related topics such as implementation of residential BMPs, pollution prevention, and information regarding the program in an advertised public meeting to communicate.
  - Follow up with the community when questions, concerns or complaints related to stormwater are raised.
  - Based on the findings of the PEOP objectives and goals, the Borough shall assess other means for making MS4 reports available to the public.

- Means for making annual MS4 reports available to the public:

- Continue to provide reports, available for public review, which are available to be reviewed upon request at the Borough main office located at 1 Campus Avenue, Spring Grove, PA 17362 between the hours of 8:00am-4:30pm.
- Based on the findings of the PEOP objectives and goals, the Borough shall assess other means for making MS4 reports available to the public.

- Participation by the public in programs and activities related to the MS4 permit are be achieved by:
  - Providing a MS4 based discussion at an advertised public meeting.
  - Based on the findings of the PEOP plans and goals, the Borough will assess other participation options for reaching each TAG.
  - Based on the findings of the PEOP objectives and goals outlined under MCM #1, BMP #1, the Borough will assess other options for soliciting public involvement and participation.

BMP #2: PUBLIC NOTIFICATION OF ADOPTION OF ORDINANCE AS REQUIRED BY MS4 PERMIT:

The Borough will advertise any proposed MS4 Stormwater Management Ordinance or Standard Operating Procedure (SOP), provide opportunities for public comment, evaluate any public input and feedback, and document the comments received and the Borough's response. The Borough will update their ordinance to be consistent with PA DEP's Model 2022 Stormwater Management Ordinance.

Each annual MS4 reporting year the Borough will review Ordinances and SOPs and update as necessary to maintain their relevancy.

BMP #3: SOLICIT PUBLIC INVOLVEMENT AND PARTICIPATION:

The Borough will conduct at least one public meeting per year to solicit public involvement and participation from the TAGs. This meeting may be part of one of the regularly scheduled meetings, conducted as a specific portion of the meeting or may be a separate meeting. The public should be given reasonable notice in advance of each meeting.

During the meetings, the Borough will present a summary of progress, activities, and accomplishments regarding implementation of the Stormwater Management Plan, and provide opportunities for the public to provide feedback and input. The Borough will report instances of cooperation and participation in activities; presentations made to local watershed organizations and conservation organizations; and similar instances of participation or coordination with organizations in the community.

The Borough will document and report activities in which members of the public assisted or participated in meetings and in the implementation of the Borough's Stormwater Management Plan, including education activities or organized implementation efforts such as cleanups, monitoring, storm drain stenciling, or others.

MCM #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDD&E)

To report an illicit discharge at any time, please submit an illicit discharge/water quality complaint form by visiting the MS4 page of the Borough's website and clicking the link. During normal business hours, Monday-Friday 8 AM to 4:30 PM, one could also report illicit discharges by calling the Borough office at 717-225-5791.

Outfall drainage areas were analyzed and compared in Geographic Information Systems (GIS) to determine priority area classification. Layers used in the analysis include aerial imagery, land cover raster data, and stormwater conveyance system data.

- **High Priority Areas** - have a high potential for illicit discharge due to large drainage area size, large conveyance size, high impervious cover, and/or urban land use.
- **Low Priority Areas** - have a low potential for illicit discharge due to small drainage area size, small conveyance size, low impervious cover, and/or more rural land use.
- **Medium Priority Areas** - fall somewhere in between with a balance of high and low priority area characteristics.

Outfall ID	Priority Area	Reasoning
OF002	High	Small conveyance (8 inlets) along state road downstream of Glatfelter (industrial)
OF003	High	Medium conveyance (18 inlets) downstream of Glatfelter (industrial) and residential areas
OF004	Medium	Small conveyance (2 inlets) collecting runoff from Red Lion Bus property (completely
OF005	High	Large conveyance (32 inlets) in residential area. Long open channel has high potential to catch
OF006	Low	Small conveyance (2 inlets) along rail trail
OF008	Medium	Medium conveyance (14 inlets) in residential area and also crossing state road
OF009	Low	Small conveyance (1 inlet) in residential area
OF010	Low	Small conveyance (3 inlets) in residential area
OF011	Medium	Small conveyance (6 inlets) in commercial area along state roads
OF012	Medium	Small conveyance (3 inlets) in commercial area along state roads
OF013	Medium	Small conveyance (2 inlets) in commercial area along state roads
OF014	High	Medium conveyance (> 12 inlets, Jackson Twp inlets not completeley mapped) along state
OF015	High	Medium conveyance (13 inlets) along state road in residential area. Long open channel has
OF016	High	Very large conveyance (122 inlets) covering almost all of northern residential area and
OF017	Medium	Medium conveyance (16 inlets) collecting from apartment complexes and local roads

SCHEDULE OF DRY WEATHER OUTFALL SCREENINGS

Planning Area	Inspection Frequency
High Priority	Seasonally
Medium Priority	Annually
Low Priority	Annually

DRY WEATHER SCREENING PROTOCOLS

WHAT IS DRY WEATHER SCREENING?

Dry weather screening is a field test method for inspecting stormwater drainage areas to help locate and identify illicit discharges to a municipal stormwater system. Field testing or screening is designed primarily for assessing flowing discharges from a stormwater conveyance system.

TRAINING AND QUALITY CONTROL FOR MS4 STAFF

Anyone performing dry weather screens must be properly trained in the (I) Site Procedures, (II) Monitoring Procedures and (III) Illicit Discharge Elimination Procedures outlined in this document. The aforementioned procedures should be reviewed, at a minimum, on an annual basis an updated as necessary. The person(s) preforming the dry weather screenings should provide an acknowledgement that they have read and are familiar with the procedures outlined in the document. A sample sign off sheet has been included at the end of this document.

SITE PROCEDURES

This section outlines field staff protocols, safety precautions and the recommended field equipment, sampling sequence and sampling collection methods.

The dry weather screening locations should be chosen in advance based on the MS4 map and the MS4 Outfall Sampling Protocol. The latest version of the Pa DEP Outfall Reconnaissance Inventory / Sample Collection Field Sheet, or similar Pa DEP required field collection data sheet, must be used to record the dry weather sampling events. The person(s) performing dry weather sampling should note the background data (date, location, weather, etc.) on the required Pa DEP field collection data sheets for each sampling location prior to entering the field.

The person(s) performing dry weather sampling must have and be familiar with the required dry weather screening equipment and be prepared to take photographs at each dry weather sampling location. Photographs represent proof of sampling activities and provide a visual record to document the conditions of the outfall and surrounding area.

Dry weather screening events should not occur within 72-hours of a rainfall event. Performing screenings 72-hours after a rainfall reduces the likelihood that flow from an outfall is precipitation related.

The recommended procedure to document the dry weather screening is as follows:	
1.	Using a dry erase board mark the outfall number, inspection date and initials of the person performing the inspection.
2.	Position the dry erase board within close proximity to the outfall.
3.	Take a photograph of the dry ease board (making sure the outfall number, inspection date and initials of the person performing the inspection are visible) and the outfall.
4.	Complete the Pa DEP Outfall Reconnaissance Inventory / Sample Collection Field Sheet, or similar Pa DEP required field collection data sheet, including the inspector's signature and initials.
5.	Print the outfall inspection photograph, staple the photograph to the Pa DEP Outfall Reconnaissance Inventory / Sample Collection Field Sheet, or similar Pa DEP required field collection data sheet, and note on the field report that a photograph of the inspection has been attached to the field report.
6.	Pa DEP Outfall Reconnaissance Inventory / Sample Collection Field Sheets, or similar Pa DEP required field collection data sheets should filed according to the annual MS-4 reporting cycle.

DRY WEATHER SAMPLING SAFETY / GENERAL PRECAUTIONS

1. Review and familiarize yourself with this document.
2. Read all manufacture instructions to familiarize yourself with the test equipment before you begin. Note any manufacture precautions in the instructions.
3. Notify a designated person of your activities and dry weather screening route before you go into the field. The designated person should be contacted when dry weather screening activities cease. If the designated person is not notified within a specified amount of time, the designated person should notify the Borough Manager and the authorities of your absence.
4. Wear reflective clothing or a vest and an identification badge.
5. If possible, place signage on your vehicle to identify you as professional or acting for the Borough.
6. In the event of an accident or suspected poisoning, immediately call 911.
7. Avoid contact between fluids and skin, eyes, nose and mouth.
8. Wear safety goggles or glasses and rubber gloves when handling fluids.
9. Use the caps or stoppers to cover test tubes or samples bottles.
10. Wipe up any spills, liquid or powder, as soon as they occur.
11. Do not expose materials or equipment to direct sunlight for long periods of time and protect materials or equipment from extremely high or low temperatures.
12. Safely dispose of all waste materials appropriately.
13. Park your vehicle safely off roads and out of the way of traffic. The placement of orange safety cones is recommended around the vehicle.

14. Approach the screening location safely. Watch out for traffic on bridges and when crossing roads. Be on the lookout for snakes, fire ants, wasps, poison ivy, Africanized honeybees, wild animals or briars.
15. Avoid areas of high water.
16. Perform dry weather sampling another day or at another location if any dangerous condition is encountered

SUGGESTED DRY WEATHER SAMPLING EQUIPMENT LIST

1. MS4 Map
2. Required Pa DEP Field Collection Data Sheets
3. Armored thermometer, centigrade
4. pH Meter
5. Octa-Slide Comparator
6. Conductivity Meter
7. Storm Drain test kit with tests for copper, chlorine, and detergent
8. Ammonia Nitrogen test kit
9. Gloves for handling chemicals
10. Safety goggles
11. Container for bringing back liquid reagent wastes from the field
12. Bottle of deionized or distilled water for rinsing equipment after sampling
13. Paper towels or rags
14. Tape measure or ruler
15. Camera
16. Dry Erase Board
17. Dry Erase Pen

SUGGESTED IN-FIELD DRY WEATHER SAMPLING SEQUENCE

1. pH meter calibration
2. Initial site observations: trash, sewage, surface scum, etc.
3. Air temperature
4. Physical observations: flow, color, odor, oil sheen
5. Water temperature
6. pH
7. Detergent

8. Ammonia-Nitrogen
9. Copper
10. Chlorine
11. Conductivity

It is important to know if dry-weather flow is typical at the dry weather sampling site. Spring flow or groundwater intrusion into a MS4 system is not uncommon in south eastern Pennsylvania. If a dry weather flow is encountered the flow should be photographed and described then a sample should be collected to confirm the nature of the flow. If it is confirmed that a flow is from a groundwater source, the person performing the dry weather screenings should be notified so they can make a comparison during the next dry weather sampling event at that location. If conditions at the location have changed, additional sampling may be warranted.

Along with the information provided on the required Pa DEP field collection data sheets the following should also be noted to assist the person performing the next dry weather sampling event at that location:

- Record site access information, outlining how you accessed or approached the outfall and how you collected the sample.
- Note any environmental issues such as poison ivy or saturated soils.
- Detail any other issues which may affect future dry weather screening activities.

METHODS OF WATER (FLOW) SAMPLE COLLECTION OF A SUSPECTED ILLICIT DISCHARGE

There are three accepted methods for collecting water samples:

1. ***Discharge Grab*** - Rinse the test tubes or sampling containers twice with the water to be sampled. Collect the sample by putting the sampling container under the discharge of the outfall. Be sure to wear safety gloves and goggles.
2. ***Surface Water Grab*** - Rinse the test tubes or sampling containers twice with the water to be sampled. If deep enough, collect the sample at a depth of approximately twelve inches under the surface of the flow. Lower your container vertically to a depth of approximately twelve inches and then turn the container upright. Rinses should be done at the same depth you are sampling at. Approach the sampling location from downstream of any flow, so as not to disturb sampling site. If there is a current, be sure you are standing downstream of the container. Be sure not to drag the container on the bottom or kick up sediment into the sample.
3. **Bucket Grab** - Rinse the bucket twice with water to be sampled. Dispose of rinse water away from where actual sample will be taken. Gently lower bucket approximately twelve inches into the water or to one-third of total depth whichever is less and fill. Retrieve and take samples in the test tubes or sampling containers directly out of the bucket. Be sure and rinse those containers twice before collecting samples to be tested.

MONITORING PROCEDURES - TESTS AND OBSERVATIONS

This section outlines the suggested parameters to sample if a dry weather flow is encountered, illicit discharge protocol and the sample clean-up and storage of equipment.

PARAMETER 1: CONDUCTIVITY

Conductivity can be used for describing inorganic materials in water and fluctuating levels of conductivity can be an indicator of pollution from a number of activities such as wastewater discharges, oil production activities, irrigation, removal of vegetation shading a stream and causing increased evaporation, overuse of fertilizers, spreading of road salt during icy conditions, etc.

Conductivity can be recorded using the Total Dissolved Solids (TDS) Tester.

PARAMETER 2: TEMPERATURE

Temperature dramatically affects the rates of chemical and biochemical reaction within the water. Many biological, physical, and chemical principles depend on the temperature. Some of the most common of these are the solubility of compounds in water, distribution and abundance of organisms living in the water, rates of chemical reactions, density inversions and mixing, and current movements. Unusual temperature variations in a MS4 conveyance system could indicate thermal pollution by illegal discharges into the system.

Water temperature can be collected using a thermometer.

PARAMETER 3: AMMONIA-NITROGEN

Nitrogen is a fundamental plant nutrient and required by all living plants and animals for building protein. Ammonia nitrogen is produced largely by deamination of organic nitrogen-containing compounds and by hydrolysis of urea. Sources of ammonia nitrogen in a MS4 conveyance system could be illegal connections to the sanitary sewer system, poorly functioning septic systems, or wildlife (particularly large concentrations of ducks and geese).

Ammonia-Nitrogen can be collected using a Testing Procedure and Ammonia-Nitrogen test kit.

PARAMETER 4: PH

pH is a measure of how acidic or basic (alkaline) a solution is. Pure water has a pH of 7.0. When the pH is less than 7.0, the water is said to be acidic. When the pH is greater than 7.0, the water is said to be basic or alkaline. Water's ability to resist changes in pH is critical to aquatic life. There are several activities in water that can severely affect the pH. Human activities such as accidental spills, agricultural runoff (pesticides, fertilizers, animal wastes), and sewer overflows may also change pH.

pH can be defined using a pH Meter.

PARAMETER 5: CHLORINE

Chlorine is used in water treatment and wastewater treatment processes to disinfect water. It has the same effect on natural waters. Chlorine in natural waters is toxic to aquatic life, particularly micro-organisms and can create a "sterile" environment. Chlorine in storm drain discharge could indicate an illicit connection with the water supply system or someone's swimming pool.

Chlorine levels can be defined using a Chlorine test Kit.

PARAMETER 6: COPPER

Copper is a metallic element essential to human growth and is literally found all over the world. Generally, detection of copper during monitoring could indicate an illicit discharge into the storm drain system.

Copper levels can be defined using a Copper test Kit.

PARAMETER 7: DETERGENTS

Detergents can be toxic to many aquatic plants, bugs, and fish. In addition to their possible toxicity, detergents can also lower the level of oxygen that is available to aquatic life, such as fish. This is a result of biodegradation of the detergent. Detergent enters our surface water through a variety of channels. Illicit discharges into storm drains account for some of the detergent detected in storm drain outfalls. Car washing and outdoor cleaning of screens and grills also introduce detergent into our water bodies. Leaking sanitary sewers could also contribute detergents used in household cleaning.

Detergent levels can be defined using a Detergent test Kit.

PARAMETER 8: COLOR

Color is determined by visually comparing the sample to known color standards.

The Borger Color System (BCS) can be utilized to assess color. BCS uses 147 color chips representing colors that actually occur in aquatic insects. Since protective coloration is part of some aquatic insects' natural defense mechanisms, this color chart will provide a range of natural colors found in creeks nationwide. Some aquatic insects also demonstrate bright colors in a range that would include those associated with illicit flows. The presence of dyes and process chemicals may be indicated when unusual colors are observed in storm drain systems.

PARAMETER 9: OIL SHEEN

Hydrocarbons such as oil, gasoline, and grease often wash into the storm drain system through stormwater runoff. Less often, leaking or abandoned underground petroleum storage tanks account for larger influxes of hydrocarbons. These substances are toxic to aquatic organisms.

Oil sheen is determined through human observation. Observe outfall area for the presence of oil sheen (hydrocarbon residue). These are identified by a rainbow-like sheen on the water's surface.

NOTE: There are some types of algae that will produce a surface sheen, especially in isolated, stagnated pockets or pools in soils next to the outfall pool. Disregard these small packets of stagnated water.

PARAMETER 10: ODOR

"Clean" natural drainage water (during most of the year) produces no distinctive odors other than a slight mustiness. Since most organic and many inorganic chemicals generate some odor, a simple sensory "smell" test can be a valid indicator of possible illicit flows in a waterway.

Water odor can be determined as follows:

1. Rinse sample container twice with water to be tested.
2. Fill the sample container at least halfway with sample water and hold the sample about six inches from your nose. Use your free hand to fan the scent to your nose.

0.	No odor detected
1.	Gasoline
2.	Dry cleaning fluid
3.	Unidentified solvent odor
4.	Musty or septic
5.	Sweet or fruity
6.	Putrid (decay or decomposition odor)
7.	Chlorine
8.	Other (describe)

Note 1: Never inhale the air directly off the top of the sample, as many potential contaminants are injurious to delicate nasal membranes and lung tissues.

Note 2: When stream-side sediments are disturbed, odors associated with anaerobic decomposition are often released. Therefore, disturb streamside sediments as little as possible

PARAMETER 11: TRASH, SEWAGE AND SURFACE SCUM

Sewage, surface scum, and trash are undesirable and the observer should try to identify these features at the outfall as best as possible. Color of scum and/or floating solids should also be noted.

Often water in the outfall pool area will reveal signs of storm drain contamination by sewage collection systems or toxic conditions. Look for these indicators and record the appropriate code.

0 -	None observed
1 -	Fish kills
2 -	Fecal matter
3 -	Toilet paper (typically resembles flocculent material)
4 -	Food products (such as corn)
5 -	Condoms or plastic tampon applicators
6 -	Tubifex worms (blood worms)
7 -	Mosquito larvae concentrations ("wigglers")
8 -	"Sewage fungus," actually observable, threadlike colonies of grayish white bacteria
9 -	Absence of aquatic life (sterile)
10-	Other - describe on sheet

CLEAN-UP AND STORAGE OF EQUIPMENT

- ***Glassware Cleaning Procedure -*** It is important to wash test tubes and/or sample containers with Deionized Water, 3 times in succession, after each test procedure is completed. At the end of each day, all sampling and test glassware should be washed with detergent and rinsed 3 times in succession.
- ***Waste Disposal Procedure -*** Collect all waste from tests in one lidded container to be taken with you from the test site. All waste from tests may be disposed of by flushing with lots of water down a toilet or drain which is connected to a central treatment facility. Waste should never be discarded on the ground or back into water being sampled.
- ***Storm Drain And Ammonia-Nitrate Kits Storage -*** Store testing kits in a clean, dry space away from pets and children. Do not subject them to extreme cold, heat, or humidity. Don't leave them lying in the sun. It is best to store them in a closet in your home, classroom, or workplace. Do not store them outside. Follow manufacture instructions.
- ***pH Meter -*** The pH meter is your most sensitive piece of equipment. It is very sensitive to excessive heat (like a closed car), excessive shaking, and excessive moisture (drizzle, being laid on a wet surface, dropping it in a lake, wearing it in the shower, immersing the meter above the immersion line). The pH pens are not waterproof or even water resistant. Be very careful to protect against moisture, especially during rainy conditions. Pens will not work properly if moisture gets into electronics. If pen gets damp, pull out batteries and allow electronics to dry. After electronics have dried, replace batteries. Rinse the probe section of the pH pen in tap water. Put the pH Pen away wrapped in a towel or a protective covering. Follow manufacture instructions.

METHODS FOR REMOVING OR CORRECTING AN ILLICIT DISCHARGE

Please note illicit discharge sources vary greatly therefore a step by step procedure for locating and removing the source for an illicit discharge cannot be provided. This section is intended as an outline

to help the inspector assess the nature of the illicit discharge and begin the process of eliminating the discharge.

If an illicit discharge is found the inspector should perform the procedures outlined in this document to determine the source. If the illicit discharge source can be determined the inspector should immediately notify the property owner(s)/persons responsible for the illicit discharge source and make them aware they are in violation of the Borough's MS4 Permit. The specifics for notifying, resolving and implementing an enforcement action based on an illicit discharge are governed under the municipal code(s).

If the illicit discharge source cannot be determined the inspector should utilize the MS4 Map to trace and isolate the area where the illicit discharge source may have originated. For example, if an illicit discharge is noted from MS4 Outfall X the inspector can evaluate each upslope stormwater management feature until the source is found (e.g., illegal dumping into a stormwater inlet) or until the discharge can be isolated (e.g. stormwater inlet 4 shows signs of the discharge while the adjoining upslope inlet shows no signs of the discharge).

BMP #1: THE BOROUGH HAS DEVELOPED AND IMPLEMENTED A PROGRAM FOR THE DETECTION, ELIMINATION, AND PREVENTION OF ILLICIT DISCHARGES INTO THE BOROUGH'S REGULATED MS4S. THE PROGRAM INCLUDES THE FOLLOWING:

1. The Borough will consider screening outfalls in priority areas during varying seasonal and meteorological conditions. The operation of the stormwater system is monitored by staff.
2. Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a regulated small MS4 Outfall will be determined on a case-by-case basis and will generally follow published procedures.
3. Procedures for eliminating an illicit discharge will be determined on a case-by-case basis and will generally follow published procedures.

The existing IDD&E program shall continue to be implemented and evaluated annually. Records shall be kept of all MS4 Outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program and kept in annual files. IDD&E information must be reviewed, updated when necessary, and provided to Borough employees, businesses and the general public during each reporting cycle. IDD&E information will be reviewed and updated based on findings of the PEOP plans and goals in order to provide relevant information to each TAG.

BMP #2: THE BOROUGH WILL UPDATE AND MAINTAIN A MAP FOR THE REGULATED MS4 CONVEYANCE SYSTEM.

A copy of the current MS4 conveyance map has been included with this document. The following features are required to be located on the MS4 Conveyance Map as per MS4 Permit requirements:

- Outfalls
- Names and locations of all surface waters of the Commonwealth

BMP #3: THE BOROUGH WILL MAINTAIN A MS4 CONVEYANCE MAP THAT INCLUDES THE INFORMATION OUTLINED UNDER MCM#2, BMP AND MCM#2, BMP#3 OF THE BOROUGH'S MS4 PERMIT.

A copy of the current MS4 map has been included with this document. The following additional features are required to be located on the MS4 Conveyance Map as per MS4 Permit requirements:

- Entire storm sewer collection system
- Roads
- Inlets
- Piping
- Swales
- Catch Basins
- Channel Basins

Any other features of the MS4 permittee's storm sewer system including the municipal boundaries and/or watershed boundaries will be included with this map.

BMP #4: THE BOROUGH WILL CONDUCT OUTFALL FIELD SCREENING, IDENTIFY THE SOURCE OF ANY ILLICIT DISCHARGES, AND REMOVE OR CORRECT ANY ILLICIT DISCHARGES USING PROCEDURES DEVELOPED UNDER BMP #1:

Borough employees should review and be familiar with the following publication: *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical* Assessments (CWP, October 2004) available through the EPA at https://www3.epa.gov/npdes/pubs/idde_tableofcontents.pdf

All of the identified regulated small MS4 Outfalls will be screened during Dry Weather on at least once during each permit coverage term. Problem areas associated with past problems such as illicit discharges, illegal dumping, or known sources of dry weather flows that occur on a continual basis will be screened annually.

For each MS4 Outfall, if the screening reveals dry weather flow, the discharge from the outfall and the area around the outfall shall screened in accordance with DEP approved document MS4 Outfall Field Screening Report http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=10087&DocName=MS4%20OUTFALL%20FIELD%20SCREENING%20REPORT.PDF%20%20%3Cspan%20style%3D%22color%3Ablue%3B%22%3E%3C%2Fspan%3E .

If an outfall does not have any dry weather flows, then sampling and testing are not needed

The following three methods can be used to measure the flow rate at a flowing outfall.

Method 1: Utilizing a graduated bucket or jug marked at 1 Liter and a stopwatch record the amount of time required to fill the jug to 1 Liter. Ensure you are capturing the entire flow. When the flow is only a trickle, use a smaller volume container and follow the same method. The following equation is used to calculate flow:

Discharge = Volume filled (cu. ft.) x Time (sec).

For pipes that are discharging larger volumes where it is not be possible to capture the volume in a graduated container, see Method 2.

Method 2: This method should only be used with a free-flowing outfall (i.e. water drops out of the pipe and falls to the stream channel) and when the depth of flow is relatively uniform. Utilizing a tape measure, record the flow depth in the pipe at the deepest point and the total flow width. Then use the following equation:

Discharge = 3.1 x wetted width (ft) x flow depth (ft) $^{1.5}$

Method 3: Using a tape measure record the width of the flow. Next, measure and record the depth of the flow. Using a measuring tape, leaf or ping pong ball, and stop watch, record the length of time it takes to travel a known distance and repeat. Repeat velocity measurement 3-5 times and average the results. Then use the following equations to calculate the flow rate and record the results on the ORI form:

- Area = Wetted width (ft) x flow depth (ft)
- Velocity = Length of ping pong ball run (ft) / Time (sec)
- Discharge = Area x Velocity

The Borough will prioritize outfall inspections according to the perceived chance of illicit discharge within the outfall's contributing drainage area. Observations of each outfall shall be recorded each time an outfall is screened, regardless of the presence of dry weather flow. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples. All outfall inspection information shall be recorded on the Outfall Reconnaissance Inventory/Sample Collection field sheet. Adequate written documentation shall be maintained to justify a determination that a flow is not illicit. If a flow is illicit, the actions taken to identify and eliminate the illicit flow also shall be documented. The results of outfall

inspections and actions taken to remove or correct illicit discharges shall be summarized in periodic reports.

The Borough acknowledges it is possible for illicit discharges/connections to occur at various times of the year and during or just after rain events and will consider conducting dry weather screenings during varying seasonal and meteorological conditions. Seasonal dry weather screenings conducted during periods of both low and high groundwater conditions can be beneficial in identifying illicit discharges that can occur during these times.

Non-routine inspections - If an employee observes evidence of an illicit discharge during the normal course of duties or an informal or non-routine inspection, he/she should collect as much information about the potential illicit discharge as possible then contact his/her supervisor or municipal office so that appropriate action can be taken.

It is important to collect as much information as possible at the time of initial observation because of the likelihood that a discharge may be transitory or intermittent. Initial identification of the likely or potential sources of the discharge is also very important. The employee should make a reasonable attempt to collect information.

- The person observing the discharge can provide the information verbally to the supervisor or engineer who can then complete the Illicit Discharge Tracking Sheet;
- The person observing the discharge can log as much information as they can recall onto the form upon returning to the office; or
- A person dedicated to inspecting and tracing illicit discharges can be sent to the location as soon as possible where the potential illicit discharge was observed to collect the necessary information directly on the form.

BMP #5: NON-STORMWATER DISCHARGE PROHIBITION

The Borough enacted a Stormwater Management Ordinance to implement and enforce a stormwater management program that includes prohibition on non-stormwater discharges to the MS4 conveyance system. The Borough will continue to enforce the Stormwater Management Ordinance and appropriate countermeasures will be taken if a violation occurs. The Borough is in the process of adding a “Report an Illicit Discharge” section to their Stormwater Management page on their website.

BMP #6: AS PART OF MCM #1 THE BOROUGH WILL PROVIDE IDD&E RELATED INFORMATION AND EDUCATIONAL OUTREACH TO THE TARGET AUDIENCE GROUP, PUBLIC EMPLOYEES, AND PROPERTY OWNERS, THE GENERAL PUBLIC AND ELECTED OFFICIALS ABOUT THE PROGRAM TO DETECT AND ELIMINATE ILLICIT DISCHARGES:

The Borough will distribute educational information in the form of brochures and other forms of handouts to educate and guide TAGs about the Boroughs IDD&E program.

Information being distributed will include:

- Program Goals
- Illicit Discharge protocols and reporting information
- Local options for the recycling and disposal of household hazardous waste
- Explanation of an illicit discharge
- Opportunities to join “neighborhood watch” groups to identify and report illicit discharges to the Borough

MCM #4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

The Borough will rely on DEP's statewide QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy all requirements under this MCM #4. While this permit allows the Borough to rely on the Conservation District to complete MCM 4 activities, the Borough is responsible to ensure the District completes the required activities.

Under 25 Pa. Code, Chapter 102 of Department regulations issued under the authority of the Pennsylvania Clean Streams Law, the permittee (a Borough or a county) may not issue a building or other permit or final approval to those proposing or conducting earth disturbance activities requiring a DEP permit until the DEP has issued an individual NPDES Permit, or DEP or a delegated county conservation district (CCD) has approved coverage under the general NPDES Permit for Stormwater Discharges Associated With Construction Activities.

As recommended, the Borough will work with the County to authorize an agreement between the Borough and the County Conservation District (CCD) that defines roles for each entity. A written copy will be kept in the Borough files, consistent with the Retention of Records requirements in this Permit.

The CCD monitors earthmoving activities for compliance with E&S requirements and provides inspection reports and violation notices to the Borough. The Borough will retain a copy of all correspondence from CCD in a MS4 file (as well as the development permit file).

The Borough will provide stormwater and E&S educational information to builders & developers with building and zoning permits.

During the normal course of duties, the Borough staff will endeavor to verify/ensure proper waste control by contractors and builders.

The Borough will investigate any public complaints regarding stormwater issues on a case by case basis. When the Borough receives an inquiry, a Borough representative will make a thorough investigation of the issue of concern. The results of the investigation are then given to the responsible party to correct, if necessary. A copy of the Borough's response is provided to the person who made the inquiry. All inquiries will be handled on a case by case basis.

(Please reference the Stormwater Management Ordinance attached in the Annual Report.)

MCM #5: POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) IN NEW AND RE-DEVELOPMENT

ACTIVITIES

BMP #1, BMP #2, & BMP #3: The Borough shall rely on DEP's statewide QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy all requirements under BMPs #1 through #3 of this MCM #5.

BMP #4: PCSM ORDINANCE:

The Borough has enacted and will continue to implement, and enforce its Stormwater Management Ordinance to address post-construction stormwater runoff from new development and redevelopment projects and provide sanctions and penalties associated with non-compliance, to the extent allowable under State or local law.

BMP #5: DEVELOP AND IMPLEMENT MEASURES TO ENCOURAGE AND EXPAND THE USE OF LOW IMPACT DEVELOPMENT (LID) PRACTICES IN NEW AND REDEVELOPMENT; MEASURES ALSO TO ENCOURAGE RETROFITTING LID INTO EXISTING DEVELOPMENT.

The Borough's Stormwater Management Ordinance allows for development and redevelopment to manage rainfall at the source using distributed small-scale controls. We believe the ordinances allow landowners to mimic a site's predevelopment hydrology by using BMPs that infiltrate, filter, store, evaporate, and detain runoff close to the source. This is recognized as difficult for most areas in this urbanized Borough where a significant amount of land has been developed before stormwater controls were implemented.

For certain sites, the Borough encourages the use of the U.S. EPA website which provides publications on LID, including *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices* Publication Number EPA 841-F-07-006, December 2007 at https://www.epa.gov/sites/default/files/2015-10/documents/2008_01_02_nps_lid_costs07uments_reducingstormwatercosts-2.pdf. The Pennsylvania Standards for Residential SiteDevelopment, Pennsylvania Housing Research/Resource Center, The Pennsylvania State University, April 2007 at http://www.dot.state.pa.us/Public/Bureaus/PlanningResearch/MRO/PA_Standards_for_Residential_Site_Design_(2007).pdf. Information on LID can be found onthe Borough's website and is also handed out to the public as part of an educational packet when applying for any permits.

BMP #6: ENSURE ADEQUATE OPERATION & MAINTENANCE OF POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) BMPS.

The Borough maintains an inventory of PCSM BMPs as development projects are reviewed, approved, and constructed. This inventory includes all PCSM BMPs installed since March 10, 2003 that discharge directly or indirectly to the Borough's regulated MS4 Conveyance system.

The Borough will endeavor to maintain and update an inventory of PCSM BMPs as development projects are reviewed, approved, and constructed. This inventory shall include all PCSM BMPs installed since March 10, 2003 that discharge directly or indirectly to your regulated small MS4s.

As data is available, the inventory will be developed to include:

- All PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003.
- The exact location of the PCSM BMP (e.g., street address);
- Information (e.g., name, address, phone number(s)) for BMP owner and entity responsible for BMP Operation and Maintenance (O&M), if different from BMP owner;
- The type of BMP and the year it was installed;
- Maintenance required for the BMP type according to the Pennsylvania Stormwater BMP Manual or other manuals and resources;
- The actual inspection/maintenance activities for each BMP;
- An assessment by the permittee if proper operation and maintenance occurred during the year and if not, what actions the permittee has taken, or shall take, to address compliance with O&M requirements;
- Include a separate inventory of projects that incorporated LID practices and for each project list and track the BMPs that were used.

INSPECTION

The Borough will use BMP inspection forms to inspect BMPs. The Borough is to follow up on any deficiencies reported during inspection. The Code Official will provide letters and notifications regarding deficiencies and violations of ordinances to the property owners. The Borough is to record the number of enforcement actions taken during this reporting period.

(Please reference PCSM BMP information and inspection records attached in the Annual Report.)

MCM #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

BMP #1: THE BOROUGH HAS IDENTIFIED AND DOCUMENTED ALL TYPES OF MUNICIPAL OPERATIONS, FACILITIES AND ACTIVITIES AND LAND USES THAT MAY CONTRIBUTE TO STORMWATER RUNOFF WITHIN AREAS OF MUNICIPAL OPERATIONS THAT DISCHARGE TO THE MS4 CONVEYANCE SYSTEM:

Municipal Operations: General public works duties that involve construction and maintenance. Construction and maintenance activities that may contribute to stormwater runoff that has the potential to discharge to the MS4 conveyance system are evaluated on a case by case basis.

Facilities: The Municipal building and associated areas; public works facility and associated areas; park and open space, streets, roads, alleys, other large paved surfaces and stormwater conveyances (open and closed pipe); and stormwater storage or treatment units (e.g., basins, infiltration/filtering structures, etc.).

Activities: Snow removal/deicing; inlet/outfall cleaning; lawn/grounds care; general storm sewer system inspections and maintenance/repairs; park and open space maintenance; municipal building maintenance; new construction and land disturbances; right-of-way maintenance; vehicle operation, fueling, washing and maintenance; and material transfer operations, including leaf/yard debris pickup and disposal procedures.

BMP #2: DEVELOPMENT, IMPLEMENTATION AND MAINTENANCE OF A WRITTEN O&M PROGRAM FOR ALL MUNICIPAL OPERATIONS AND FACILITIES THAT COULD CONTRIBUTE TO THE DISCHARGE OF POLLUTANTS.

The Borough has established an O&M Program that will be updated as needed to maintain its relevancy.

BMP #3: DEVELOPMENT OF A WRITTEN BOROUGH EMPLOYEE TRAINING PROGRAM THAT ADDRESSES APPROPRIATE TOPICS TO FURTHER THE GOAL OF PREVENTING OR REDUCING THE DISCHARGE OF POLLUTANTS FROM MUNICIPAL OPERATIONS TO THE MS4 CONVEYANCE SYSTEM.

EMPLOYEES TO BE TRAINED:

Any employee of the Borough and any contractor in or involved with the Borough may receive training. This could include public works staff, building / zoning / code enforcement staff, engineering staff (on-site and contracted), administrative staff, elected officials, police and fire responders, volunteers, and contracted personnel. As a minimum, the Borough will endeavor to train Public Works management personnel.

TRAINING METHODS AND MATERIALS:

The Borough may use guidance and training materials that are developed in house or available from federal, state or local agencies, or other organizations including local organizations and other MS4s.

TOPICS:

Training topics typically will include operation, inspection, maintenance, and repair activities associated with any of the municipal operations / facilities identified under legal control of the Borough. Training is intended to cover all relevant parts of the permittee's overall stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

- Topic 1: Minimum Control Measures
- Topic 2: Dry Weather Screening Protocol
- Topic 3: Standard Operating Procedures for Municipal Maintenance and Other Activities
- Topic 4: Conducting Illicit Discharge Detection and Elimination Investigations: IDDE 201

TIMEFRAME:

Employee training will occur at least annually (i.e., during each permit coverage year) and will be documented in writing and reported in periodic reports. Documentation will include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).

ADDITIONAL GUIDANCE:

According to PA DEP, the training requirements of this BMP can be in various ways. Training can be:

- Joint training events with other nearby operators of regulated small MS4s
- Formal or informal;
- Conducted on-site or off-site;
- Conducted on-the-job or during dedicated training periods;
- Conducted one-on-one or in a group setting (including with staff from other MS4s);
- Conducted by municipal staff or consultants or volunteers;
- Conducted via oral presentations/instructions and/or via written materials (e.g., SOPs, guidance manuals, tests).

Example Record Sheet:

Date of Training / Presenter	Training Topics Covered	Names of Attendees

(Please reference pollution prevention/good housekeeping information attached in the Annual Report.

ATTACHMENT 1.2

MUNICIPAL WEBSITE

Spring Grove Borough Storm Water Program

Public Notification System Registration

April 2021 Boro Bits Newsletter

Republic Service Collection Calendar – 2021

July 13th Council Meeting Agenda

Electronics Recycling Program

Act 44 Disclosure Form

Spring Grove Stormwater Pamphlets
Stormwater Information for Residents
Stormwater Information for Borough Staff
Stormwater Information for Homeowners
Stormwater Information for Commercial Development

Take The Borough's Public Storm Water Survey!

Click Here To Begin The Survey

Click Here To View The Survey Results

About The Borough's Storm Water (MS4) Program

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq., Spring Grove Borough is authorized to discharge from a regulated small municipal separate storm sewer system (MS4) located in York County to Waters of the United States. The Borough has been issued a National Pollutant Discharge Elimination System (NPDES) permit. As a requirement of The Permit, The Borough has developed and is continually updating a Storm Water Management Program. The Program includes the following elements including Minimum Control Measures (MCM).

- MCM 1 – Public Education and Outreach on Storm Water Impacts
- MCM 2 – Public Involvement / Participation.
- MCM 3 – Illicit Discharge Detection and Elimination (IDD&E)
- MCM 4 – Construction Site Storm Water Runoff Control
- MCM 5 – Post-Construction Storm Water Management
- MCM6 – Pollution Prevention / Good Housekeeping
- Appendix D – Pollutant Reduction Plan for Discharges to the Chesapeake Bay Watershed

Spring Grove Borough Illicit Discharge/Water Quality Complaint Form

See Something? Say Something!

Report an Illicit Discharge / Water Quality Complaint to Borough Staff

or call (717) 225-5791

The EPA defines an illicit discharge as "any discharge to an MS4 (Storm Water System) that is not composed entirely of Storm Water. The Borough encourages residents to report any illicit discharges or water quality complaints to Borough Staff. Some examples of reportable activities include:

- Household cleaners and chemicals
- Lawn fertilizers, grass clippings and other maintenance products
- Vehicle fluids including oil and runoff from washing
- Animal waste
- Plastics and other trash

Other Storm Water / MS4 Related Links

Spring Grove Public Program Update 2019-2020

Spring Grove Borough Storm Water Code

More Information on Illicit Discharges

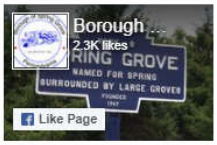
Spring Grove Borough Annual Storm Water Reports

2018-2019 Annual Storm Water Report

2019-2020 Annual Storm Water Report

DATES TO REMEMBER

No upcoming events
View full calendar



CONTACT INFORMATION

Borough of Spring Grove
1 Campus Avenue, Spring Grove, PA 17362
Get directions

Phone: 717-225-5791
Fax: 717-326-1143
Contact Us

ATTACHMENT 1.3

EDUCATIONAL MATERIALS

What is Stormwater?

Stormwater is the water produced from when rain, snow, sleet, etc. fall to earth. This stormwater can either seep into the ground or collect to potentially become a flood.

To protect the people of Spring Grove Borough from flooding and protect water quality, the Borough has a series of drains, pipes, and water quality improving Best Management Processes (BMPs) called a Municipal Separate Storm Sewer System (MS4).

The MS4 directly drains to our lakes, streams, rivers, and ponds so it plays a very important part in keeping our waters clean.

Did you know that every waterway in Spring Grove, including Codorus Creek, which runs along the southeastern border of the Borough, eventually flows south to the Chesapeake Bay? That means that any contaminants released into our watershed are contributing to the degradation of one of the most critically endangered ecosystems in our region.

Spring Grove is doing its part to protect local waterways by helping to keep the water clean before it reaches our streams.

You can help too, by following the advice in this pamphlet and by participating in local stormwater events. More information on these events can be found on the back of this pamphlet.

Spring Grove Borough Stormwater Resources

For more information regarding stormwater events, public meetings, and other public participation opportunities, please visit the Borough website at the bottom of this page. The MS4 subpage also contains links to the Borough's annual stormwater reports, ordinances, an educational survey, and other information on a variety of stormwater-related topics.

Spring Grove Borough Office

1 Campus Avenue
Spring Grove, PA 17362

—

(717) 225-5791

—

springgroveborough.com/contact-us

—

www.springgroveboro.com

What is Stormwater?

For Borough Residents

Borough of Spring Grove
INCORPORATED 1882
Pennsylvania

ARRO

What is a BMP?

Most stormwater infrastructure is all about conveyance. It serves to transport the stormwater from around your home and neighborhood quickly and safely away to avoid flooding. But not all of it is just for transport. Some parts of the system have been built to clean the water as it passes through.

You may have already noticed man-made ponds, basins, and channels around the Borough. Pipes leading into these structures transport water from other areas of the Borough to infiltrate into the ground instead of directly discharging into a waterway. These structures are called Best Management Practices, or BMPs.

It is unavoidable that stormwater runoff will pick up sediment and other pollutants from roads and other surfaces as it makes its way into the Borough's storm drains. The Borough's BMPs help to clean stormwater before it reaches our waterways.

Because BMPs serve such an important role, it is extremely important that they be maintained in a working order. If you have a BMP in your neighborhood, for example, they may not be the best place for kids/pets to play. BMPs should also be kept clear of any litter and debris.

Please take care of our BMPs so that they can take care of our stormwater!

What can I do to help?

Much of the land in Spring Grove is residential property, like your home and backyard. This means that if everyone joins in, we can make big changes to the quality of our stormwater!

Lawn Chemicals

Use chemicals like fertilizers and pesticides only according to instructions provided on the labels. Using too much or applying improperly can cause havoc on aquatic life and vegetation when it reaches our waterways.

Pet Waste

Everyone loves their pets, but it's important that you take care of their waste. Leaving pet waste on the street, while an unsanitary practice on its own, can also lead to unhealthy bacteria and viruses entering our waterways.

Car Maintenance

Taking care of your car is important, especially in areas like ours where road salt is needed to get through the winters. But if you aren't careful when you wash your car, all of the dirt, cleaning chemicals, and other products can make their way into our rivers. Make sure not to wash your car where it drains to our stormwater system. Take care when changing oil or other fluids to prevent leaks and immediately clean up any spills if they do occur.

What is an Illicit Discharge?

According to the Pennsylvania Department of Environmental Protection, an illicit discharge is "any discharge to a municipal separate storm sewer that is not composed entirely of stormwater..." except certain materials such as water from firefighting activities or clean water from foundation pumps.

- The rule of thumb is, **only stormwater should go into stormwater drains!**
- Illicit discharge can happen intentionally, such as someone draining their pool water into the storm drain near their house.
- It can also happen accidentally, such as someone leaving oil or chemical residue on their driveway and letting the rain wash it into the MS4.
- Spring Grove Borough needs your help to find and eliminate illicit discharge. If you see anything that is not stormwater entering the storm drains or other parts of the MS4, please report it through one of the following options:
  - Call the Borough Office at (717) 225-5791 during normal business hours
  - Visit the MS4 subpage of the Borough website to submit an electronic report

Why is Stormwater Important?

The Borough of Spring Grove is subject to a Pennsylvania Department of Environmental Protection (PA DEP) General Permit for Municipal Stormwater Discharge. This permit must be renewed every five years and reports on the progress of the permit must be submitted every September 30th. Those reports document the work done to meet permit requirements for the preceding period of July 1st to June 30th.

You probably have been to one of our yearly Municipal Separate Storm Sewer System (MS4) Training days and other MS4 events. Those are a part of what is required by the PA DEP. This brochure will act as a brief guide for your part of the Borough MS4 program.

Borough Staff like yourself are involved in all parts of the MS4 program, but the basic components that you will spend the most time on will fall into the following categories:

- Public Education/Public Involvement
- Illicit Discharge Prevention/Detection
- Good Housekeeping of Municipal Properties and Operations

This brochure will go over these tasks, but for more information please feel free to ask the Borough Manager or ARRO Staff.

Spring Grove Borough Stormwater Resources

A large part of the MS4 program is keeping the Borough residents engaged and involved. If a resident asks about more information regarding stormwater events, public meetings, and other public participation opportunities, please direct them to the Borough website at the bottom of this page.

The MS4 subpage also contains links to the Borough's annual stormwater reports, ordinances, an educational survey, and other information on a variety of stormwater-related topics.

Spring Grove Borough Office

1 Campus Avenue
Spring Grove, PA 17362

—

(717) 225-5791

—

springgroveborough.com/contact-us

—

www.springgroveboro.com

Why is Stormwater Important?

For Borough Staff

How to Keep the Public Informed and Involved

Two of the focuses of the Borough MS4 permit are public education and public involvement. You are often the face of the Borough to the public and can help to keep them up to date and educated on the progress that Spring Grove makes. Please see the below information on some of the priority points the public should be aware of.

Public Meetings

At every Borough Council meeting, MS4 is discussed, including the progress made last month and what is planned for the coming month. It is also where important items such as the Pollutant Reduction Plan and the annual reports for the permit are discussed. The public is strongly encouraged to comment on the MS4 progress and make their thoughts known on their priorities.

Public Involvement Events

At a minimum of once a year, Spring Grove hosts a public involvement event to get the people of the Borough to work alongside the municipality to help our waterways. It could be a trash pickup, inlet stenciling, or other similar event. It is important to get the word of these events out to the public so that as many people as possible are involved. As much of this process as possible should be recorded, including pictures and names of those involved, to include in annual reports.

Good Housekeeping

One of the major tasks of the Borough MS4 Permit is to make sure that Borough staff and operations do not contribute to the problem.

EVERYONE who works for the Borough or is even contracted by the Borough for a task such as landscaping, if their tasks pose a possible impact on local waterways, must receive training on how to perform their tasks without causing said impact.

For your reference, please see the below example tasks that could result in pollutant runoff:

- Landscaping/Lawn and Grounds Care
- Vehicle Operations and Maintenance
- Leaf and Debris Pickup
- Snow Removal/De-icing

You most likely have already received MS4 training on these tasks, as Borough standard operating procedures regarding the use/handling/storage of materials and operation/management of facilities have been created with this in mind.

If you are handling materials or performing tasks and feel that there may be a chance of pollutant runoff, feel free to reach out. Ask your Borough Manager or ARRO Consulting for help and advice to keep our waterways clean and our Borough permit compliant.

What is Illicit Discharge?

According to the PA DEP, illicit discharge is “any discharge to a municipal separate storm sewer that is not composed entirely of stormwater...” except certain materials such as water from firefighting activities or clean water from foundation pumps.

The rule of thumb is, **only stormwater should go into stormwater drains!**

Spring Grove Borough needs the public to help to find and eliminate illicit discharge. Please direct everyone in the Borough to report illicit discharge through one of the following options. Call the Borough Office during normal business hours or fill out a report on the Borough website.

Once a report of illicit discharge is made, it needs to be investigated immediately. If the investigation confirms the presence of an illicit discharge, please follow the below directives:

- If it is a hazardous material spill, please call the emergency number **IMMEDIATELY**.
- Record everything, both in writing and take pictures. This includes remediating actions taken.
- Take as many precautions as possible to stop the discharge from reaching the waterways. Then clean the site to remove the discharge.
- Contact ARRO Consulting to see if further action is required.

What is Stormwater?

Stormwater is surface water runoff resulting from a precipitation event or snowmelt. This water can either seep into the ground, or if it is unable to infiltrate, collect to potentially become a flood.

In urban and suburban areas covered with buildings and pavement, much of the stormwater cannot infiltrate into the ground. Instead, it is captured by a series of drains, pipes, and water quality improving Best Management Practices (BMPs) called a Municipal Separate Storm Sewer System (MS4) in order to mitigate the risk of flooding.

The MS4 directly drains to our lakes, streams, rivers, and ponds, and it carries with it everything the runoff picks up along its way to the storm drain. Our MS4 plays a very important part in keeping our waters clean.

What does Construction have to do with it?

Residential construction activities, such as the addition of a deck, pool, driveway, or shed, increase the impervious area of your property. More impervious area means more stormwater runoff, which leads to an increased risk of pollution in our streams.

The loss of infiltration from the increase in impervious surfaces is also to blame for a decreased rate of groundwater recharge. Lack of available groundwater can spell trouble for both wells and municipal water supplies during times of drought.

Additional Resources

For more information on the impacts of development and best practices for residential construction activities, please refer to the websites linked below. Additional stormwater information can be found on the MS4 subpage of the Borough website.

Homeowner's Guide to Stormwater Management
http://www.stormwaterguide.org/static/HomeownersGuide.pdf

Protecting Water Quality from Urban Runoff
https://www.epa.gov/sites/production/files/2015-09/documents/nps_urban-facts_final.pdf

Spring Grove Borough Code
https://ecode360.com/SP0421

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1 Campus Avenue
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Stormwater & Construction

For Borough Residents

Controlling Impacts of Impervious Development

There is a wide variety of alternatives to traditional methods of construction that can make a big difference in improving stormwater quality.

For Pavement

Permeable pavement allows for stormwater infiltration unlike conventional asphalt and concrete. It can also help filter out pollutants and reduce the need for deicers. Pervious concrete, porous asphalt, and interlocking pavers are some of the most commonly used permeable pavement options. While more expensive than traditional pavements, permeable alternatives have been shown to have longer lifespans and less maintenance costs over their lifetimes.

For Structures

When installing a new shed or home addition, additional runoff from new roofs must be considered. Rain barrels capture runoff from a roof and store it for future use on lawns and gardens. Rain barrel kits can be purchased inexpensively and in varying capacities and designs.

Rain gardens are another option for managing runoff in a useful way. They are shallow, vegetated basins designed to collect and absorb rainwater. Rain gardens offer a versatile and aesthetic solution to stormwater that can be scaled to your particular project's needs.

Permeable Pavement

Credit: USGS Wisconsin Water Science Center

Rain Barrel

Credit: CT DEEP, Winooski Natural Resources Conservation District

Rain Garden

Credit: MA Watershed Coalition

Container Garden

Credit: National Garden Bureau, Miriam Manon

For Decks

If installing a deck or patio on your property, consider wood construction that allows for stormwater to drain and infiltrate into the soil beneath the structure. Stone pavers, bricks, or other forms of permeable pavement are other options to consider. If you choose a concrete deck, consider installing a small rain garden or rock garden to assist with proper drainage.

For Pools

Runoff from discharged swimming pool water containing chlorine and other chemicals can have harmful effects on aquatic life. It is against the Clean Streams Law to drain pool water into any waters of the commonwealth. Borough Code § 339-36B allows for the discharge of dechlorinated swimming pool water with less than one PPM of chlorine into the MS4. If lowering the water level of the pool, it should be slowly filtered to a lawn to prevent flow from reaching the MS4.

Other Practices

It is important not to discount the benefit of micro-scale practices for stormwater management. Container gardens placed on impervious surfaces make use of rainwater that would have otherwise become runoff. Planting trees also helps to improve stormwater quality. Tree roots don't just aid the infiltration of rainwater, they absorb it too!

What is Low Impact Development?

Low Impact Development, or LID, is the practice of developing with stormwater in mind. It encompasses a variety of design practices aimed at mimicking or preserving natural stormwater drainage processes, like allowing for infiltration in beds rather than letting water become runoff that then collects in ditches or low points on impervious surfaces. The alternative is to channel stormwater into the Municipal Separate Storm Sewer System (MS4), but the various pollutants picked up along the way, such as sediment, road salts, oil, and heavy metals, are largely responsible for the widespread degradation of our local waterways.

What are the Benefits of LID?

Improved water quality is not the only benefit of LID. A more stormwater-centric approach to design is also associated with a lower risk of flooding events, improved groundwater recharge, and enhanced beautification of developments, which in turn increases property values.

LID techniques can be applied at any stage of development and are scalable to any project size. Contrary to popular belief, they can also be cost effective. According to a 2007 study by the EPA on reducing costs of LID strategies and practices, total LID capital costs range, on average, 15 to 80 percent lower than conventional methods.

Additional Resources

For more information on LID practices and how LID can benefit communities, please refer to the websites linked below. Additional stormwater information can be found on the MS4 subpage of the Borough website.

Benefits of Low Impact Development
https://www.epa.gov/sites/production/files/2015-09/documents/bbfs1benefits.pdf

National Management Measures to Control Nonpoint Source Pollution from Urban Areas
https://www.epa.gov/sites/production/files/2015-09/documents/urban_guidance_0.pdf

Addressing Barriers to LID
https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/AddressingBarrier2LID.pdf

Spring Grove Borough Code
https://ecode360.com/SP0421

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Stormwater & Construction

For Developers

LID Practices

Permeable Pavement

Permeable pavement allows for stormwater infiltration unlike conventional asphalt and concrete. It is recognized by EPA as a Best management Practice (BMP) that helps filter out pollutants and reduce the need for deicers. Pervious concrete, porous asphalt, and interlocking pavers are ideal for parking lots, sidewalks, and road shoulders. While more expensive up front than traditional pavements, permeable alternatives have been shown to have longer lifespans and less maintenance costs over their lifetimes.

Stormwater Reuse & Rainwater Harvesting

Rain barrels capture runoff from a roof and store it for future use on community lawns and gardens. For a cost-effective option, rain barrel kits can be purchased inexpensively and in varying capacities and designs. Cisterns provide a larger scale solution for diverting runoff from roofs, and even can include their own underground collection and infiltration systems.

Curbless Streets and Parking Lots

By designing curbless streets and parking lots sloped towards areas of pervious cover, stormwater can be diverted away from the MS4 and allowed to infiltrate into designated areas.

Considerations During Construction

In addition to how the development is constructed, construction activity itself also has the potential to negatively impact water quality. To mitigate the effects, the following rules should be followed on active construction sites:

- Sequence construction activities to minimize the amount of exposed soil at one time
- Fence off and clearly mark sensitive environmental areas to protect them from disruption
- Install key sediment control practices before construction begins
- Remove mud and dirt from construction vehicles before they enter roadways
- Keep construction entrances clear of excessive soil
- Keep all seed and dirt stockpiles covered
- Vegetate, mulch, or otherwise stabilize any exposed soil as soon as land alterations are complete
- Inspect silt fences after each rain event
- Stabilize slopes or divert stormwater away from them

Rain Gardens

Rain gardens are another option for managing runoff in a useful way. They are shallow vegetated basins, typically planted with native perennials, designed to collect and absorb rainwater. Rain gardens offer a versatile and aesthetic solution to stormwater that can be scaled to your particular project's needs.

Trees & Shrubs

Planting trees and shrubs also helps improve stormwater quality. Tree roots don't just aid the infiltration of rainwater, they absorb it too. Maybe that's why they're known as "vertical rain gardens!" Trees can be planted alongside permeable pavement or in green spaces, and shrubs can be used in container gardens in existing developments.

Open Space Development

Designating as much of your site as possible to open space is the best way to improve stormwater site design. Other LID practices such as permeable walkways, rain gardens, and tree plantings can be implemented in the open space. BMPs like detention basins can be placed in areas requiring large scale stormwater management. For smaller areas, adding a park or recreational area can add beauty and increase property value in new developments.

ATTACHMENT 1.5

MS4 GOALS & ACCOMPLISHMENTS

MS4 Goals & Accomplishments

2018-2023 Reporting Period

Borough of Spring Grove Pennsylvania

Spring Grove Borough, York County, Pennsylvania

PREPARED BY:

ARRO

ARRO CONSULTING, INC.
108 W Airport Rd
Lititz, PA 17543

2018-2019

MCM I

Goal 1

Discuss MS4 program related topics during Borough Council Meetings and encourage public interaction/comments.

Accomplishments

The Borough has invited and/or initiated conversation with the residents/Target Audiences at every Borough Council Meeting. Matthew Warfel, the Borough Engineer, gives reports on MS4 progress. The Borough has attached meeting minutes to the annual reports.

Goal 2

Utilize County partners to provide educational and outreach opportunities.

Accomplishments

The Borough works with the York County Consortium to foster MS4 progress in many areas including education and outreach. Information regarding the cooperation is frequently posted on both entities' websites. The Borough has attached information regarding the partnership to the annual reports.

Goal 3

Circulate and update a quarterly newsletter which contains stormwater related announcements for the Borough.

Accomplishments

The Borough creates and circulates a quarterly newsletter to all residents and posts the newsletter to the municipal website. The newsletter includes MS4 educational information and information on public involvement events. The Borough has attached the newsletter to annual reports.

2019-2020

MCM I

Goal 1

The Borough will attempt to quantify the most-likely residential activities to produce an illicit discharge in the Borough with the purpose of better defining educational material it's residential property owners.

Accomplishments

A land use analysis was performed in Geographic Information Systems (GIS) using 2020 York County parcel data. Land use classifications were broken down by watershed and analyzed in order of total acreage. According to the analysis, the most prevalent land use in the Borough is residential. With these results, the Borough has determined that the residential activities most likely to produce an illicit discharge include lawn and garden care, such as the application of fertilizers and pesticides; vehicle maintenance, including oil changes and car washing; and removal of pet waste. The Borough will continue to distribute educational information covering all of the above topics. The Borough has attached MS4 program updates and educational materials to the annual reports.

Goal 2

The Borough will assess adding educational information to zoning and building permit packages based on the type of projects being submitted to the Borough

Accomplishments

The Borough has analyzed the types of projects being submitted and identified two (2) classes of project applications: residential and commercial. The "Benefits of Low Impact Development" pamphlet from EPA is currently utilized for distribution with building permits. The Borough will consider adding additional informational materials targeted to the specific groups. The Borough has attached educational materials to the annual reports.

MCM II

Goal 1

The permittee will conduct 1 (one) digital/online activity within the reporting period

Accomplishments

In an effort to maintain compliance with CDC guidelines, the Borough hosted a Community Clean Up Week. During this week, the residents were invited to submit photos and descriptions of what they had prevented from entering the municipal waterways.

Goal 2

The permittee will plan and provide an outline for at least 1 (one) anticipated 2020-2021 in the 2019-2020 report.

Accomplishments

Next year's event will replicate the event from the 2019-2020 reporting period, the Borough considers it to be a success. In addition, the Borough plans to have another event. This will hopefully be an in person clean up event. The Borough will act in compliance with the CDC guidelines at the time of the event.

Goal 3

The permittee will begin to develop one (1) individual list including contact information of businesses within the municipality in an effort to reach out to these entities for future public involvement projects.

Accomplishments

The Borough investigated the Planning Area of the MS4 and found 57 businesses within. The Borough considers most of them to be low risk of illicit discharge. The Borough will focus on the higher risk entities for outreach.

2020-2021

MCM I

Goal 1

The Borough will assess the potential for municipal operations to produce an illicit discharge with the intent of developing educational materials to distribute to Borough personnel.

Accomplishments

The Borough developed an educational pamphlet targeted at municipal staff discussing stormwater related topics including illicit discharge detection and elimination procedures, good housekeeping protocols, and the public's role in stormwater protection. These educational materials have been linked and/or attached to the 2020-2021 Annual MS4 Report.

Goal 2

The Borough will distribute an educational public survey aimed at gauging the target audience groups' current understanding of and involvement in the stormwater program.

Accomplishments

The Borough distributed a public educational survey online and in printed format aimed at all target audience groups. A copy of this survey has been linked and/or attached to the 2020-2021 Annual MS4 Report.

Goal 3

The Borough will produce and distribute educational information in zoning and building permit packages based on the target audience group submitting the application.

Accomplishments

The Borough developed two separate educational pamphlets targeted at residential and commercial builders/developers. The pamphlets are available at the Borough office and distributed along with building and zoning permit packages. These educational materials have been linked and/or attached to the 2020-2021 Annual MS4 Report.

2021-2022

MCM I

Goal 1

The Borough will produce and distribute educational material relating to stormwater for children and students.

Accomplishments

N/A

Goal 2

The Borough will develop an interactive web map to educate residents about stormwater and their local watershed.

Accomplishments

N/A

ATTACHMENT 2.1

BOROUGH COUNCIL MEETING MINUTES

MINUTES OF SPRING GROVE BOROUGH
COUNCIL MEETING
October 5, 2020

The Spring Grove Borough Council met electronically via Zoom for Regular Session on Monday, October 5, 2020. President James D. Graham called the meeting to order at 7:00 PM.

BOROUGH COUNCIL PRESENT
James D. Graham
Peter A. Lombardi
Rebecca J. Stauffer
Larry McConnell
Joshua D. Moore
Vincent Catalano

BOROUGH COUNCIL ABSENT:
David B. Kile

ALSO PRESENT:
Beverly Hilt, Mayor
Andrew N. Shaffer, Borough Manager
Velda Frey, Adm. Assist/Recording Secty
Matt Warfel, (ARRO Inc.)
Peter Ruth, Solicitor

ALSO ABSENT:
None

Public Comment / Visitors
Kate King, SG Regional Parks & Rec – Kate King presented a proposed 2021 budget for the Spring Grove Regional Parks and Recreation.

Approval of Minutes
September 14, 2020
The Minutes of the Regular Council Meeting held September 14, 2020 were presented to Council for their review. Joshua D. Moore made a motion, seconded by Peter A. Lombardi, to approve the minutes for September 14, 2020 as presented. Mayor Beverly Hilt stated a correction needed to be made on page 9, the third line under "Approval of an Ordinance to Adopt the Local Economic Revitalization Tax Assistance Program for Certain Areas Within the Borough "Community Center" should be changed to "50 North East Street". Motion carried unanimously as amended.

Treasurer's Report- September 2020
This report will be provided at the October 19, 2020 meeting

President's Report
President Graham stated he did not have anything to report.

Manager Shaffer believes he made headway in the last conference call and will be receiving the payment requests in the future.

Hamlet Drive Stormwater Project

Engineer Warfel reported to Council that all the work has been completed. He requested Council consider approval of Payment Request #2 (final) in the amount of $4,553,07. Motion was made by Peter A. Lombardi, second by Larry McConnell to approve Payment Request #2 (final) in the amount of $4,553.07. Motion carried unanimously.

Stormwater/ MS4

Engineer Warfel reported to Council that the annual report for 2019/20 was submitted to DEP last week. A copy will be posted on the Borough's MS4 web page. They are currently working with Manager Shaffer to post a public stormwater survey on the MS4 web page on November 1st. They continue to work with Borough staff to monitor any illicit discharge complaints through the stormwater system. They will be conducting some in-person BMP maintenance training for Borough staff during the month of October.

Glenview Road and SR 116

Engineer Warfel reported to Council that they are working on the design package and awaiting an answer on the ARLE grant funds. Peter A. Lombardi asked if there is an update on the problems with the Hardee's entrance. Manager Shaffer stated he hasn't had an update. He expects it will be coordinated with when the work on the intersection is actually being done. We are in the early planning stages and the full project won't even be completed next year. There was discussion about whether the delineators should be installed.

Strategic Management Planning Program

Engineer Warfel reminded Council that the DCED grant in the amount of $22,643 for this project was awarded. The total cost of the project is $45,306. Manager Shaffer confirmed that the Borough's share in the cost was included in the 2019 budget as well as 2020; it will be carried over to 2021.

Wastewater Treatment Plant

Engineer Warfel reported to Council that they continue to assist Borough staff with monitoring illicit discharges into the WWTP. There was discussion of how to address this issue. First, they need to figure out if the sudden increase of septic waste is due to a blockage suddenly becoming unblocked or an illicit discharge; then, identifying the responsible party is needed. Making the public aware through the newsletter, Facebook and Nixle could assist in accomplishing this.

Community Park – Phase 3

Engineer Warfel updated Council on the Community Park-Phase 3 Project. They are planning to go out for bid in January 2021. The site plans are about 95% complete.

MINUTES OF SPRING GROVE BOROUGH
COUNCIL MEETING
December 7, 2020

The Spring Grove Borough Council met electronically via Zoom for Regular Session on Monday, December 7, 2020. President James D. Graham called the meeting to order at 7:00 PM.

BOROUGH COUNCIL PRESENT	***ALSO PRESENT:***
James D. Graham	Beverly Hilt, Mayor
Peter A. Lombardi	Andrew N. Shaffer, Borough Manager
Rebecca J. Stauffer	Becky Magnani, Adm Asst/Recording Secretary
Larry McConnell	Kim Hackett, Director of Community Development
Joshua D. Moore	Matt Warfel, (ARRO Inc.)
David B Kile	Peter Ruth, Solicitor
Vincent Catalano	Tim Damon, York Area Regional Police
BOROUGH COUNCIL ABSENT:	***ALSO ABSENT:***
	None

Approval of Minutes
November 3 and November 16
The Minutes of the Regular Council Meeting held November 2 and November 16, 2020 were presented to Council for their review. Adjournment times need to be adjusted as well as the wording for the VFW request to rename 1st Avenue/Water Street. A motion was made to accept the minutes with the changes to be made as discussed by David Kile. The motion was seconded by Larry McConnell. The motion carried with Rebecca Stauffer as the only opposed.

Treasurer's Report
This report will be provided at the December 21, 2020 meeting

President's Report
President James Graham requested that Council Members state their name when making a motion and be clear about the motion. President Graham will also try to repeat the motions.

Mayor's Report
The Mayor reported that she put in paperwork to become a member of the fire department in order to continue to improve community relations.

SWRPD Updates
Moved to Executive Session.

York Area Regional Police Department
Chief Tim Damon reported that they were a little over their hours in the beginning of the year, but they are currently under control and managing the hours.

Manager
Manager Shaffer did not have a written report to present to Council, but reported the following:

- We are happy to welcome Kim Hackett, the Director of Community Development; Kim started on November 30, 2020.
- The Jefferson Codorus monthly meeting - they are installing a "headwork screener" at their facility.
- The transition from Quality to DOCEO is ongoing.
- The bond refinance is set for January/February 2021.
- Registration for Smoke in the Grove is up on the website.
- YAMPO & York County Stormwater meetings were this month.
- The project plans are available for the Emigsville interchange; while this is not directly related to Spring Grove Borough, it is applicable for York County residents.

ARRO Engineering

No action items for council.
Main Street Improvements
Engineer Warfel reported to Council work has been effectively completed for this year. Light poles, trees, and stamped concrete will be delayed until next year.

Stormwater/ MS4
Engineer Warfel reported that the annual report for 2019/20 was submitted to DEP and was accepted. They are continuing to encourage residents to complete the stormwater survey online (or paper), monitoring outfall inspections, and have completed a facilities audit.

Glenview Road and SR 116
Engineer Warfel reported to Council that the survey work has been completed and are working on a draft signal plan.

North Loop Interceptor
DCED grant received. This project involved the replacement of sewer main from the roundabout to the Trolley Trail.

GIS
Engineer Warfel reported they are developing GIS & web tools for code enforcement and rental property inspections. ARRO also created the Santa parade map.

PUBLIC INVOLVEMENT AND PARTICIPATION PLAN

2020-2021 Reporting Period

Spring Grove Borough

GOAL: To develop, implement, and maintain a written Public Involvement and Participation Plan that encourages the public's active participation in stormwater planning and management.

DEVELOPING OPPORTUNITIES FOR PUBLIC PARTICIPATION

A. Identify and list additional opportunities for the public to participate in the MS4 program.

B. Identify and list specific communication methods to the target audiences. Make certain that the target audiences know that they can make their thoughts and opinions can be made known during the Borough Council Meetings. Maintain records of contacts with these groups.

C. Maintain a record of public participation activities noting number of participants, date and location of activity, and quantify the results of the activity.

D. Endeavor to determine quantifiable impacts of activity on MS4 program and its goals to evaluate results.

E. Maintain a list of notices and invitations for participation distributed each year to document efforts to engage public. Attach the documentation to the annual report to the PA DEP.

DEVELOPING PUBLIC NOTICE AND INPUT ON STORMWATER ORDINANCES

A. Advertise the date and time of the Borough Council Meetings in which the proposed stormwater ordinances will be discussed.

B. Adapt the protocol for advertising and reviewing proposed stormwater ordinances based on results found.

B. Create records to list proposed stormwater ordinances, date of ordinance advertisement, date reviewed by the

municipality, public comments and municipal responses, and date adopted.

C. Notify public through the website and other electronic means available to the municipality.

D. Review and update protocol annually.

COMMUNICATING STORMWATER ORDINANCE ACTIONS TO THE PUBLIC

A. Continue to hold public Borough Council meetings monthly to solicit public involvement and participation in the stormwater management program.

B. Notify target audience directly and through the municipal website (http://springgroveborough.com/) and postings in public locations.

C. Continue to use the public Borough Council meetings to present a summary of progress, activities, and accomplishments through implementation of the Stormwater Management Plan (SWMP)

D. Solicit feedback from the public on the SWMP.

E. At meeting document and report cooperation and participation with other organizations and participation of public in supporting the implementation of the SWMP. Activities could include cleanups, storm drain stenciling, water quality monitoring, and educational activities.

F. Summarize the meeting in writing and post on the municipal website.

Spring Grove MS4 Public Education Program
November 5, 2020

SPRING GROVE BOROUGH PUBLIC STORMWATER SURVEY

Attention residents, businesses, and municipal staff! Spring Grove Borough needs your help! Please read the information below and complete the survey. Residents that complete this survey will receive a 25% discount on their quarterly stormwater bill! If you have any questions regarding stormwater or this survey, please call Spring Grove Borough at 717-225-5791.

Did you know the most common litter in streams is household trash? Plastic bags, bottles, food wrappers, and many other items can quickly be transported by wind and/or surface water runoff during storm events (stormwater).

Products such as cleaners, lawn fertilizers, and vehicle fluids are often inadvertently collected into storm drains. Organic material such as leaves, sticks, gravel and grass clippings also can be carried by stormwater into the municipal system.

SURVEY

Please circle your answers.

1. Which Best Describes You?

   Borough Resident

   Borough Business

   Borough Staff

2. Have You Participated In A Borough Stormwater Event Before?

   Yes

   No

STORMWATER QUIZ

1. What Is The Most Typical Source Of Stormwater?

   Precipitation

   Sanitary Sewer

   Underground Aquifers

2. What Legislation Is Responsible For The Stormwater Program?

   The Recreation Act

   Clean Water Act

   Air Pollution Control Act

3. Which Best Fits The Description of A Potential Pollutant To The Stormwater System?

   Non-Contaminated Water From A Garden Hose

   Non-Contaminated Water From Firefighting Activities

   Pet Waste Left On The Street

4. How Can People Help Reduce The Amount Of Pollutants From Entering Our Waterways?

   Use Fertilizers Properly and Efficiently To Prevent Excess Runoff

   Store Materials That Could Pollute Stormwater Indoors

   Keep Leaves And Debris From Blocking The Storm Drain

   All of The Above!

WE WANT TO HEAR FROM YOU

What kind of information/involvement do you want from The Borough regarding the Stormwater (MS4) Program? You can list things like Stream Clean-Up Events, Seminars, Do-It Yourself Conservation, etc.

Spring Grove MS4 Public Education Program
November 5, 2020

We want to keep you involved. Write your name and a valid e-mail address or phone number to receive updates on stormwater related information and events. Residents that provide their information below will receive a 25% discount on their quarterly stormwater bill.

Name

Property Address

Phone Number

E-Mail Address

Borough Account Number

THANK YOU FOR PARTICIPATING IN THE BOROUGH'S STORMWATER PROGRAM!!!

ANSWER SHEET

1. What Is The Most Typical Source Of Stormwater?
    a. Precipitation
2. What Legislation Is Responsible For The Stormwater Program?
    a. Clean Water Act
3. Which Best Fits The Description of A Potential Pollutant To The Stormwater System?
    a. Pet Waste Left On The Street

        If you witness an Illicit Discharge within Spring Grove Borough, please call 717-225-5791, or fill out the Illicit Discharge form found on the Borough's website.
4. How Can People Help Reduce The Amount Of Pollutants From Entering Our Waterways?
    a. All of The Above!

        Use Fertilizers Properly and Efficiently To Prevent Excess Runoff
        Store Materials That Could Pollute Stormwater Indoors
        Keep Leaves And Debris From Blocking The Storm Drain

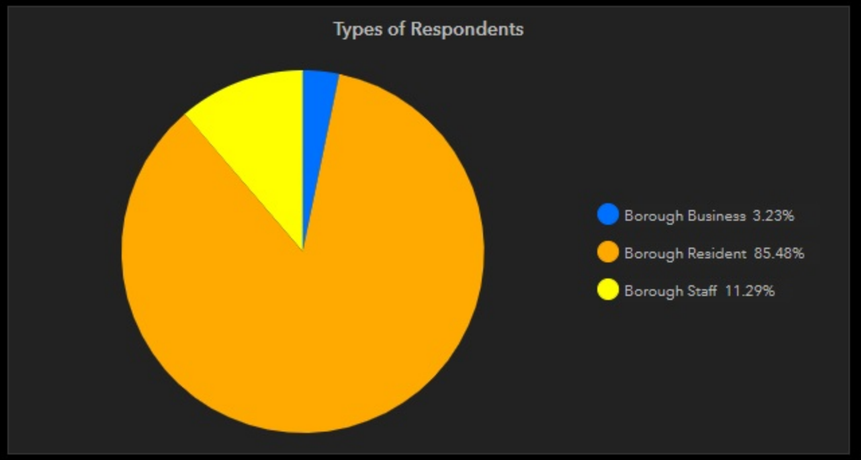
Spring Grove Borough Stormwater (MS4) Public Survey Results

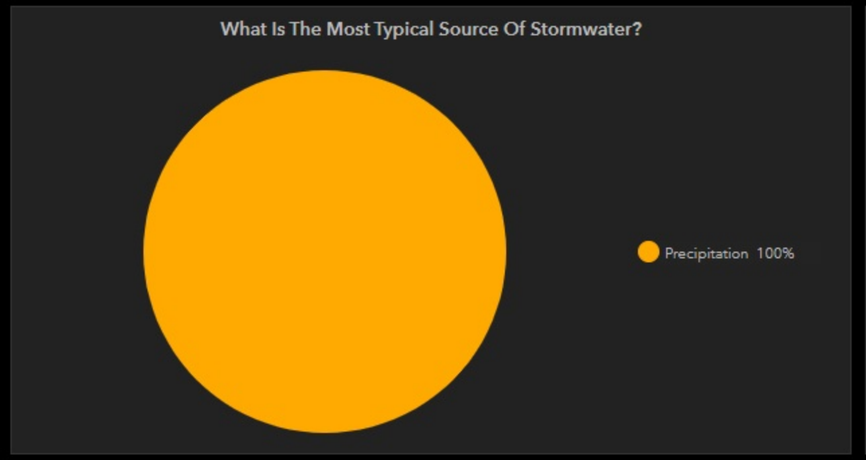
Total Surveys
62
Submitted

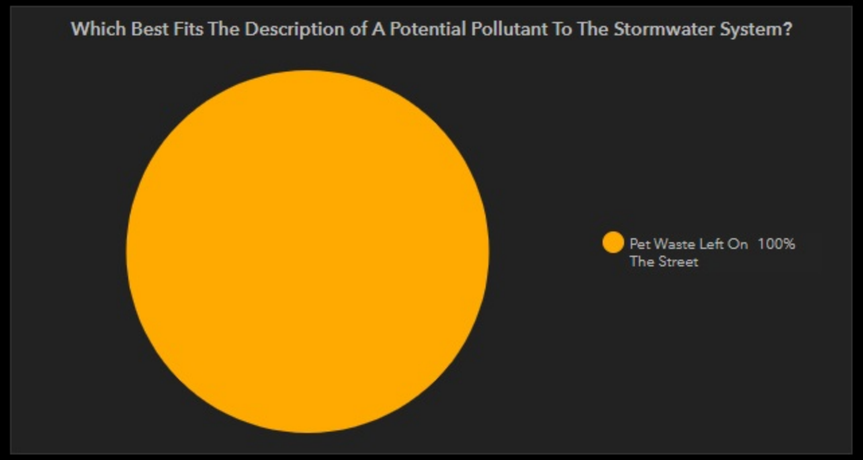
Submitted by
53
Borough Resident

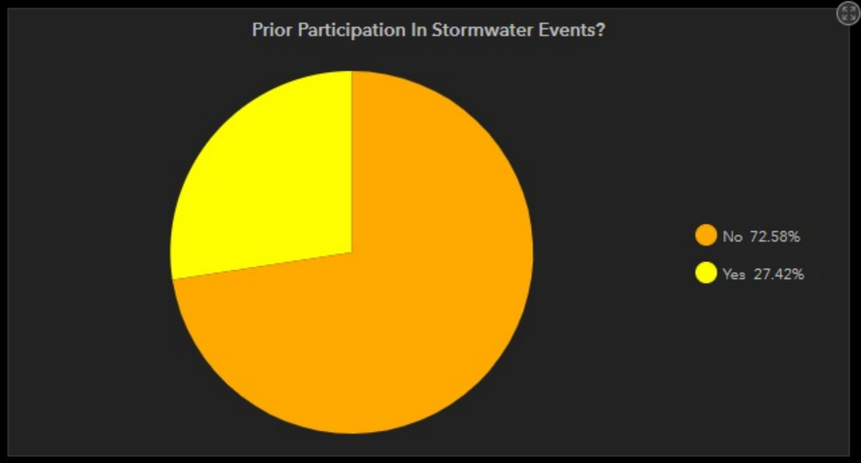
Submitted by
2
Borough Business

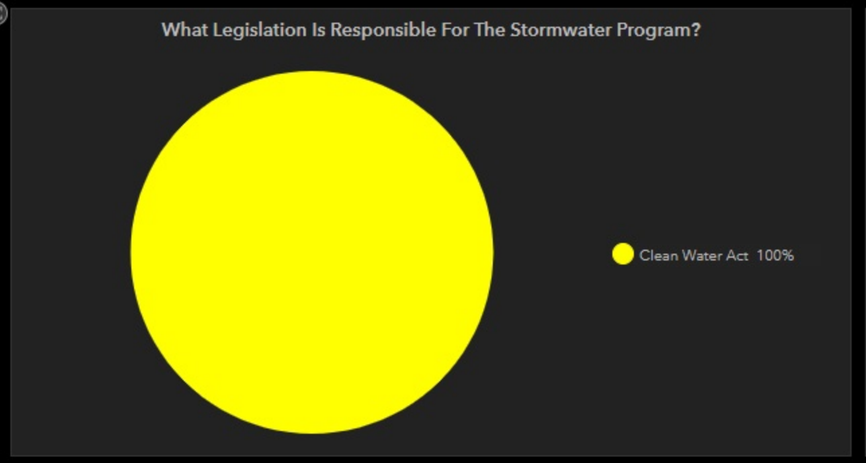
Submitted by
7
Borough Staff

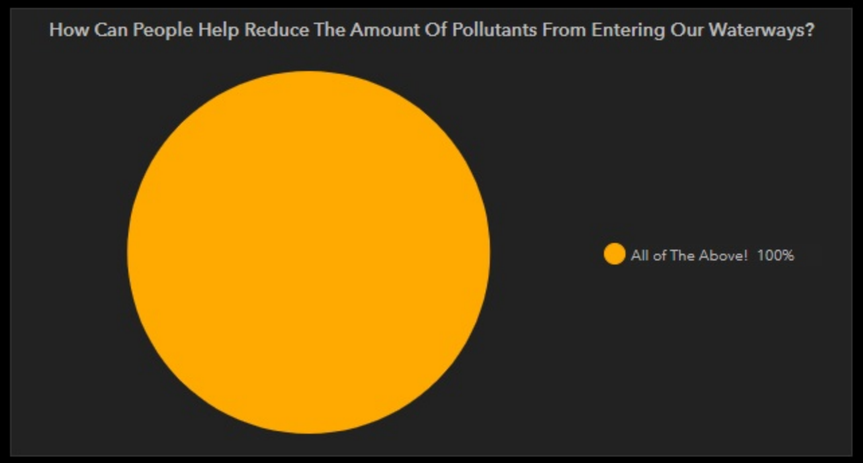












ATTACHMENT 3.1

OUTFALL RECONNAISSANCE INVENTORY/SAMPLE COLLECTION FIELD SHEETS

Outfall Inspections

Annual Inspections for Reporting Period
7/1/2020 - 6/30/2021

Inspections Conducted on 6/1/2021 - 6/23/2021

Report Produced: 6/23/2021

Inspections Conducted By: ARRO Consulting

Outfall Inspection Summary

NPDES Number: PAG133749
Outfall ID: OF016
Coordinates: 39.8825516580001 N, -76.862099292 E

Inspection Date: 6/8/2021
Land Use In Drainage Area: Suburban_Residential
Dry Weather Present?: Yes
Previous Precipitation Date: 6/4/2021
Previous Precipitation Amount:
Name of Inspector: AT

Outfall Type: Open Channel
Material: Earthen
Shape: Other
Depth (in): 12
Top Width (in): 120
Bottom Width (in): 100

Dry weather flow present at outfall during inspection?: Yes
Description of Flow Rate: Moderate
Does the dry weather flow have color?: No
Does the dry weather flow have an odor?: No
Is there an observed change in the receiving waters as a result of the discharge?: No
Does the dry weather flow contain floating solids, scum, sheen, or other substances that result in deposits?: No
Were samples collected of the dry weather flow?: No
Is the dry weather flow an illicit discharge?: No
Maintenance Needed? No

Field Photograph(s):

Outfall Inspection Summary

NPDES Number: PAG133749
Outfall ID: OF017
Coordinates: 39.880630119 N, -76.8620038029999 E

Inspection Date: 6/8/2021
Land Use In Drainage Area:
Dry Weather Present?: Yes
Previous Precipitation Date:
Previous Precipitation Amount:
Name of Inspector:

Outfall Type: Closed Pipe
Material: PVC
Shape: Circular
Number: Single
Diameter/Dimensions (in): 30
Submerged?: Not Submerged

Dry weather flow present at outfall during inspection?: No
Maintenance Needed? No

Field Photograph(s):

Outfall Inspection Summary

NPDES Number: PAG133749
Outfall ID: OF004
Coordinates: 39.8724294460001 N, -76.859986782 E

Inspection Date: 6/8/2021
Land Use In Drainage Area: Open_Space
Dry Weather Present?: Yes
Previous Precipitation Date: 6/4/2021
Previous Precipitation Amount:
Name of Inspector: Sm

Outfall Type: Closed Pipe
Material: Steel
Shape: Eliptical
Number: Single
Diameter/Dimensions (in): 8
Submerged?: Not Submerged

Dry weather flow present at outfall during inspection?: No
Maintenance Needed? No

Field Photograph(s):

Outfall Inspection Summary

NPDES Number: PAG133749
Outfall ID: OF004
Coordinates: 39.870057984 N, -76.864342689 E

Inspection Date: 6/8/2021
Land Use In Drainage Area: Industrial
Dry Weather Present?: Yes
Previous Precipitation Date: 6/4/2021
Previous Precipitation Amount:
Name of Inspector: Sm

Outfall Type: Closed Pipe
Material: PVC
Shape: Circular
Number: Single
Diameter/Dimensions (in): 18
Submerged?: With Sediment

Dry weather flow present at outfall during inspection?: No
Maintenance Needed? No
Inspector Comments: Beyond edge of Pixelle lot

Field Photograph(s):

Outfall Inspection Summary

NPDES Number: PAG133749
Outfall ID: OF005
Coordinates: 39.876082673 N, -76.859748827 E

Inspection Date: 6/9/2021
Land Use In Drainage Area: Open_Space
Dry Weather Present?: Yes
Previous Precipitation Date: 6/4/2021
Previous Precipitation Amount:
Name of Inspector: SM

Outfall Type: Closed Pipe
Material: RCP
Shape: Circular
Number: Single
Diameter/Dimensions (in): 12
Submerged?: Not Submerged

Dry weather flow present at outfall during inspection?: No
Maintenance Needed? No

Field Photograph(s):

Outfall Inspection Summary

NPDES Number: PAG133749
Outfall ID: OF006
Coordinates: 39.876273031 N, -76.859758697 E

Inspection Date: 6/9/2021
Land Use In Drainage Area: Open_Space
Dry Weather Present?: Yes
Previous Precipitation Date: 6/4/2021
Previous Precipitation Amount:
Name of Inspector: SM

Outfall Type: Closed Pipe
Material: Steel
Shape: Circular
Number: Single
Diameter/Dimensions (in): 6Unknown
Submerged?: With Sediment

Dry weather flow present at outfall during inspection?: No
Maintenance Needed? No

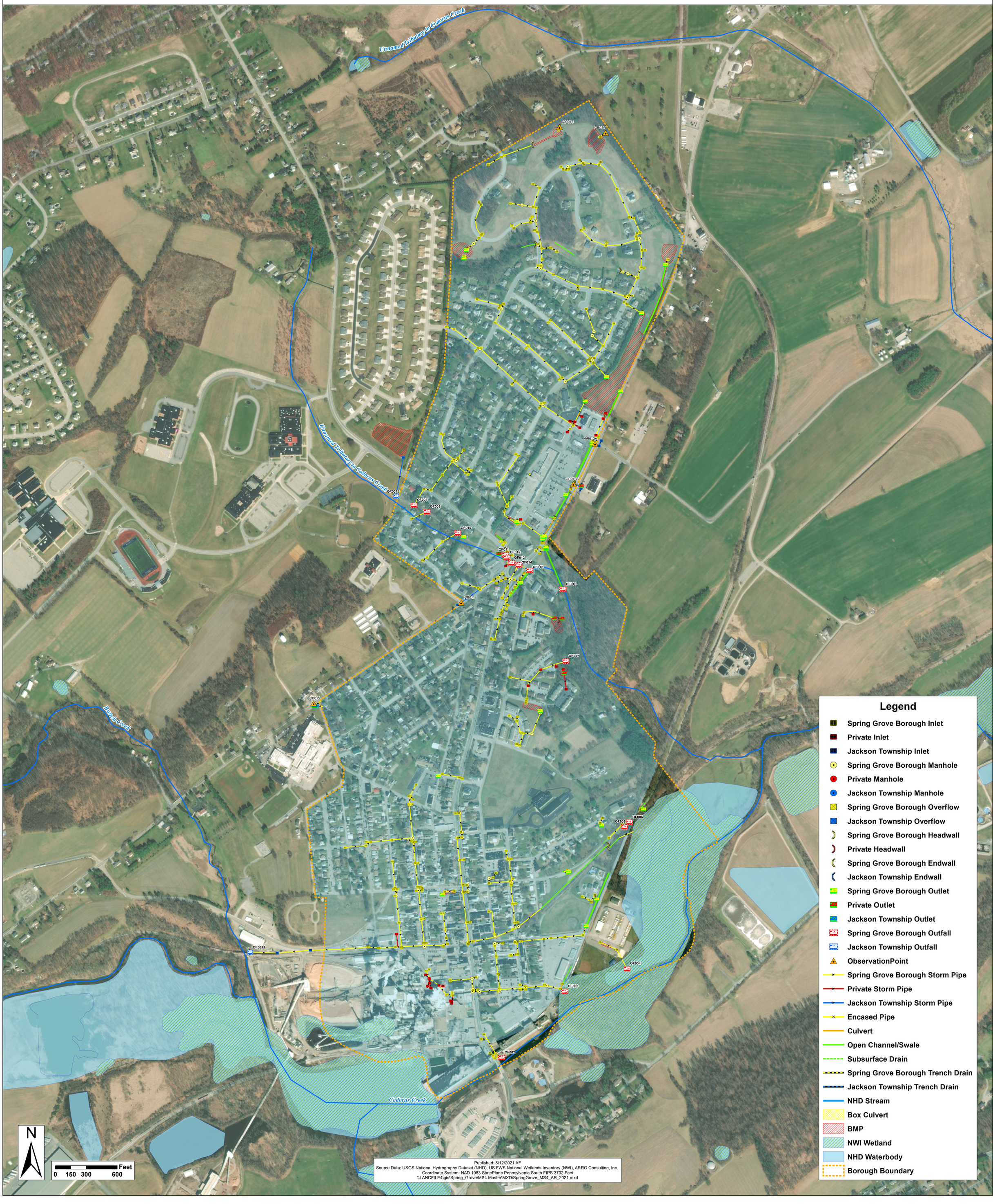
Field Photograph(s):

ATTACHMENT 3.2

MS4 MAP

Spring Grove Borough

Stormwater Conveyance System



Published: 8/12/2021 AF
Source Data: USGS National Hydrography Dataset (NHD), US FWS National Wetlands Inventory (NWI), ARRO Consulting, Inc.
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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ATTACHMENT 3.3

ILLICIT DISCHARGE REPORTING FORM

Spring Grove Borough Storm Water Pro

Public Notification System Registration

Republic Service Collection Calendar – 2021

September 20 Council Meeting Agenda

Electronics Recycling Program

Act 44 Disclosure Form

Spring Grove Stormwater Pamphlets
Stormwater Information for Residents
Stormwater Information for Borough Staff
Stormwater Information for Homeowners
Stormwater Information for Commercial Development

Take The Borough's Public Storm Water Survey!

Click Here To Begin The Survey

Click Here To View The Survey Results

About The Borough's Storm Water (MS4) Program

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq., Spring Grove Borough is authorized to discharge from a regulated small municipal separate storm sewer system (MS4) located in York County to Waters of the United States. The Borough has been issued a National Pollutant Discharge Elimination System (NPDES) permit. As a requirement of The Permit, The Borough has developed and is continually updating a Storm Water Management Program. The Program includes the following elements including Minimum Control Measures (MCM).

- MCM 1 – Public Education and Outreach on Storm Water Impacts
- MCM 2 – Public Involvement / Participation.
- MCM 3 – Illicit Discharge Detection and Elimination (IDD&E)
- MCM 4 – Construction Site Storm Water Runoff Control
- MCM 5 – Post-Construction Storm Water Management
- MCM6 – Pollution Prevention / Good Housekeeping
- Appendix D – Pollutant Reduction Plan for Discharges to the Chesapeake Bay Watershed

Spring Grove Borough Illicit Discharge/Water Quality Complaint Form

See Something? Say Something!

Report an Illicit Discharge / Water Quality Complaint to Borough Staff

or call (717) 225-5791

The EPA defines an illicit discharge as "any discharge to an MS4 (Storm Water System) that is not composed entirely of Storm Water. The Borough encourages residents to report any illicit discharges or water quality complaints to Borough Staff. Some examples of reportable activities include:

- Household cleaners and chemicals
- Lawn fertilizers, grass clippings and other maintenance products
- Vehicle fluids including oil and runoff from washing
- Animal waste
- Plastics and other trash

ATTACHMENT 4.1

STORMWATER MANAGEMENT ORDINANCE

Chapter 339

STORMWATER MANAGEMENT

GENERAL REFERENCES

Building construction — See Ch. 175.

Floodplain management — See Ch. 213.

Sewers and sewage disposal — See Ch. 326.

Streets and sidewalks — See Ch. 344.

Subdivision and land development — See Ch. 350.

Zoning — See Ch. 400.

ARTICLE I
General Provisions

§ 339-1. Short title.

This chapter shall be known and may be cited as the "Spring Grove Borough Stormwater Management Ordinance."

§ 339-2. Statement of findings.

The Borough Council of Spring Grove Borough finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases nonpoint source pollution of water resources.

B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety, and welfare and the protection of people of the commonwealth, their resources, and the environment.

C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.

D. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).

§ 339-3. Purpose.

The purpose of this chapter is to promote health, safety, and welfare within the Borough and its watershed(s) by minimizing the harm and maximizing the benefits described in § 339-2 of this chapter, through provisions designed to:

A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code 93 to protect, maintain, reclaim, and restore the existing and designated uses of the waters of this commonwealth.

B. Preserve the natural drainage systems as much as possible.

C. Manage stormwater runoff close to the source.

D. Provide procedures and performance standards for stormwater planning and management.

E. Maintain groundwater recharge to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

F. Prevent scour and erosion of stream banks and stream beds.

G. Provide proper operation and maintenance of all SWM BMPs that are implemented within the Borough.

H. Provide standards to meet NPDES permit requirements.

§ 339-4. Statutory authority.

A. Primary authority. The Borough is empowered to regulate land use activities that affect stormwater impacts by the authority of the Pennsylvania Borough Code, Act of February 1, 1965, P.L. 1656 (Act 581), 8 Pa.C.S.A. § 101 et seq., and the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1, et seq., as amended, the "Storm Water Management Act."

B. Secondary authority. The Borough is also empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.[1]

§ 339-5. Applicability.

All regulated activities and all activities that may affect stormwater runoff, including land development and earth disturbance activity, are subject to regulation by this chapter. Article VIII, Detection and Elimination of Illicit Discharges to the Municipal Separate Storm Sewer System, shall be applicable to all water entering the storm drain system of the Borough generated on any developed and undeveloped lands unless explicitly exempted by the Borough.

§ 339-6. Compatibility with other permit and ordinance requirements.

Permits and approvals issued pursuant to this chapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act or ordinance. If more stringent requirements concerning regulation of stormwater or erosion and sedimentation control are contained in another code, rule, act or ordinance, the more stringent regulations shall apply.

§ 339-7. Interpretation.

Unless otherwise expressly stated, the succeeding shall, for the purposes of this chapter, be interpreted in the following manner:

A. Words used in the present tense also imply the future tense.

B. Words used in the singular imply the plural, and vice versa.

C. Words of masculine gender include feminine gender, and vice versa.

D. The words and abbreviation "includes," "including," "shall include," "such as," and "e.g." are not limited to the specific example(s) given but are intended to extend the word's or words' meaning(s) to all other instances of like kind and character.

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1. **Editor's Note: See 53 P.S. § 10101 et seq.**

E. The words "person," "applicant," or "developer" include, a partnership, corporation, or other legal entity, as well as an individual.

F. The words "shall," "required," or "must" are mandatory; the words "may" and "should" are permissive.

§ 339-8. Erroneous permit.

Any permit or authorization issued or approved based on false, misleading or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. No action may be taken by the Council, agency or employee of the Borough purporting to validate such a violation.

ARTICLE II
Terminology

§ 339-9. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

ACCELERATED EROSION — The removal of the surface of the land through the combined action of man's activities and natural processes at a rate greater than would occur because of the natural processes alone.

ACT 167 — Act of October 4, 1978, P.L. 864, (Act 167), as amended, and known as the "Storm Water Management Act."

AGRICULTURAL ACTIVITY — Activities associated with agriculture, such as, but not limited to, agricultural cultivation, agricultural operations, and animal heavy use areas. This includes the work of producing crops, including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an agricultural activity.

APPLICANT — A landowner, developer, or other person who has filed an application to the Borough for approval to engage in any regulated activity at a project site in the Borough.

BEST MANAGEMENT PRACTICE (BMP) — Activities, facilities, designs, measures, or procedures used to manage stormwater impacts from regulated activities, to meet state water quality requirements, to promote groundwater recharge, and to otherwise meet the purposes of this chapter. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "nonstructural." In this chapter, nonstructural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural stormwater BMPs are permanent appurtenances to the project site.

BMP MANUAL — Pennsylvania Stormwater Best Management Practices Manual, as amended and updated.

BOROUGH — Spring Grove Borough, York County, Pennsylvania.

CLEAN WATER ACT — The Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq., and any subsequent amendments thereto.

CONSERVATION DISTRICT — The York County Conservation District, which District is as defined in Section 3(c) of the Conservation District Law [3 P. S. § 851(c)] that has the authority under a delegation agreement executed with DEP to administer and enforce all or a portion of the regulations promulgated under 25 Pa. Code 102.

CONSTRUCTION ACTIVITY — Activities subject to NPDES construction permits.

NPDES Stormwater Phase II permits will be required for construction projects resulting in land disturbance of one acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating and demolition.

COUNCIL — The Borough Council of Spring Grove Borough.

COUNTY — York County Pennsylvania

CULVERT — A structure which carries surface water through an obstruction.

DAM — An impoundment structure regulated by the Pennsylvania DEP Chapter 105 regulations.

DEP — The Pennsylvania Department of Environmental Protection.

DESIGN STORM — The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence, e.g., a five-year storm, and duration, e.g., 24 hours, used in the design and evaluation of stormwater management systems. Also see "return period."

DETENTION BASIN — A structure designed to retard stormwater runoff by temporarily storing and releasing the runoff at a predetermined rate.

DETENTION VOLUME — The volume of runoff that is captured and released at a controlled rate.

DEVELOPER — Any person, partnership, association, corporation or other entity, or any responsible person therein or agent thereof, that undertakes any regulated activity.

DEVELOPMENT SITE (SITE) — See "project site."

DISCONNECTED IMPERVIOUS AREA (DIA) — An impervious or impermeable surface that is disconnected from any stormwater drainage or conveyance system and is redirected or directed to a pervious area, which allows for infiltration, filtration, and increased time of concentration as specified in Appendix B, Disconnected Impervious Area,[2] of this chapter.

DISTURBED AREA — An unstabilized land area where an earth disturbance activity is occurring or has occurred.

DOWN-SLOPE PROPERTY LINE — That portion of a property line of a lot or parcel of land being developed located such that overland or pipe flow from the development site would be directed toward it.

DRAINAGE CONVEYANCE FACILITY — A stormwater management facility designed to transmit stormwater runoff, including, but not limited to, streams, channels, swales, pipes, conduits, culverts and storm sewers.

DRAINAGE EASEMENT — A limited right of use granted in private land, allowing the use of private land for stormwater drainage and/or management purposes.

E & S MANUAL — Erosion and Sediment Pollution Control Manual, as amended and updated.

EARTH DISTURBANCE ACTIVITY — A construction or other human activity which disturbs the surface of the land, including, but not limited to: clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; and the

2. **Editor's Note: Appendix B is included as an attachment to this chapter.**

moving, depositing, stockpiling, or storing of soil, rock, or earth materials.

EROSION — The natural process by which the surface of the land is worn away by water, wind, or chemical action.

EROSION AND SEDIMENT CONTROL PLAN — A site specific plan consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during and after earth disturbance activity.

EXISTING CONDITION — The dominant land cover during the five-year period immediately preceding a proposed regulated activity.

FEMA — Federal Emergency Management Agency.

FLOODPLAIN — Any land area susceptible to inundation by water from any natural source as delineated by applicable FEMA maps and studies as being a special flood hazard area.

FLOODWAY — The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the one-hundred-year flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the one-hundred-year floodway, it is assumed, absent evidence to the contrary, that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

FOREST MANAGEMENT/TIMBER OPERATIONS — Planning and activities necessary for the management of forest land. These include conducting a timber inventory, preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation, and reforestation.

GROUNDWATER RECHARGE — Replenishment of existing natural underground water supplies.

HAZARDOUS MATERIALS/SUBSTANCES — Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

HYDROLOGIC SOIL GROUP (HSG) — Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSGs (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The NRCS defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of the development site may be identified from a soil survey report that can be obtained from local NRCS offices or conservation district offices. Soils become less pervious as the HSG varies from A to D (NRCS 3,4).

ILLICIT CONNECTIONS — An illicit connection is defined as either of the following:

A. Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system and/or waters of the commonwealth, including, but not limited to, any conveyances which allow any

nonstormwater discharge, including sewage, process wastewater, and wash water, to enter the storm drain system and any connections to the storm drain system and/or waters of the commonwealth from indoor drains and sinks, regardless of whether said drain or connections had been previously allowed, permitted, or approved by an authorized enforcement agency; or

B. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system and/or waters of the commonwealth which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

ILLEGAL DISCHARGE — Any direct or indirect nonstormwater discharge to the storm drain system.

IMPERVIOUS SURFACE (IMPERVIOUS AREA) — A surface that prevents the infiltration of water into the ground. Impervious surfaces and areas shall include, but not be limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, and any new streets and sidewalks. However, any surface or area designed, constructed and maintained to permit infiltration as specified herein shall be considered pervious, not impervious. For the purposes of this chapter, a surface or area shall not be considered impervious if such surface or area does not diminish the capacity for infiltration of stormwater for storms up to, and including, a two-year twenty-four-hour storm event.

INFILTRATION — The entrance of surface water into the ground.

INFILTRATION STRUCTURES — A structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trench).

IWRP — The York County Integrated Water Resources Plan, which Plan includes Act 167 Plan elements and requirements.

KARST — A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage, and caves. Karst landscapes are formed on carbonate rocks, such as limestone or dolomite.

LAND DEVELOPMENT — Includes any of the following activities:

A. The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving:

   (1) A group of two or more residential and/or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or

   (2) The division or allocation of land or space between or among two or more existing or prospective occupants by means of or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features.

B. A subdivision of land.

C. Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code.[3]

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3. **Editor's Note: See 53 P.S. § 10503(1.1).**

LAND DISTURBANCE — Any activity involving grading, filling, digging or filling of ground, or stripping of vegetation, or any other activity that causes land to present the danger of erosion.

MS4 — Municipal separate storm sewer system.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT — A permit issued by EPA [or by DEP under authority delegated pursuant to 33 USC § 1342(b)] that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

NONSTORMWATER DISCHARGE — Any discharge to the storm drain system and/or waters of the commonwealth that is not composed entirely of stormwater.

NPDES — National Pollution Discharge Elimination System.

NRCS — USDA Natural Resources Conservation Service (previously SCS).

O & M — Operation and maintenance.

O & M PLAN — Operation and maintenance plan.

PCSWMP — Post-construction stormwater management plan.

PEAK DISCHARGE — The maximum rate of stormwater runoff from a specific storm event.

PERCOLATION — The downward movement, under the influence of gravity, of water under hydrostatic pressure through interstices of the soil or rock.

PERSON — An individual, partnership, public or private association or corporation, firm, trust, estate, Borough, governmental unit, public utility or any other legal entity whatsoever. Whenever used in any section prescribing or imposing a penalty, the term "person" shall include the members of a partnership, the officers, agents and servants of a corporation and the officers of a Borough.

PERVIOUS AREA — Any area not defined as impervious.

POLLUTANT — A contaminant or other alteration of the physical, chemical or biological properties of surface water which causes or has the potential to cause pollution as defined in Section 1 of the Clean Streams Law.

PREMISES — Any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalk and parking strips.

PROJECT SITE — The specific area of land where any regulated activities in the Borough are planned, conducted, or maintained.

QUALIFIED PERSON — Any person licensed by the State of Pennsylvania or otherwise qualified by law to perform the work required by this chapter.

REGULATED ACTIVITIES — Any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

REGULATED EARTH DISTURBANCE ACTIVITY — Activity involving earth disturbance subject to regulation under 25 Pa. Code Chapter 92,[4] 25 Pa. Code Chapter 102, or the Clean Streams Law.

RETENTION BASIN — An impoundment in which stormwater is stored and not released during a storm event. Stored water may be released from the basin at some time after the end of a storm.

RETENTION VOLUME/REMOVED RUNOFF — The volume of runoff that is captured and not released directly into the surface waters of this commonwealth during or after a storm event.

RETURN PERIOD — The average interval, in years, within which a storm event of a given magnitude can be expected to occur one time. For example, the twenty-five-year return period rainfall would be expected to occur on average once every 25 years; or stated in another way, the probability of a twenty-five-year storm occurring in any one year is 0.04, i.e., a four-percent chance.

RIPARIAN BUFFER — A best management practice that is an area of permanent vegetation along surface waters. (Such areas serve as natural vegetative filters between upland landscapes and waterways.)

RISER — A vertical pipe extending from the bottom of a pond or other water impoundment that is used to control the discharge rate from the pond or impoundment for a specified design storm.

ROOFTOP DETENTION — Temporary control and gradual release of stormwater falling directly onto roof surface by incorporating control-flow roof drains into building design.

RUNOFF — Any part of precipitation that flows over the land.

RUNOFF CHARACTERISTICS — The surface components on any watershed which either individually or in any combination thereof, directly affect the rate, amount and direction of stormwater runoff. These may include, but are not limited to, vegetation, soils, slopes and any type of man-made landscape alterations.

SCS — Soil Conservation Service, U.S. Department of Agriculture.

SEDIMENT — Soils or other materials transported by surface water as a product of erosion.

SEDIMENT BASIN — A barrier, dam, retention or detention basin designed to retain sediment.

SEEPAGE PIT/SEEPAGE TRENCH — An area of excavated earth filled with loose stone or similar materials into which surface water is directed for infiltration into the ground.

SEMIPERVIOUS SURFACE — A surface which permits a limited amount of vertical transmission of water.

SHEET FLOW — Water flow with a relatively shallow and uniform depth.

SOIL COVER COMPLEX METHOD — A method of runoff computation in NRCS publication "Urban Hydrology for Small Watersheds", Technical Release No. 55.

SPILLWAY — A depression in the embankment of a pond or basin which is used to pass peak discharge greater than the maximum design storm controlled by the pond or

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4. Editor's Note: Former 25 Pa. Code Ch. 92 was repealed effective 10-9-2010. See now 25 Pa. Code Ch. 92a.

basin.

STORM DRAIN SYSTEM — Publicly or privately owned facilities by which stormwater is collected and/or conveyed, including, but not limited to, any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

STORM FREQUENCY — The number of times that a given storm event occurs on average in a stated period of years.

STORM SEWER — A pipe or conduit, or a system of pipes or conduits, which intercepts and carries surface stormwater runoff, but excludes sewage, industrial wastes and similar discharges.

STORMWATER — Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES — Is abbreviated as BMPs or SWM BMPs throughout this chapter.

STORMWATER MANAGEMENT FACILITY — Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater runoff. Typical stormwater management facilities include, but are not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration facilities.

STORMWATER MANAGEMENT PLAN — Parts and/or elements of the York County Integrated Water Resources Plan which incorporate the requirements of the Act of October 4, 1978, P.L. 864, (Act 167), as amended, and known as the "Storm Water Management Act."

STORMWATER MANAGEMENT SITE PLAN — The plan prepared by the developer or his representative indicating how stormwater runoff will be managed at the development site in accordance with this chapter. Stormwater management site plan will be designated as "SWM site plan" throughout this chapter. For all NPDES permitted sites, the stormwater management site plan shall include, and be consistent with, the erosion and sediment control plan as submitted to the York County Conservation District (YCCD) and/or DEP.

STORMWATER POLLUTION PREVENTION PLAN — A document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

SUBDIVISION — The division or redivision of a lot, tract or parcel of land by any means into two or more lots, tracts or parcels or other divisions of land, including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than 10 acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

SWALE — A low-lying stretch of land which gathers and/or carries surface water

runoff.

SWM — Stormwater management.

USDA — United States Department of Agriculture.

WASTEWATER — Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

WATER OF THE COMMONWEALTH — Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this commonwealth.

WATERCOURSE — A channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

WATERSHED — Region or area drained by a river, watercourse, or other surface water of this commonwealth.

WETLAND — Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

YCCD — York County Conservation District.

ARTICLE III
Stormwater Management Standards

§ 339-10. General requirements.

A. For all regulated activities, unless preparation of an SWM site plan is specifically exempted in § 339-11:

(1) Preparation and implementation of an approved SWM site plan is required.

(2) No regulated activities shall commence until the Borough issues written approval of an SWM site plan which demonstrates compliance with the requirements of this chapter.

B. SWM site plans approved by the Borough, in accordance with § 339-25, shall be on site throughout the duration of the regulated activity.

C. The Borough may, after consultation with DEP, approve measures for meeting the state water quality requirements other than those in this chapter, provided that they meet the minimum requirements of, and do not conflict with, state law, including, but not limited to, the Clean Streams Law. The Borough shall maintain a record of consultations with DEP pursuant to this subsection.

(1) DEP is not required to be consulted for waiver of the requirements within:

(a) Section 339-15, Design criteria.

(b) Section 339-16, Regulations governing stormwater management facilities.

(c) Section 339-17, Calculation methodology.

(d) Section 339-18, Carbonate geology.

(e) Section 339-19, Erosion and sedimentation control requirements.

(f) Section 339-32, Municipal Stormwater Maintenance Fund.

D. For all regulated earth disturbance activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the regulated earth disturbance activities, i.e., during construction, to meet the purposes and requirements of this chapter and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E&S Manual) 2, No. 363-2134-008 (April 15, 2000), as amended and updated.

E. For all regulated activities, implementation of the volume controls in § 339-12 is required, unless specifically exempted under § 339-10C, or exempted by an approved modification request as specified in § 339-22B of this chapter.

F. Impervious areas:

(1) The measurement of impervious areas shall include all of the impervious areas in the total proposed development even if development is to take place in

phases.

(2) For development taking place in phases, the entire development plan must be used in determining conformance with this chapter.

(3) For projects that add impervious area to a parcel, the total impervious area on the parcel is subject to the requirements of this chapter; except that the volume controls in § 339-12 and the peak rate controls of § 339-13 do not need to be retrofitted to existing impervious areas that are not being altered by the proposed regulated activity.

G. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s). Such stormwater flows shall be subject to the requirements of this chapter.

H. All regulated activities shall include such measures as necessary to:

(1) Protect health, safety, and property;

(2) Meet the water quality goals of this chapter, as stated in § 339-3, Purpose, by implementing measures to:

(a) Minimize disturbance to floodplains, wetlands, wooded areas, and existing vegetation.

(b) Maintain or extend riparian buffers.

(c) Avoid erosive flow conditions in natural flow pathways.

(d) Minimize thermal impacts to waters of this commonwealth.

(e) Disconnect impervious surfaces by directing runoff to pervious areas, wherever possible.

(f) Minimize soil disturbance and compaction. Topsoil, if removed, shall be replaced to a minimum depth equal to its depth prior to removal or four inches, whichever is greater. (Additional topsoil may be needed for vegetation other than sod.)

(3) To the maximum extent practicable, incorporate the techniques for low impact development practices described in the Pennsylvania Stormwater Best Management Practices Manual (BMP Manual).

I. The design of all facilities in areas of carbonate geology or karst topography shall include an evaluation of measures to minimize adverse effects, including hydrogeologic studies if required by the Borough.

J. Infiltration BMPs should be spread out, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this chapter.

K. All natural streams, channels, swales, drainage systems and/or areas of surface water concentration shall be maintained in their existing condition unless an

alteration is approved by the Borough. All encroachment activities shall comply with the requirements of PA DEP 25 Pa. Code Chapter 105 (Water Obstructions and Encroachments), Rules and Regulations of PA DEP. Any approvals or permits issued do not relieve compliance as referenced in § 339-6, Compatibility with other permit and ordinance requirements.

L. All stormwater management facilities (excluding individual residential underground infiltration facilities) are considered structures and must comply with building setback requirements. The outside toe of slope of the embankment in a fill condition or the top of embankment in a cut condition shall be considered as the point that must meet the setback requirements. Individual residential underground infiltration facilities shall be a minimum of 10 feet from the property line. Discharge of controlled flows can be no closer to an adjacent property than two times the length of the required discharge rip-rap apron. This requirement applies to discharge aprons that do not outlet to a defined waterway or an existing storm sewer. Minimum distance is 10 feet.

M. All storage facilities should completely drain both the volume control and rate control capacities over a period of time not less than 24 hours and not more than 72 hours from the end of the design storm. However, any designed infiltration at such facilities is exempt from the minimum twenty-four-hour standard, i.e., may infiltrate in a shorter period of time, so long as none of the stormwater flowing into the infiltration facility is discharged directly into the surface waters of the commonwealth. (Inordinately rapid infiltration rates may indicate the presence of large fractures or other conditions for which an additional soil buffer may be required.)

N. The design storm volumes and precipitation intensities to be used in the analysis of discharge or runoff shall be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland. NOAA's Atlas 14 can be accessed at: http://hdsc.nws.noaa.gov/hdsc/pfds/.

O. For all regulated activities, SWM BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this chapter and to meet all requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Storm Water Management Act.

P. Various BMPs and their design standards are listed in the BMP Manual.

Q. All work shall be in accordance with the Borough's construction and material specifications.

R. The technical standards provided within this chapter are considered the baseline for the design and layout of an SWM site plan. Use of other alternative and innovative designs for controlling stormwater runoff may be permitted when approved by the Borough Engineer.

§ 339-11. Exemptions.

Any regulated activity that meets the following exemption criteria is exempt from the

part(s) of this chapter as specified herein. However, the requirements of this chapter shall otherwise remain in effect. The criteria for exemption in this section apply to the total development proposed, including instances in which the development is proposed to take place in phases. The date of enactment of this chapter shall be the starting point from which future development and the respective proposed impervious surface computations shall be cumulatively considered and regulated. Exemption shall not relieve an applicant from implementing such measures as necessary to meet the intent of this chapter, or compliance with any NPDES Permit requirements.

A. Regulated activities that create DIAs equal to or less than 1,000 square feet are exempt from the peak rate control and the SWM site plan preparation requirements of this chapter, and therefore, no formal application to the Borough is required.

B. Regulated activities that create DIAs greater than 1,000 square feet and equal to or less than 5,000 square feet are exempt only from the peak rate control requirement of this chapter.

C. Agricultural activity is exempt from the rate control and SWM site plan preparation requirements of this chapter provided the activities are performed according to the requirements of 25 Pa. Code 102. For regulated activities that meet this exemption criteria, no formal application to the Borough is required.

D. Forest management and timber operations are exempt from the rate control and SWM site plan preparation requirements of this chapter, provided the activities are performed according to the requirements of 25 Pa. Code 102. For regulated activities that meet this exemption criteria, no formal application to the Borough is required.

E. Domestic gardening and landscaping are exempt from specific approval and permitting under this chapter so long as those activities are associated with one, and only one, dwelling unit and the activities comply with all other applicable ordinances and statutes.

F. Exemptions from certain provisions of this chapter shall not relieve the applicant from the requirements in § 339-10D through N of this chapter.

G. The Borough may deny or revoke any exemption pursuant to this section at any time for any project that the Borough determines poses a threat to public health, safety, property or the environment.

H. The Borough may provide an exemption for regulated activities equal to or less than 1,000 square feet, where a fee in lieu of is provided in accordance with § 339-24.

§ 339-12. Volume controls.

The low-impact development practices provided in the BMP Manual shall be utilized for all regulated activities to the maximum extent practicable. Water volume controls shall be implemented using the Design Storm Method in Subsection A or the Simplified Method in Subsection B below. For regulated activity areas equal or less than one acre that do not require hydrologic routing to design the stormwater facilities, this chapter establishes no preference for either methodology; therefore, the applicant may select either methodology on the basis of economic considerations, the intrinsic limitations on

applicability of the analytical procedures associated with each methodology, and other factors.

A. The Design Storm Method (CG-1 in the BMP Manual) is applicable to any size of regulated activity. This method requires detailed modeling based on site conditions.

(1) Do not increase the post-development total runoff volume for all storms equal to or less than the two-year twenty-four-hour duration precipitation.

(2) For modeling purposes:

(a) Existing (predevelopment) nonforested pervious areas must be considered meadow.

(b) For computation of predevelopment runoff volume, 20% of existing impervious areas, when present, shall be considered meadow.

B. The Simplified Method (CG-2 in the BMP Manual) provided below is independent of site conditions and should be used if the Design Storm Method is not followed. This method is not applicable to regulated activities greater than one acre or for projects that require design of stormwater storage facilities. For new impervious surfaces:

(1) Stormwater facilities shall capture at least the first two inches of runoff from all new impervious surfaces.

(2) At least the first one inch of runoff from new impervious surfaces shall be permanently removed from the runoff flow, i.e., it shall not be released into the surface waters of this commonwealth. Removal options for the first one inch of runoff include reuse, evaporation, transpiration, and infiltration.

(3) Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first 0.5 inch of the permanently removed stormwater runoff shall be infiltrated.

(4) This method is exempt from the requirements of § 339-13, Rate controls.

§ 339-13. Rate controls.

A. For computation of predevelopment peak discharge rates, 20% of the existing impervious area of a project site, when present, shall be considered meadow.

B. Post-development discharge rates shall not exceed the predevelopment discharge rates for the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year twenty-four-hour storms. If it is shown that the peak rates of discharge indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the predevelopment analysis for one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year, twenty-four-hour storms, then the requirements of this section have been met. Otherwise, the applicant shall provide additional controls as necessary to satisfy the peak rate of discharge requirement.

§ 339-14. Stormwater management facilities for PennDOT and PTC roadways

and associated facilities.

A. For the purposes of the Act 167 stormwater management (plan) elements, contained within the York County Integrated Water Resources Plan, and this chapter, design policy pertaining to stormwater management facilities for Pennsylvania Department of Transportation (PennDOT) and Pennsylvania Turnpike Commission (PTC) roadways and associated facilities is provided in Section 13.7. (Antidegradation and Post Construction Stormwater Management Policy) of PennDOT Publication No. 13M, Design Manual Part 2 (August 2009), as developed, updated, and amended in consultation with the Pennsylvania Department of Environmental Protection (DEP). As stated in DM-2.13.7.D (Act 167 and Municipal Ordinances), PennDOT and PTC roadways and associated facilities shall be consistent with Act 167 Plans. Dm-2.13.7.B (Policy on Antidegradation and Post Construction Stormwater Management) was developed as a cooperative effort between PennDOT and DEP. DM-2.13.7.C (Project Categories) discusses the anticipated impact on the quality, volume, and rate of stormwater runoff.

B. Where standards in the Act 167 elements of the IWRP and this chapter are impractical, PennDOT or the PTC may request assistance from DEP, in consultation with the Borough and county, to develop an alternative strategy for meeting state water quality requirements and the goals and objectives of the Act 167 elements within the IWRP.

C. For the purposes of the Act 167 elements in the IWRP and this chapter, road maintenance activities are regulated under 25 Pa. Code Chapter 102.

§ 339-15. Design criteria.

A. Off-site areas. Off-site areas which drain through a proposed development site are not subject to release rate criteria when determining allowable peak runoff rates. However, on-site drainage facilities shall be designed to safely convey off-site flows through the development site.

B. On-site areas. On-site areas proposed to remain undisturbed as part of the regulated activity, including previously developed areas, that are not within the drainage area of any proposed BMPs shall be considered as existing conditions, without considering any reductions in cover type.

C. Downstream hydraulic capacity analysis. Any existing downstream hydraulic capacity analysis shall be conducted in accordance with this chapter.

(1) All downstream facilities impacted by the total site area of the regulated activity shall be studied to determine if the facility has adequate capacity to handle existing and proposed flows. An impacted downstream facility is one to which the runoff from the total site area of the regulated activity comprises more than 50% of the total flow to such a facility. The study shall end at a perennial stream. Downstream facilities include, but are not limited to, man-made or natural swales and open channels, pipes, inlets, culverts, bridges and roadways.

(2) If any private facility is found to be undersized, the applicant shall be

responsible for updating the facility in coordination with the regulated activity.

(3) If any public facility is found to be undersized or inadequate, the applicant shall work with the Borough on upgrading the facility in coordination with the regulated activity.

D. Regional detention alternatives. For certain areas within the study area, it may be more cost-effective to provide one control facility for more than one development site than to provide an individual control facility for each development site. The initiative and funding for any regional runoff control alternatives are the responsibility of prospective developers. The design of any regional control basins must incorporate reasonable development of the entire upstream watershed. The peak outflow of a regional basin would be determined on a case-by-case basis using the hydrologic model of the watershed consistent with protection of the downstream watershed areas. "Hydrologic model" refers to the calibrated model as developed for the stormwater management plan.

E. Capacity improvements of local drainage networks. In certain instances local drainage conditions may dictate more stringent levels of runoff control than those based upon protection of the entire watershed. In these instances, if the developer could prove that it would be feasible to provide capacity improvements to relieve the capacity deficiency in the local drainage network, then the capacity improvements could be provided by the developer in lieu of runoff controls on the development site. Any capacity improvements would be designed based upon development of all areas tributary to the proposed improvement and the capacity criteria specified in § 339-17. In addition, all new development upstream of a proposed capacity improvement shall be assumed to implement the applicable runoff controls consistent with this chapter except that all new development within the entire subarea(s) within which the proposed development site is located shall be assumed to implement the developer's proposed discharge control, if any.

F. Capacity improvements may also be provided as necessary to implement any regional or subregional detention alternatives.

G. Where the potential for groundwater and/or surface water contamination exists, based on the proposed use of the regulated activity, safeguards shall be incorporated into the site design.

H. Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs and to the maximum extent practicable satisfy the criteria for DIAs.

§ 339-16. Regulations governing stormwater management facilities.

A. Any stormwater facility located on state highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PennDOT).

B. Any stormwater management facilities regulated by this chapter that would be located in or adjacent to waters of the commonwealth or wetlands shall be subject to approval by PA DEP through the joint permit application process, or, where deemed appropriate by PA DEP, the general permit process. When there is a question whether wetlands may be involved, it is the responsibility of the developer or his agent to show that the land in question cannot be classified as wetlands,

otherwise approval to work in the area must be obtained from PA DEP.

C. Any stormwater management facility located within the vicinity of a floodplain shall be subject to approval in accordance with PA DEP 25 Pa. Code Chapter 106 (Floodplain Management) of PA DEP's rules and regulations.

D. All earthmoving activities must be reviewed and approved by the York County Conservation District prior to commencing work.

E. The design of all stormwater management facilities shall incorporate good engineering principles and practices. The Borough shall reserve the right to disapprove any design that would result in the occupancy or continuation of adverse hydrologic or hydraulic conditions within the watershed.

F. The existing points of concentrated drainage that discharge onto adjacent property shall not be altered without permission of the adjacent property owner(s) and shall be subject to any applicable discharge criteria specified in this chapter.

G. Areas of existing diffused drainage discharge shall be subject to any applicable discharge criteria in the general direction of existing discharge, whether proposed to be concentrated or maintained as diffused drainage areas, except as otherwise provided by this chapter. If diffused flow is proposed to be concentrated and discharged onto adjacent property, the developer must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge, or otherwise prove that no erosion, sedimentation, flooding or other harm will result from the concentrated discharge.

H. Where a development site is traversed by watercourses, drainage easements shall be provided conforming to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may adversely affect the flow of stormwater within any portion of the easement. Also, maintaining of vegetation in a natural state within the easement shall be required, except as approved by the appropriate governing authority.

I. When it can be shown that, due to topographic conditions, natural drainageways on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainageways. Work within natural drainageways shall be subject to approval by PA DEP.

J. Roof drains must not be connected to streets, sanitary or storm sewers or roadside ditches to promote overland flow and infiltration/percolation of stormwater where advantageous to do so. When it is more advantageous to connect directly to streets or storm sewers, then it shall be permitted on a case by case basis by the Borough.

K. Special requirements for areas falling within defined exceptional value and high quality subwatersheds. The temperature and quality of water and streams that have been declared as exceptional value and high quality is to be maintained as defined in Chapter 93, Water Quality Standards, Title 25 of Pennsylvania Department of Environmental Protection Rules and Regulations. Temperature sensitive BMPs and stormwater conveyance systems are to be used and designed with storage pool areas and supply outflow channels and should be shaded with trees. This will require modification of berms for permanent ponds and the relaxation of restrictions on

planting vegetation within the facilities, provided that capacity for volumes and rate control is maintained. At a minimum, the southern half on pond shorelines shall be planted with shade or canopy trees within 10 feet of the pond shoreline. In conjunction with this requirement, the maximum slope allowed on the berm area to be planted is 10 to 1. This will lessen the destabilization of berm soils due to root growth. A long-term maintenance schedule and management plan for the thermal control BMPs is to be established and recorded for all development sites within defined exceptional value and/or high quality subwatersheds.

(1) No watersheds within the Borough are listed as exceptional value and/or high quality watersheds.

§ 339-17. Calculation methodology.[5]

A. Stormwater runoff from all development sites shall be calculated using the Rational Method, Modified Rational Method, or a Soil Cover Complex methodology.

(1) Any stormwater runoff calculations involving drainage areas greater than 200 acres, including on- and off-site areas, shall use generally accepted calculation technique that is based on the NRCS Soil Cover Complex method. It is assumed that all methods will be selected by the design professional based on the individual limitations and suitability of each method for a particular site.

(2) The Borough may allow the use of the Rational Method or Modified Rational Method to estimate peak discharges from drainage areas that contain less than 200 acres.

(3) All calculations consistent with this chapter using the Soil Cover Complex method shall us the appropriate design rainfall depths. If a hydrologic computer model such as PSRM or HEC-RAS is used for stormwater runoff calculations, then the duration of rainfall shall be 24 hours. The SCS Rainfall Type II curve shall be used for the rainfall distribution.

(4) For the purposes of predevelopment flow rate determination, undeveloped land, including areas to be disturbed as part of the regulated activity, shall be considered as "meadow" in good condition, unless the natural ground cover generates a lower curve number or Rational C value (i.e., forest), as listed it Tables 1 and 2, respectively.

(5) All calculations using the Rational Method shall use rainfall intensities consistent with appropriate times-of-concentration for overland flow and return periods. Times-of-concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of Urban Hydrology for Small Watersheds, NRCS, TR-55 (as amended or replaced from time to time by NRCS). Time-of-concentration for channel and pipe flow shall be computed using Manning's equation.

(6) Runoff Curve Numbers (CN) for both existing and proposed conditions to be used in the Soil Cover Complex method shall be obtained from Table 1.

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5. Editor's Note: Tables 1, 2 and 3 referenced in this section are included as attachments to this chapter.

(7) Runoff coefficients (c) for both existing and proposed conditions for use in the Rational Method shall be obtained from Table 2.

(8) Where uniform flow is anticipated, the Manning equation shall be used for hydraulic computations such as the capacity of open channels, pipes, and storm sewers. Values for Manning's roughness coefficient (n) shall be consistent with Table 3.

(9) The design of any stormwater detention facility intended to meet the performance standards of this chapter shall be verified by routing the design storm hydrograph through these facilities, using either manual methods or computerized routing. Routing shall be based upon the modified PULS method; other routing methodologies shall be subject to the approval of the Borough Engineer.

(10) The stormwater collection system shall be designed using the peak discharge computed using the Rational Formula.

B. Design standards — water carrying facilities.

(1) All storm sewer pipes, streets, and inlets (excluding detention and retention basin outfall structures) shall be designed for a ten-year storm event. Sole access structures (culverts and bridges) shall be designed to convey the twenty-five-year flood without overtopping the roadway.

(a) When a pipe or culvert is intended to convey the discharge from a stormwater management facility, its required capacity shall be computed by the rational method and compared to the peak outflow from the stormwater facility for the one-hundred-year storm. The greater flow shall govern the design of the pipe or culvert.

(b) When a pipe is part of a storm sewer system and crosses the roadway, it shall be designed as a storm sewer with the same design storm as the remainder of the drainage system.

(c) Greater design frequencies may be justified on individual projects.

(d) A one-hundred-year storm frequency may be required for design of the stormwater collection system to insure that the resultant stormwater runoff from the post-development storm is directed into the management facility.

(2) In general, inlets shall be spaced such that, based upon the Rational Method, tc = five min. and ten-year rainfall intensity, the area contributing to the inlet shall not produce a peak runoff of greater than 4 cfs. Also, inlets shall be spaced so that their efficiency, based upon efficiency curves published by the Pennsylvania Department of Transportation, is not less than 65%.

(3) Inlets shall be placed on both sides of the street at low spots and at the upper side of street intersections to prevent stormwater from crossing an intersection. Other devices such as high efficiency grates or perforated pipe may be required if conditions warrant. All inlets at low points along the roadway shall have a 10 inches curb reveal and shall be equipped with pavement base drain

extending 50 feet in either direction, parallel to the center line of the roadway.

(4) In all cases where drainage is picked up by means of a headwall, the pipe shall be designed as a culvert. Inlet and outlet conditions shall be analyzed. The minimum diameter of culvert shall be 18 inches. The procedure contained in Hydraulic Engineer Circulars No. 5 and No. 13, as prepared by the U.S. Department of Transportation, Federal Highway Administration, Washington, D.C., shall be used for the design of culverts. All culverts shall include concrete headwalls and endwalls.

(5) Guards shall be provided on all intake and outfall structures as well as outlet structures. The guard bars shall be 1/2 inch diameter galvanized bars on six inch centers attached to the structure with 3/8 inch diameter stainless steel anchors. Guards shall also be provided for any pipe opening, 18 inches in diameter or larger.

(6) Manholes, inlets, headwalls, and endwalls shall conform to the requirements of the PennDOT Publication 408, as modified by the adopted Borough standards.

(7) Proposed channels or swales must be able to convey the increased runoff associated with a proposed one-hundred-year return period event within their banks at velocities consistent with protection of the channels from erosion. Acceptable velocities shall be based upon criteria included in the PA DEP Erosion and Sediment Pollution Control Program Manual.

(8) Existing natural or man-made channels or swales must be able to convey proposed one-hundred-year return period runoff without creating any hazard to persons or property.

(9) Stormwater runoff on roadways (i.e., gutter spread, lane encroachment, etc.) shall be controlled in accordance with PennDOT Publications 13M, "Design Manual, Part 2" and 584, "Drainage Manual."

C. Design standards - detention and retention basins.

(1) Permanent detention and retention basins shall be designed to meet the following standards:

(a) The maximum permitted depth for detention or retention basins shall be six feet, measured from the bottom of the emergency spillway to the lowest point in the basin.

(b) The minimum top width of all basin embankments shall be eight feet.

(c) The maximum permitted side slopes for detention or retention basins shall be four horizontal to 1 vertical. In order to obtain a waiver for slopes steeper than 4:1, the plan must include a planting schedule to stabilize the embankments. The proposed vegetation shall be low maintenance varieties.

(d) Minimum bottom slope. All detention basins shall have a minimum bottom slope of 2% unless infiltration facilities are provided.

(e) Outlet control structures. Outlet control shall be accomplished utilizing (six-inch diameter or six-inch width maximum) perforations arranged vertically to provide for positive control of stormwater runoff. Outlet controls shall also provide for modification of the orifice to a smaller diameter through the use of removable plates.

(f) Discharge dispersion. Discharges from piping outlets of stormwater management facilities shall be provided with a concrete level spreader to convert point discharge back to simulated sheet flow. The length of the spreader shall be equal to 10 times the outlet pipe diameter (e.g., an eighteen-inch discharge pipe would require a fifteen-foot wide level spreader).

(g) Any stormwater management facility (i.e., detention basin) designed to store runoff and requiring a berm or earthen embankment required or regulated by this chapter shall be designed to provide an emergency spillway to handle flow up to and including the one-hundred-year, twenty-four-hour design storm at post-development conditions, assuming the principal outlet structure to be clogged. The height of embankment must be set as to provide a minimum one foot of freeboard above the maximum elevation computed for the clogged orifice condition. Should any stormwater management facility require a dam safety permit under PA DEP 25 Pa. Code Chapter 105, the facility shall be designed in accordance with PA DEP 25 Pa. Code Chapter 105 and meet the regulations of PA DEP 25 Pa. Code Chapter 105 concerning dam safety which may be required to pass storms larger than one-hundred-year event.

(h) A cutoff trench of impervious material shall be provided within all basin embankments.

(i) Where a basin embankment is constructed using fill on an existing 15% or greater slope, the basin must be keyed into the existing grade.

(j) Fencing. Any aboveground stormwater management detention/retention facility, that is designed to store at least a two foot depth of runoff, shall be subject to the following fencing requirements:

[1] Stormwater facility must be completely surrounded by a chain link fence of not less than four feet in height. Alternative fences and barriers may be permitted upon request to and approval by the Borough.

[2] All gates or doors opening through such enclosure shall be equipped with a self-closing and self-latching device for keeping the gate or door securely closed at all times, when not in actual use.

(k) All outlet structures and emergency spillways shall include a satisfactory means of energy dissipation at its outlet to assure conveyance and flow without endangering the safety and integrity of the basin and the downstream drainage area.

(l) A concentrated discharge of stormwater to an adjacent property shall be within a natural drainage way or watercourse, or an easement shall be required.

(m) Plans for infiltration must show the locations of existing and proposed septic tank infiltration areas and wells. A minimum twenty-five foot separation from on lot disposal systems (OLDS) infiltration areas, including replacement areas, is desired and will be evaluated by the Borough on a case-by-case basis. However, the separation shall not be less than the PA DEP required 10 feet. Infiltration rates shall be based upon perc and probe tests conducted at the site of the proposed facility.

§ 339-18. Carbonate geology.

A. In areas of carbonate geology, a geologist shall certify to the following:

(1) No stormwater management facility will be placed in, over, or immediately adjacent to the following features:

(a) Closer than 100 feet from sinkholes.

(b) Closer than 100 feet from closed depressions.

(c) Closer than 100 feet from caverns, intermittent lakes, or ephemeral streams.

(d) Closer than 50 feet from lineaments in carbonate areas.

(e) Closer than 50 feet from fracture traces.

(f) Closer than 25 feet from bedrock pinnacles (surface or subsurface).

(2) Stormwater resulting from regulated activities shall not be discharged into sinkholes.

(3) If the developer can prove through analysis that the project site is an area underlain by carbonate geology, and such geologic conditions may result in sinkhole formations, then the project site is exempt from recharge requirements as described in § 339-12, Volume control. However, the project site shall still be required to meet all other standards found in this chapter.

(4) Whenever a stormwater management facility will be located in an area underlain by carbonate geology, a geological evaluation of the proposed location by a geologist shall be conducted to determine susceptibility to sinkhole formation. The evaluation may include the use of impermeable liners to reduce or eliminate the separation distances listed in the BMP Manual. Additionally, the evaluation shall at a minimum, address soil permeability, depth to bedrock, seasonally high groundwater table, susceptibility for sinkhole formation, suitability of stormwater management facilities, subgrade stability and maximum infiltration capacity in depth of water per unit area.

(5) A detailed soils evaluation of the project site shall be performed to determine the suitability of recharge facilities. The evaluation shall be performed by a

qualified professional, and at a minimum, address soil permeability, depth to bedrock, susceptibility to sinkhole formation, and subgrade stability. The general process for designing the infiltration BMP shall be:

(a) Site evaluation to determine general areas of suitability for infiltration practices.

(b) Provide field test throughout the area proposed for development to determine appropriate percolation rate and/or hydraulic conductivity. At least one infiltration test must be included in each soil group and at least one infiltration test must be conducted for each five lots proposed for development. Infiltration tests must be taken at the location and depth of all proposed infiltration structures.

(c) Design infiltration structure for required storm volume based on all available data.

(6) Extreme caution shall be exercised where infiltration is proposed in geologically susceptible areas, such as strip mine or limestone areas. It is also extremely important that the design professional evaluate the possibility of groundwater contamination from the proposed infiltration/recharge facility and recommend a hydrogeologic justification study be performed if necessary. Whenever a basin will be located in an area underlain by limestone, a geological evaluation of the proposed location shall be conducted to determine susceptibility to sinkhole formations. The design of all facilities over carbonate formations shall include measures to prevent groundwater contamination and, where necessary, sinkhole formation. The infiltration requirement in the high quality/exceptional waters shall be subject to the Department's Chapter 93 and Antidegradation Regulations. A detailed hydrogeologic investigation may be required by the Borough and, where appropriate, the Borough may require the installation of an impermeable liner in detention basins.

§ 339-19. Erosion and sedimentation control requirements.

A. As required in § 339-10D, whenever the vegetation and topography are to be disturbed, such activity must be in conformance with 25 Pa. Code Chapter 105, Rules and Regulations, Part I, Subpart C, Protection of Natural Resources, Article II, Water Resources, 25 Pa. Code Chapter 102, Erosion Control.

B. It is extremely important that strict erosion and sedimentation control measures be applied surrounding infiltration structures during installation to prevent the infiltrative surfaces from becoming clogged. Additional erosion and sedimentation control design standards and criteria must be applied where infiltration BMPs are proposed shall include the following:

(1) Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase, so as to maintain their maximum infiltration capacity.

C. Fencing for sedimentation basins or traps must comply with § 339-17C(1)(j).

D. The developer shall demonstrate that the post-development hydrograph flows during erosion and sedimentation control phase are less than or equal to the predevelopment hydrograph flows to assure the rate and volume of runoff leaving the site is controlled for the two-, five-, and ten-year frequency storms. All calculation methodology shall be in accordance with §§ 339-12 through 339-18.

ARTICLE IV
Stormwater Management (SWM) Site Plan Requirements

§ 339-20. Plan requirements.

Although not a requirement of this chapter, prior to proceeding with SWM site plan preparation and submission, the applicant is encouraged to request a preapplication meeting with the Borough, Borough's Engineer and a staff member of the York County Conservation District to discuss the plan concept and responsibility for submission of required documents and information. The following items shall be included in the SWM site plan:

A. Appropriate sections of Chapter 350, Subdivision and Land Development, of the Code of the Boroug of Spring Grove and other applicable ordinances of the Borough regarding subdivision and land development plan preparation and applicable plan requirements shall be followed in preparing all SWM site plans, regardless of whether or not a SWM site plan involves a subdivision and/or land development plan. If the Borough has not adopted a Subdivision and Land Development Ordinance, the content of SWM site plans shall follow the plan preparation and applicable plan requirements of the York County Subdivision and Land Development Ordinance.

B. The Borough shall not approve any SWM site plan that is deficient in meeting the requirements of this chapter. At its sole discretion, and in accordance with this article, when a SWM site plan is found to be deficient, the Borough may either disapprove the submission, or, in the case of minor deficiencies, the Borough may accept the submission of a revised SWM site plan as noted in § 339-23 of this chapter.

C. Provisions for permanent access or maintenance easements for all physical SWM BMPs, such as ponds and infiltration structures, as necessary to implement the operation and maintenance (O&M) plan discussed in Subsection E(9) below.

D. The following signature block for the Borough:

> "(Municipal official or designee), on this date (date of signature), has reviewed and hereby certifies that based upon representations made by the applicant; and relied upon by the Borough's Engineer the SWM site plan meets all design standards and criteria of the Borough Ordinance No. (number assigned to the Ordinance)."

E. If not required by Chapter 350, Subdivision and Land Development, or York County Subdivision and Land Development Ordinance, as specified in § 339-20A of this chapter, the SWM site plan shall also provide the following information where applicable:

(1) The overall stormwater management concept for the project, including any additional information required for a post-construction stormwater management plan (PCSWMP) as applicable.

(2) A determination of site conditions in accordance with the BMP Manual. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or karst topography, as well as for other environmentally

sensitive areas, whether natural or man-made, including floodplains, streams, lakes, ponds, hydric soils, wetlands, brownfields and wellhead protection zones.

(3) Stormwater runoff design computations, and documentation as specified in this chapter, or as otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this chapter, including the recommendations and general requirements in § 339-10.

(4) Expected project time schedule.

(5) A soil erosion and sediment control plan, where applicable, as prepared for, reviewed, and approved by the York County Conservation District.

(6) The effect of the project in terms of runoff volumes, water quality, and peak flows on surrounding properties and aquatic features, and on any existing stormwater conveyance system that may be affected by the project.

(7) Plan and profile drawings of all SWM BMPs, including drainage structures, pipes, open channels, and swales.

(8) The SWM site plan shall show the locations of existing and proposed on-lot wastewater facilities and water supply wells.

(9) The SWM site plan shall include an operation and maintenance (O&M) plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for O&M as well as schedules and costs for O&M activities.

(10) A description of permanent stormwater management techniques, including the construction specifications of the materials to be used for stormwater management facilities.

(11) A notarized signature of the owner of the parcel for which the SWM site plan is proposed indicating that they are aware of, and will be responsible for, operation and maintenance of the facilities.

(12) Existing and proposed land uses.

(13) The location of the proposed regulated activity relative to streets, municipal boundaries, and other significant man-made features.

(14) Significant physical features and associated boundary limits, including flood hazard areas, sinkholes, existing drainage courses, and areas of natural vegetation.

(15) The location of existing and proposed utilities, stormwater facilities, sanitary sewers, and water lines on the parcel and within 50 feet of property lines.

(16) Proposed changes to the land surface and vegetative cover, and the type and amount of existing and proposed impervious area.

(17) Existing and proposed structures, buildings, streets, driveways, access drives, and parking areas.

(18) Preferred contour intervals of two feet in moderately sloped areas, and contours at intervals of five feet for slopes in excess of 15%. Dependent upon site conditions, alternative contour intervals proposed by an applicant or his designee may be accepted by the Borough.

(19) The name of the development, the name and address of the owner of the property, and the name and address of the individual or firm preparing the plan. Also to be included are the name, address, signature and seal of any registered surveyor (attesting the accuracy of the boundary survey), professional engineer, landscape architect, or professional geologist (for geomorphological assessments) contributing to and/or with a responsibility for any aspect of the plan where applicable.

(20) Preferred graphic and written scale of one inch equals no more than 50 feet. For parcels of 20 acres or more, the preferred scale is one inch equals no more than 100 feet. Dependent upon site conditions, an alternative scale proposed by the applicant or his designee may be accepted by the Borough.

(21) North point (arrow).

(22) A map showing all existing man-made features beyond the subject parcel's boundary lines that will be affected by the proposed regulated activities.

(23) Horizontal and vertical profiles of all open channels, including hydraulic capacity.

(24) A note on the plan indicating the location, and responsibility for maintenance of, SWM facilities and/or easements that would be located on adjoining properties as a result of proposed regulated activities, and the location of such facilities and/or easements.

(25) A hydrogeologic assessment of the effects of stormwater runoff on sinkholes, where present.

(26) The effect of the proposed regulated activity in terms of runoff volumes and peak flows on adjacent properties and/or any existing municipal stormwater collection system that may receive runoff from the project site.

(27) Drainage flow pathways.

§ 339-21. Plan submission.

A. Three copies of the SWM site plan shall be submitted as follows:

(1) Two copies to the Borough.

(2) One copy to the York County Planning Commission when a SWM site plan accompanies a subdivision/land development plan application.

B. Additional copies shall be submitted as requested by the Borough or DEP.

C. The Borough may establish a fee schedule for the review of SWM plans, the amount of which shall be set by resolution of the Borough Council.

§ 339-22. Plan review and approval procedure.

A. SWM site plans shall be reviewed by the Borough for consistency with the provisions of this chapter.

B. Modification requests:

(1) When reviewing a SWM site plan, whether or not the SWM site plan is included in a subdivision and/or land development plan application, the Borough's governing body may, after consulting with DEP as noted in § 339-10C of this chapter, grant a modification of the requirements of one or more provisions of this chapter if the literal enforcement will enact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of this chapter is observed.

(2) All requests for modifications from an applicant shall be in writing and shall accompany and be a part of the application for approval of a SWM site plan and/or a subdivision or land development plan as applicable. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of this chapter involved and the minimum modification necessary.

(3) In granting of any modification, the Borough may attach such reasonable conditions and safeguards as it may deem necessary to implement the purposes of the Act 167 Plan and this chapter.

(4) The governing body of the Borough shall keep a written record of all action on requests for modifications. The response of any consultation and/or review by DEP shall be included as an original report if available or otherwise documented in the required written record.

C. SWM site plan review and approval procedure:

(1) If a SWM site plan does not involve a subdivision and/or land development, the review of the SWM site, recommendations, approval, approval with conditions, or disapproval, i.e., the review and decision period, shall occur within 45 days of submission to the Borough. However, the Borough, in its sole discretion, may extend the review and decision period another 45 days due to the nature of the application and/or site conditions. If an extension of another 45 days is imposed or granted by the Borough beyond the first forty-five-day review and decision period designated by this subsection, the Borough shall notify the applicant, in writing, and deliver such notice to said applicant within 15 days of the decision to extend the review and decision period by the Borough. If no extension is imposed or granted by the Borough beyond the first forty-five-day review and decision period, and no decision has been rendered by the Borough within that period, the SWM site plan shall be deemed approved. Similarly, if after a forty-five-day extension of the review and decision period has been imposed or granted by the Borough, and no decision has been rendered by the Borough within that period, the SWM site plan shall be deemed approved.

(2) If a SWM site plan involves a subdivision and/or land development plan, the period of time from the submission to the Borough of the subdivision and/or land development plan application which includes the SWM plan and the approval, approval with conditions, or disapproval, i.e., review and decision period, shall be 90 days, in accordance with the procedure for approval of plats in § 508 of the Pennsylvania Municipalities Planning Code.[6]

(3) From the time an application for approval of a plat involving a subdivision or land development plan, whether preliminary or final, which includes a SWM site plan, is duly filed with the Borough, no change or amendment of this chapter or other governing ordinance or plan shall affect the decision on such application in accordance with the provisions of the governing ordinances or plans as they stood at the time the application was duly filed, as specified in § 508(4)(i) of the Pennsylvania Municipalities Planning Code.

D. Decision notification procedure. In all cases, the decision of the Borough to approve or disapprove the SWM site plan shall be in writing and shall be delivered to the applicant no later than 15 days following the decision. If the SWM site plan is disapproved, the written decision by the Borough shall specify the defects in the application, describe the requirements which were not met, and shall cite the provisions of this chapter relied upon. If the SWM site plan is approved with conditions, the notification to the applicant shall state the acceptable conditions for approval and the time limit for satisfying such conditions. The time limit for satisfying conditions of approval shall be the time limit prescribed for conditional approval of subdivision and land development plans as stated in the Chapter 350, Subdivision and Land Development, or the York County Subdivision and Land Development Ordinance, where applicable.

§ 339-23. Revision of plans.

A revision to a previously submitted SWM site plan that involves a change in SWM BMPs, stormwater management facilities, or changes in analytical techniques, or that involves the relocation or redesign of SWM BMPs, or that is necessary because soil or other conditions are not as stated on the SWM site plan, as determined by the Borough, shall require a resubmission of the revised SWM site plan in accordance with this article, including applicable fees. For NPDES permitted sites, any revised SWM site plan shall also be resubmitted to the York County Conservation District for review. In the case of a SWM site plan which contains minor deficiencies, such as a missing label, omission of a required note or minor construction detail, as determined by the Borough, the Borough may accept a resubmission of such SWM site plan without the requirement of a review fee, or for a lesser fee as provided for in the Borough fee schedule.

§ 339-24. Resubmission of disapproved SWM site plans.

A disapproved SWM site plan may be resubmitted, with the revisions addressing the Borough's concerns as stated regarding the original submission, to the Borough in accordance with this article. The applicable review fee must accompany the submission of a revised SWM site plan, unless such fee is waived by the Borough. (See § 339-23.)

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6. **Editor's Note: See 53 P.S. § 10508.**

§ 339-25. Authorization to construct and term of validity.

A. SWM site plans independent of subdivision and land development plans. The Borough's approval of a SWM site plan, when such plan is submitted independent of a subdivision and/or land development plan, authorizes the regulated activities contained in the SWM site plan for a maximum term of validity of five years following the date of approval. The Borough may, in its sole discretion, specify a term of validity shorter than five years in the approval for any specific SWM site plan, particularly if the nature of the proposed SWM facilities require more frequent maintenance and/or short-term replacement of certain components. Terms of validity shall commence on the date the Borough signs the approval for an SWM site plan. If an approved SWM site plan is not completed according to § 339-26 within the term of validity, then the Borough may consider the SWM site plan disapproved and may revoke any and all permits. SWM site plans that are considered disapproved by the Borough may be resubmitted in accordance with § 339-24 of this chapter.

B. SWM site plans included in a subdivision and/or land development plan. The Borough's approval of a SWM site plan, which is a part of a subdivision and/or land development plan, authorizes that plan and the regulated activities therein so that no subsequent change or amendment in this chapter or other governing ordinances or plans shall be applied to affect adversely the right of the applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five years from such approval, as specified in § 508(4)(ii) through (vii) of the Pennsylvania Municipalities Planning Code.

§ 339-26. As-built plans, completion certificate, and final inspection.

A. The developer shall be responsible for providing as-built plans of all SWM BMPs included in the approved SWM site plan. The as-built plans and an explanation of any discrepancies with the construction plans shall be submitted to the Borough.

B. The as-built submission shall include a certification of completion signed by a qualified person verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. If any licensed qualified person materially contributed to the construction plans, then a licensed qualified person must sign the completion certificate.

C. After receipt of the completion certification by the Borough, the Borough may conduct a final inspection to verify compliance with and accuracy of the as-built plans.

D. The financial guarantee, as discussed under § 339-30, shall not be released by the Borough until the items of this section are completed.

ARTICLE V
Construction Inspections

§ 339-27. Schedule of inspections.

A. The Borough Engineer or his Borough assignee shall inspect phases of the installation of the permanent stormwater management facilities as deemed appropriate by the Borough Engineer. It is the responsibility of the permittee to notify the Borough Engineer 48 hours in advance of the beginning of construction of stormwater management facilities.

B. During any stage of the work, if the Borough Engineer determines that the permanent stormwater management facilities are not being installed in accordance with the approved stormwater management site plan, the Borough may suspend or revoke any existing approvals issued under this chapter until installation is rectified and/or a revised stormwater management site plan is submitted and approved, as specified in this chapter.

ARTICLE VI
Operation and Maintenance

§ 339-28. Responsibilities of developers and landowners.

A. The Borough shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM site plan. The Borough may require dedication of such facilities as part of the requirements for approval of the SWM site plan. Such a requirement is not an indication that the Borough will accept the facilities. The Borough reserves the right to accept or reject the ownership, maintenance, and operating responsibility for any portion(s) of the stormwater management facilities and controls.

B. Facilities, areas, or structures included in the SWM site plan and used as stormwater management BMPs shall be enumerated as permanent real estate appurtenances and recorded in the York County Recorder of Deeds Office as deed restrictions/ protective covenants or easements that run with the land, as may be required by the Borough.

C. The operation and maintenance (O&M) plan shall be recorded as a restrictive deed covenant that runs with the land.

D. The Borough may take enforcement actions against an owner for any failure to satisfy the provisions of this article.

E. No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures without the written approval of the Borough, with the exception of necessary maintenance activities such as mowing.

§ 339-29. Operation and maintenance agreements.

A. Prior to final approval of the SWM site plan, the property owner shall sign and record an operation and maintenance (O&M) agreement (see Appendix A[7]) covering all stormwater control facilities which are to be privately owned.

   (1) The owner, successor and assigns shall maintain all facilities in accordance with the approved maintenance schedule in the O&M plan.

   (2) The owner shall convey to the Borough easements to assure access for periodic inspections by the Borough and maintenance, as necessary.

   (3) The owner shall keep on file with the Borough the name, address, and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information shall be submitted by the owner to the Borough within 10 working days of the change.

B. The owner is responsible for operation and maintenance (O&M) of the SWM BMPs. If the owner fails to adhere to the O&M agreement, the Borough may perform the services required and charge the owner appropriate fees. Nonpayment of fees may result in a lien against the property.

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7. Editor's Note: Appendix A is included as an attachment to this chapter.

C. The Borough is exempt from the requirement to sign and record an operation and maintenance agreement.

§ 339-30. Performance guarantee.

For SWM site plans that involve subdivision and land development, the applicant shall provide a financial guarantee to the Borough for the timely installation and proper construction of all stormwater management controls as required by the approved SWM site plan and this chapter in accordance with the provisions of §§ 509, 510, and 511 of the Pennsylvania Municipalities Planning Code.

§ 339-31. Maintenance guarantee.

For SWM site plans that involve the dedication of all or some of the required improvements following completion, the Borough may require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the SWM site plan for a term not to exceed 18 months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in § 339-30 with regard to installation of such improvements, and the amount of the financial security shall not exceed 15% of the actual cost of installation of said improvements in accordance with the provisions of § 509 of the Pennsylvania Municipalities Planning Code.

§ 339-32. Municipal Stormwater Maintenance Fund.

A. Persons installing stormwater storage facilities shall be required to pay a specified amount to the Municipal Stormwater Maintenance Fund to help defray costs of periodic inspections and maintenance expenses. The amount of the deposit shall be determined as follows:

(1) If the storage facility is to be privately owned and maintained, the deposit shall cover the cost of periodic inspections performed by Borough for a period of 10 years, as estimated by the Borough Engineer. After that period of time, inspections expenses will be assessed by Borough on an as needed basis thereafter.

(2) If the storage facility is to be owned and maintained by Borough, the deposit shall cover the estimated costs for maintenance and inspections for 10 years. The Borough Engineer will establish the estimated costs utilizing information submitted by the applicant.

(3) The amount of the deposit to the fund shall be converted to present worth of the annual series values. The Borough Engineer shall determine the present worth equivalents which shall be subject to the approval of the governing body.

(4) The general formula for calculating the annual inspection fee shall be as follows:

(a) ITi x IR x Ni = ICi.

(b) ICi + ICii + . . . = Ic.

(c) 0.25 (IC) = AC.

(d) IC + AC = Annual inspection cost.

(e) Where:

[1] ITi = Inspection time per SWM BMP (varies per BMP).

[2] IR = Inspection rate (varies per year).

[3] Ni = Quantity of particular SWM BMP.

[4] ICi = Inspection cost for particular SWM BMP.

[5] IC = Total inspection cost of all SWM BMPs.

[6] AC = Administrative cost.

ARTICLE VII
Fees and Expenses

§ 339-33. General.

A. The developer shall be required to submit a subdivision/land development or building permit application prior to any stormwater management facilities construction. The fee for plan reviews, permit issuance, and inspections shall be established by resolution of the Borough Council to defray the following expenses:

(1) The review of the stormwater management/erosion and sedimentation control plan by the Borough Engineer.

(2) The site inspections.

(3) The inspection of stormwater management facilities and drainage improvements during construction.

(4) The final inspection upon completion of the stormwater management facilities and drainage improvements presented in the stormwater management/erosion and sedimentation control plan.

(5) Any additional work required to enforce any permit provisions regulated by this chapter, correct violations, and assure proper completion of stipulated remedial actions.

B. All fees shall be paid by the applicant at the time of application and shall be included in the required deposit for review of subdivision/land development plans.

C. Any additional costs incurred by Borough in the administration of this chapter shall be charged to the applicant and shall be paid promptly by the applicant. Upon completion of the construction of the stormwater management facility and upon final approval thereof by the Borough Engineer, any monies in excess of the Borough's costs or expenses deposited by the applicant shall be refunded to the applicant.

§ 339-34. Stormwater facilities fee.

In addition to any other permit fees required by this article, all new construction and additions to present structures that create impervious surface, including parking lots, driveways, patios and walkways, except curbs and sidewalks within public rights-of-way, shall be assessed a fee in such amount as shall be from time to time established by the Borough Council by resolution. All fees collected pursuant to this subsection shall be deposited in an escrow account to be used for the construction, maintenance and improvement of stormwater facilities within the Borough.

ARTICLE VIII
Detection and Elimination of Illicit Discharges and Connections to the Municipal Separate Storm Sewer System

§ 339-35. Ultimate responsibility.

A. Minimum standards. The standards set forth herein and promulgated by this article are minimum standards; therefore, this chapter does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

B. Property owner inspection. SWM BMPs included in the approved SWM site plan shall be inspected by the landowner, or the owner's designee, including the Borough for dedicated and owned facilities, according to the following list of minimum frequencies:

(1) Annually.

(2) During or immediately after the cessation of a ten-year or greater storm.

(3) A report of all inspections conducted in a calendar year shall be submitted to the Borough annually on or before February 15 of the following calendar year.

(4) All inspection records shall be maintained by the landowner for no less than five years from when created and shall be made available to the Borough upon written request.

C. Notification of spills or releases.

(1) Notwithstanding other requirements of law, as soon as any person responsible for a facility, property, or operation, or responsible for emergency response for a facility, property, or operation has information of any known or suspected release of materials which are resulting or may result in illicit discharges or pollutants discharging into stormwater, a stormwater facility, the storm drain system, or water of the Commonwealth of Pennsylvania, said person shall take all necessary steps to ensure the discovery, immediate containment, and cleanup of such release.

(2) In the event of a release of hazardous materials, said person shall immediately notify appropriate emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of nonhazardous materials, said person shall notify the authorized enforcement agency in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to Borough within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial property, the owner or operator of such property shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

§ 339-36. Prohibition of illicit discharges.

A. No person shall discharge or cause to be discharged in to storm drain, stormwater system or facility, or waters of this commonwealth any materials, including, but not limited to, pollutants or waters containing pollutants, that cause or contribute to a violation of applicable water quality standards. Any discharge in violation of this chapter shall be considered illicit discharges, except as exempted below.

B. The commencement, conduct, allowance, or continuation of any illicit discharge to the storm drain system, a stormwater system or facility, or waters of this commonwealth is prohibited except as follows:

(1) Discharges from fire-fighting activities.

(2) Potable water sources including water line flushing.

(3) Irrigation drainage.

(4) Air-conditioning condensate.

(5) Springs.

(6) Water from crawl space pumps.

(7) Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.

(8) Diverted stream flows.

(9) Groundwater infiltration to storm drains.

(10) Crawl space pumps.

(11) Flows from riparian habitats and wetlands.

(12) Uncontaminated water from foundations or from footing drains.

(13) Lawn watering.

(14) Dechlorinated swimming pool discharges (less than one PPM chlorine).

(15) Uncontaminated groundwater.

(16) Water from individual residential car washing.

(17) Routine external building wash down (which does not use detergents or other compounds).

(18) Water discharged in well testing for potable water sources.

(19) Uncontaminated pumped groundwater.

(20) Discharges specified, in writing, by the Borough as being necessary to protect public health and safety.

(21) Dye testing is an allowable discharge, but requires a verbal notification to the Borough 48 hours prior to the time of the test.

(22) The prohibition shall not apply to any nonstormwater discharge permitted under an NPDES permit, written or regulatory waiver, or waste discharge order issued to the discharger and administered under the authority of DEP.

C. In the event that the Borough or DEP determines that any of the discharges identified in § 339-36B significantly contribute to pollution of the waters of this commonwealth, Borough or DEP will notify the responsible person(s) to cease the discharge.

§ 339-37. Prohibition of illicit connections.

The construction, use, maintenance or continued existence of illicit connections to the storm drain system or a stormwater facility, or waters of this commonwealth is prohibited.

A. This prohibition expressly includes, 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.

B. A person is considered to be in violation of this article if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

ARTICLE IX
Enforcement and Penalties

§ 339-38. Right of entry.

A. General. Upon presentation of proper credentials, the Borough may enter at reasonable times upon any property within the Borough to inspect the condition of the stormwater structures and all related facilities regulated by this chapter.

B. Industrial activity and construction discharges. This section applies to all facilities that have stormwater discharges associated with industrial activity, including construction activity. Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Borough prior to the allowing of discharges to the MS4.

(1) Access to facilities.

(a) The Borough shall be permitted to enter and inspect facilities subject to regulation under this article as often as may be necessary to determine compliance with this article. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the Borough.

(b) Facility operators shall allow the Borough ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law.

(c) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the Borough and shall not be replaced. The costs of clearing such access shall be borne by the operator.

(2) Borough rights.

(a) The Borough shall have the right to set up on any permitted facility such devices as are necessary, in the opinion of the Borough, to conduct monitoring and/or sampling of the facility's stormwater discharge.

(b) The Borough has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

C. No unreasonable delay. Unreasonable delays in allowing the Borough access to any stormwater structures and/or related facilities is a violation of a stormwater discharge permit and of this chapter. A person who is the owner/operator of a

property, a facility with an NPDES permit to discharge stormwater, or any stormwater structure or facility commits an offense if the person unreasonably delays or denies the Borough reasonable access to the property and/or facility for the purpose of conducting any activity authorized or required by this chapter.

§ 339-39. Violations and nuisance.

A. It shall be unlawful for a person to undertake any regulated activity except as provided in an approved SWM site plan, unless specifically exempted in § 339-11.

B. It shall be unlawful to violate any section(s) of this chapter.

C. In addition to the enforcement processes and penalties provided herein, any condition caused or permitted to exist in violation of any of the provisions of this chapter is declared and deemed a public nuisance. Where such condition constitutes a threat to public health, safety, welfare or the environment, it may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken as set forth in this chapter.

§ 339-40. Emergency suspension of MS4 access.

A. Suspension in emergency situations. The Borough, without prior notice, may issue an order to suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health, safety or welfare of persons, or to the MS4 or waters of the Commonwealth of Pennsylvania. If the violator fails to comply with an order issued in an emergency, the Borough may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the Commonwealth of Pennsylvania, or to minimize danger to persons, including, without limitations, entering the property for the purpose of disconnecting and/or performing emergency maintenance or repairs to storm sewers. In the event the Borough must disconnect or perform emergency maintenance and/or repairs, the Borough may file and attach a municipal lien on the property which is causing illicit discharge.

B. Reconnection prohibited. A person commits an offense if the person reconnects premises to the MS4 system once suspended pursuant to this section, without prior Borough written approval issued by an authorized representative of the Borough.

§ 339-41. Enforcement.

A. Notice of violation. Whenever the Borough finds that a person has violated a prohibition or failed to meet a requirement of this chapter or a permit issued hereunder, the Borough shall issue a written notice of violation (NOV) to the property owner and/or operator. Such NOV shall set forth basis and nature of the violation(s), section(s) violated, and shall identify the property and shall require response from the recipient.

B. Orders.

(1) Where the Borough has identified a violation, it may order compliance by

written order to the responsible person(s), including a property owner or operator. Such order may require, without limitation:

(a) The performance of monitoring, analyses, and reporting;

(b) The elimination of illicit connections or discharges;

(c) That violating discharges, practices, or operations shall cease and desist;

(d) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(e) Payment of a fine to cover administrative and remediation costs; and

(f) The implementation of source control or treatment BMPs.

(2) If abatement of a violation and/or restoration of affected property is required, the order may set forth a deadline within which such action(s) must be completed.

(3) Failure to comply within the time specified shall subject such person to the penalty provisions of this chapter. All such penalties shall be deemed cumulative and does not prevent the Borough from pursuing any and all remedies. It shall be the responsibility of the owner of the real property on which any regulated activity is proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this chapter.

C. Termination of discharge. Any person discharging to the MS4 in violation of this chapter may have their MS4 access terminated if such termination would abate a threat to public safety, health or the environment or would terminate an illicit discharge. The Borough will notify a violator of the proposed termination of its MS4 access.

D. Appeals.

(1) Any person receiving an order from the Borough may appeal to the Borough Council within 30 days from the date of the order. A hearing on the appeal before the Borough Council or its designee shall take place within 15 days from the date of receipt of the notice of appeal.

(2) Any person aggrieved by any decision of the Borough, relevant to the provisions of this chapter, may appeal to the York County Court of Common Pleas within 30 days of the Borough's decision.

E. Borough action after appeal.

(1) Cost of abatement of violation. If the violation has not been corrected pursuant to the requirements set forth in the order, or, in the event of an appeal, within 15 days of the hearing representative's decision upholding the decision of the Borough, then representatives of the Borough may enter upon the subject private property and may take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent, or person in possession of any premises to refuse to allow the Borough or designated contractor to enter upon the premises for the purposes

set forth above.

(2) Notice of cost of abatement. Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may thereafter file a written protest objecting to the amount of the assessment within 30 days. If the amount due is not paid within a timely manner as determined by the decision of the Borough or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a municipal lien on the property for the amount of the assessment.

(3) Payment of abatement costs. Any person violating any of the provisions of this article shall become liable to the Borough by reason of such violation. The liability shall be paid in not more than 12 equal payments. Interest at the rate of 12% per annum shall be assessed on the balance beginning on the 1st day following discovery of the violation.

§ 339-42. Suspension, revocation, and termination.

A. Any approval or permit issued by the Borough pursuant to this chapter may be suspended, revoked, or terminated for:

(1) Noncompliance with or failure to implement any provision of the approved SWM site plan or O&M agreement.

(2) A violation of any provision of this chapter or any other applicable law, ordinance, rule, or regulation relating to the regulated activity.

(3) The creation of any condition or the commission of any act during the regulated activity which constitutes or creates a hazard, nuisance, pollution, or endangers the life or property of others.

(4) Actions that establish an inability or an unwillingness to comply with this chapter.

B. A suspended approval shall be reinstated by the Borough in writing when:

(1) The Borough has inspected and approved the corrections to the violations that caused the suspension.

(2) The Borough is satisfied that the violation has been corrected.

C. An approval that has been revoked or terminated by the Borough cannot be reinstated. The applicant may apply for a new approval under the provisions of this chapter.

D. If a violation causes no immediate danger to life, public health, or property, at its sole discretion, the Borough may provide a limited time period for the owner to correct the violation. In these cases, the Borough will provide the owner, or the owner's designee, with a written notice of the violation and the time period allowed for the owner to correct the violation. If the owner does not correct the violation within the allowed time period, the Borough may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this chapter.

§ 339-43. Remedies; violations and penalties.

A. Civil penalties. Any person, partnership or corporation who or which has violated the provisions of this chapter shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Borough, pay a civil penalty of not more than $1,000 per violation, per day. If the defendant neither pays nor timely appeals the civil penalty assessment, the Borough may enforce the penalty pursuant to applicable laws and rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the Magisterial District Judge determining that there has been a violation and the extent to which a fine is appropriate. The York County Court of Common Pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.

B. Injunctive relief. It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this chapter. The Borough may institute injunctive, mandamus, or any other appropriate action or proceeding at law or in equity for the enforcement of this chapter and to restrain actions that would create further violation(s) or compelling action to terminate, abate, or remediate violation.

C. Criminal prosecution. Any person that has violated or continues to violate this any section of this chapter may be subject to criminal prosecution to the fullest extent of the law, and may be subject to a criminal penalty of up to $1,000 per violation per day and/or imprisonment for a period of time not to exceed 90 days.

D. Attorneys' fees and costs. The Borough may recover all attorneys' fees, court costs and other expenses associated with enforcement of this chapter, either criminal or civil, including sampling and monitoring expenses or other costs of investigation.

E. Remedies not exclusive. The remedies listed in this chapter are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the Borough to seek cumulative remedies.

ARTICLE X
References

§ 339-44. Chapter references.

A. Pennsylvania Department of Environmental Protection, No. 363-0300-002 (December 2006), as amended and updated, Pennsylvania Stormwater Best Management Practices Manual, Harrisburg, PA.

B. Pennsylvania Department of Environmental Protection, No. 363-2134-008 (April 15, 2000), as amended and updated, Erosion and Sediment Pollution Control Program Manual, Harrisburg, PA.

C. U.S. Department of Agriculture, National Resources Conservation Service (NRCS), National Engineering Handbook, Part 630: Hydrology, 1969-2001. Originally published as the National Engineering Handbook, Section 4: Hydrology. Available from the NRCS online at: http://www.nrcs.usda.gov/.

D. U.S. Department of Agriculture, Natural Resources Conservation Service, 1986, Technical Release 55: Urban Hydrology for Small Watersheds, 2nd Edition. Washington, D.C.

E. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Hydrometeorological Design Studies Center, 2004-2006, Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0, Silver Spring, Maryland. Internet address: http://hdsc.nws.noaa.gov/hdsc/pfds/.

F. Act of July 31, 1968, P.L. 85, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

ATTACHMENT 5.1

BMP STANDARD OPERATION PROCEDURES

Standard Operating Procedures for the Maintenance of Stormwater BMPs

Spring Grove, York County, Pennsylvania

ARRO Project Number:

10856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

Table of Contents

INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for operation and maintenance procedures for best management practices (BMPs.)

The goal of this SOP is to ensure that all BMPs owned by the Borough are inspected and maintained properly according to their type in order to successfully treat stormwater before it enters the surface waters. Borough personnel are required to follow this manual when conducting operation and maintenance activities on BMPs.

BMPs

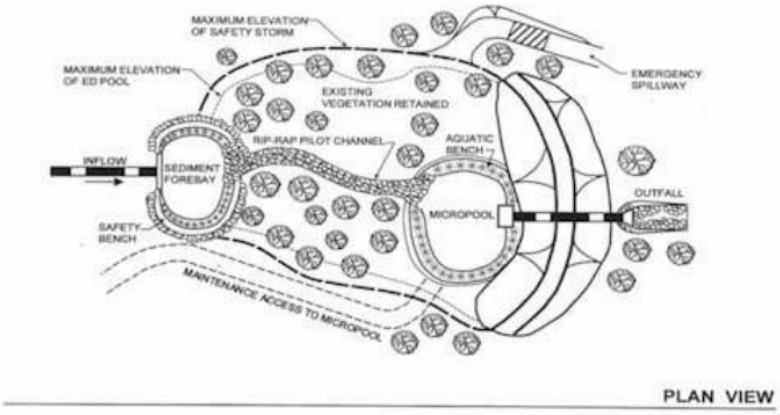
Types of structural BMPs in the Borough may include the following: pervious pavement with infiltration beds, infiltration basins, subsurface infiltration beds, infiltration trenches, rain gardens/bioretention, vegetated swales, constructed wetlands, wet ponds/retention basins, and dry extended detention basins.

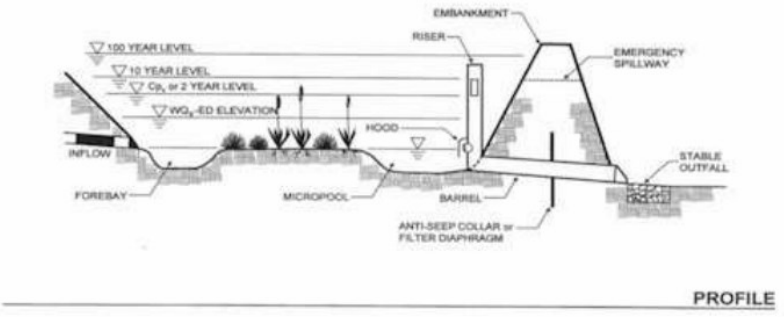
This document has two sections, the first describes the types of BMPs that comprised the existing BMPs described in the Pollutant Reduction Plan. The second are types of BMPs that are not within the municipal BMP inventory, however they are types of BMPs that the Pennsylvania Department of Environmental Protection

BMP TYPES THAT ARE WITHIN THE MUNICIPALITY

Dry Extended Detention Basins

A dry extended detention basin is an earthen structure constructed either by impoundment of a natural depression or excavation of existing soil, that provides temporary storage of runoff and functions hydraulically to attenuate stormwater runoff peaks. The dry detention basin, as constructed in countless locations since the mid-1970's and representing the primary BMP measure until now, has served to control the peak rate of runoff, although some water quality benefit accrued by settlement of the larger particulate fraction of suspended solids. This extended version is intended to enhance this mechanism in order to maximize water quality benefits. The basin outlet structure must be designed to detain runoff from the stormwater quality design storm for extended periods. Some volume reduction is also achieved in a dry basin through initial saturation of the soil mantle (even when compacted) and some evaporation takes place during detention. The net volume reduction for design storms is minimal, especially if the precedent soil moisture is assumed as in other volume reduction BMPs.





Variations

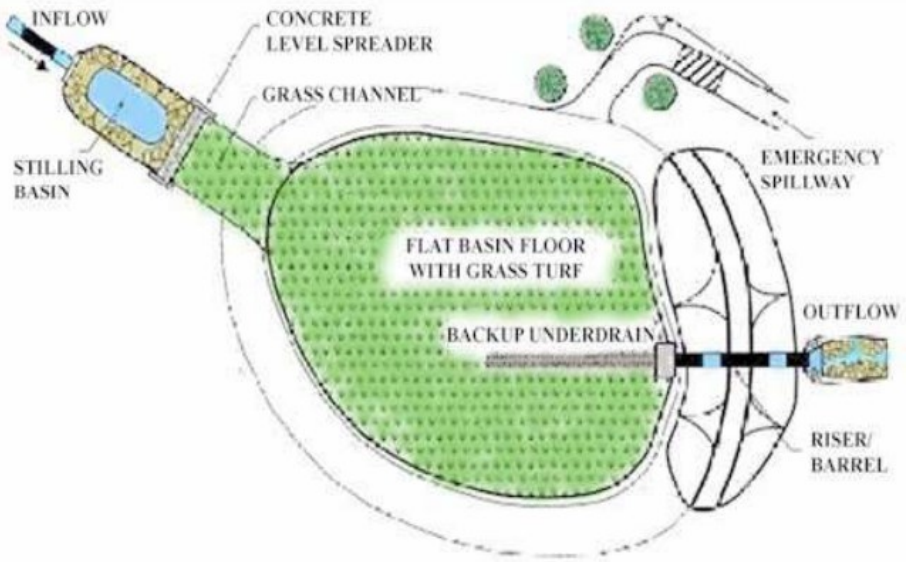
Sub-surface extended detention Extended detention storage can also be provided in a variety of sub-surface structural elements, such as underground vaults, tanks, large pipes or other structural media placed in an aggregate filled bed in the soil mantle. All such systems are designed to provide runoff peak rate mitigation as their primary function, but some pollutant removal may be included. Regular maintenance is needed since the structure must be drained within a design period and cleaned to assure detention capacity for subsequent rainfall events. These facilities are usually intended for space-limited applications and are not intended to provide significant water quality treatment.

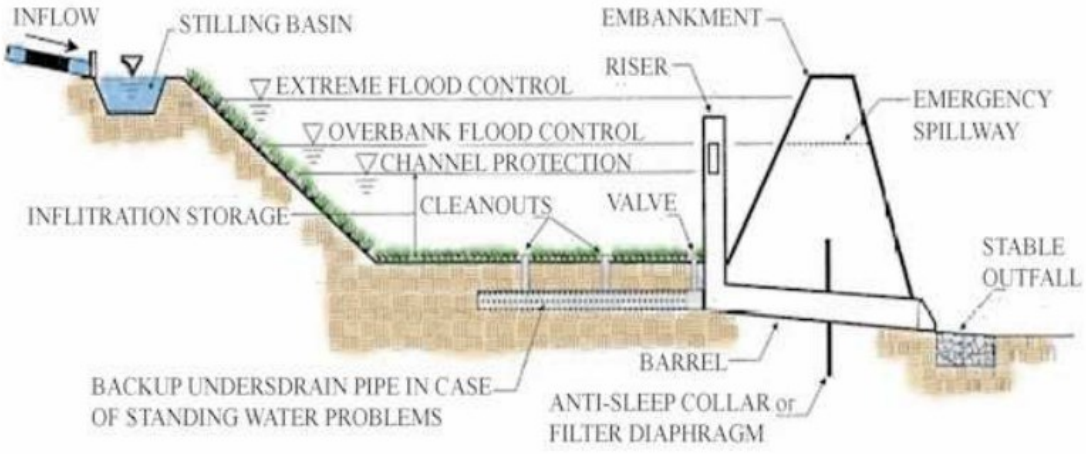
Maintenance and Inspection Required

- All basin structures expected to receive and/or trap debris and sediment should be inspected for clogging and excessive debris and sediment accumulation at least 4 times per year, as well as after every storm greater than 1 inch.
    - Structures include basin bottoms, trash racks, outlet structures, riprap or gabion structures, and inlets.
- Sediment removal should be conducted when the basin is completely dry. Sediment should be disposed of properly and once sediment is removed, disturbed areas need to be immediately stabilized and revegetated.
- Mowing and/or trimming of vegetation should be performed as necessary to sustain the system, but all detritus should be removed from the basin.
    - Vegetated areas should be inspected annually for erosion.
    - Vegetated areas should be inspected annually for unwanted growth of exotic/invasive species.
    - Vegetative cover should be maintained at a minimum of 95%. If vegetative cover has been reduced by 10%, vegetation should be reestablished.

Infiltration Basins

An Infiltration Basin is a shallow impoundment that stores and infiltrates runoff over a level, uncompacted, (preferably undisturbed area) with relatively permeable soils.



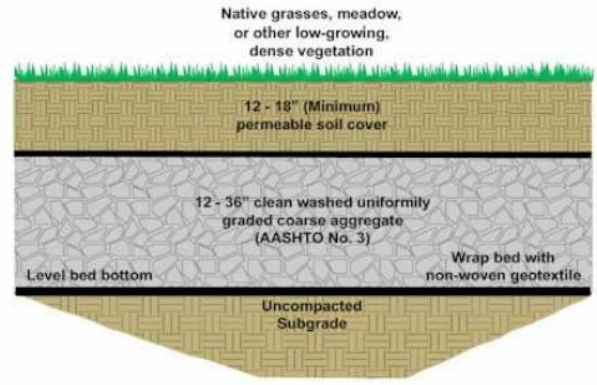


Maintenance and Inspection Required

- Catch Basins and Inlets (upgradient of infiltration basin) should be inspected and cleaned at least two times per year and after runoff events.
- The vegetation along the surface of the Infiltration basin should be maintained in good condition, and any bare spots revegetated as soon as possible.
- Vehicles should not be parked or driven on an Infiltration Basin, and care should be taken to avoid excessive compaction by mowers.
- Inspect the basin after runoff events and make sure that runoff drains down within 72 hours.
- Inspect for accumulation of sediment, damage to outlet control structures, erosion control measures, signs of water contamination/spills, and slope stability in the berms
- Mow only as appropriate for vegetative cover species.
- Remove accumulated sediment from basin as required. Restore original cross section and infiltration rate. Properly dispose of sediment.

Subsurface Infiltration Beds

Subsurface Infiltration Beds provide temporary storage and infiltration of stormwater runoff by placing storage media of varying types beneath the proposed surface grade. Vegetation will help to increase the amount of evapotranspiration taking place.

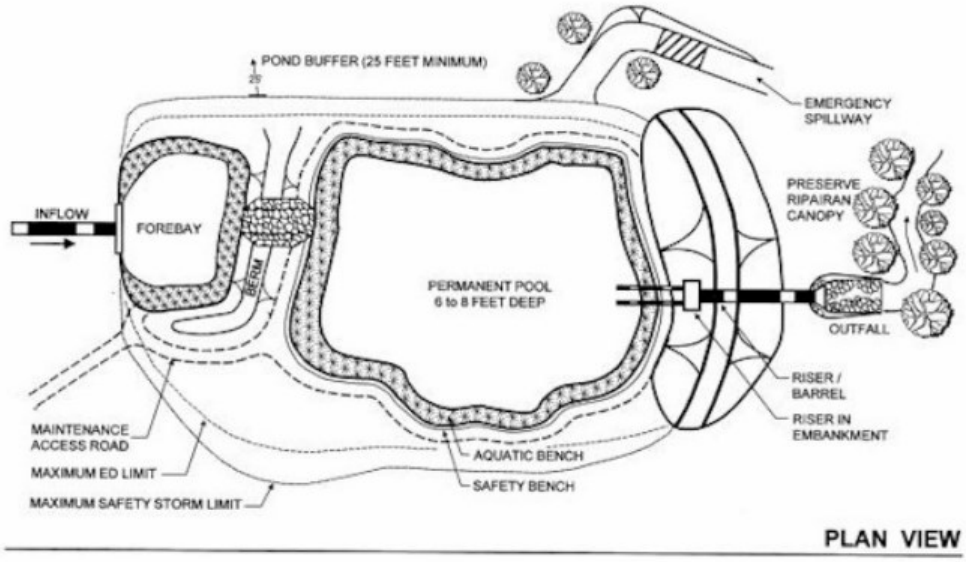


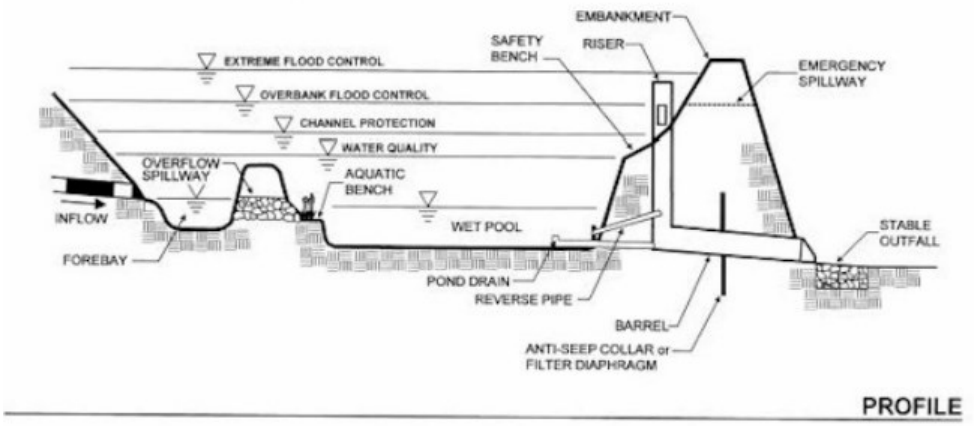
Maintenance and Inspection Required

- All Catch Basins and Inlets should be inspected and cleaned at least 2 times per year.
- The overlying vegetation of Subsurface Infiltration features should be maintained in good condition, and any bare spots revegetated as soon as possible.
- Vehicular access on Subsurface Infiltration areas should be prohibited, and care should be taken to avoid excessive compaction by mowers. If access is needed, use of permeable, turf reinforcement should be considered.

Wet Ponds/Retention Basins

Wet Ponds/Retention Basins are stormwater basins that include a substantial permanent pool for water quality treatment and additional capacity above the permanent pool for temporary runoff storage.



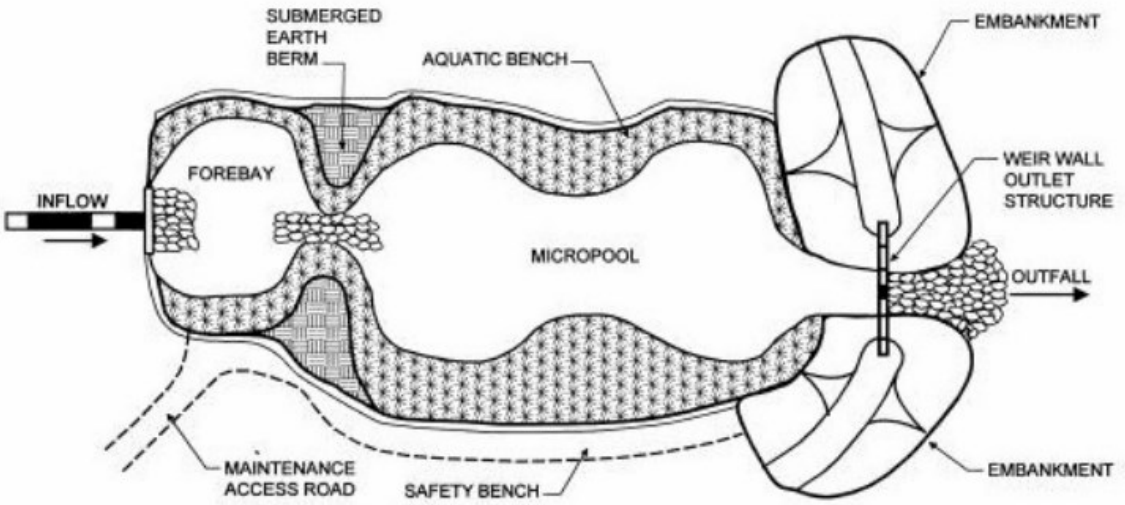


Variations

Wet Ponds primarily accomplish water quality improvement through displacement of the permanent pool and are generally only effective for small inflow volumes.

Wet Detention Ponds are similar to Wet Ponds but use extended detention as another mechanism for water quality and peak rate control.

Pocket Wet Ponds are smaller WPs that serve drainage areas between approximately 5 and 10 acres and are constructed near the water table to help maintain the permanent pool. They often include extended detention as well.



Maintenance and Inspection Required

During the first growing season, or until established, vegetation should be inspected every 2 to 3 weeks.

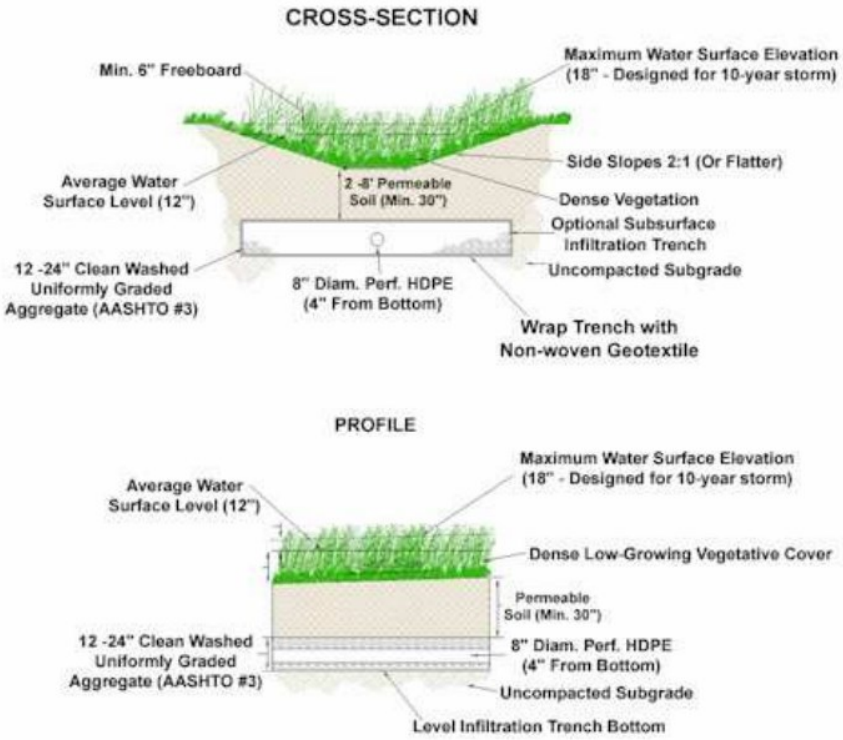
- Wet Pond and buffer vegetation may need support (watering, weeding, mulching, replanting, etc.) during the first 3 years.
    - Undesirable species should be carefully removed and desirable replacements planted if necessary.
- Wet ponds should be inspected at least 4 times per year and after major storms (> 2 inches of rainfall in 24 hours) or rapid ice breakup.
    - Inspections should assess the vegetation, erosion, flow channelization, bank stability, inlet/outlet conditions, embankment, and sediment/debris accumulation. The pond drain should also be inspected 4 times per year.
- Vegetation should maintain at least an 85% cover of the emergent vegetation zone and buffer area.

- Annual harvesting of vegetation may increase the nutrient removal. Care should be taken to avoid disturbance, especially of bottom sediments, during harvesting. The potential disturbance from harvesting may outweigh its benefits.
- Sediment should be removed from the forebay before it occupies 50% of the forebay, typically every 5 to 10 years.

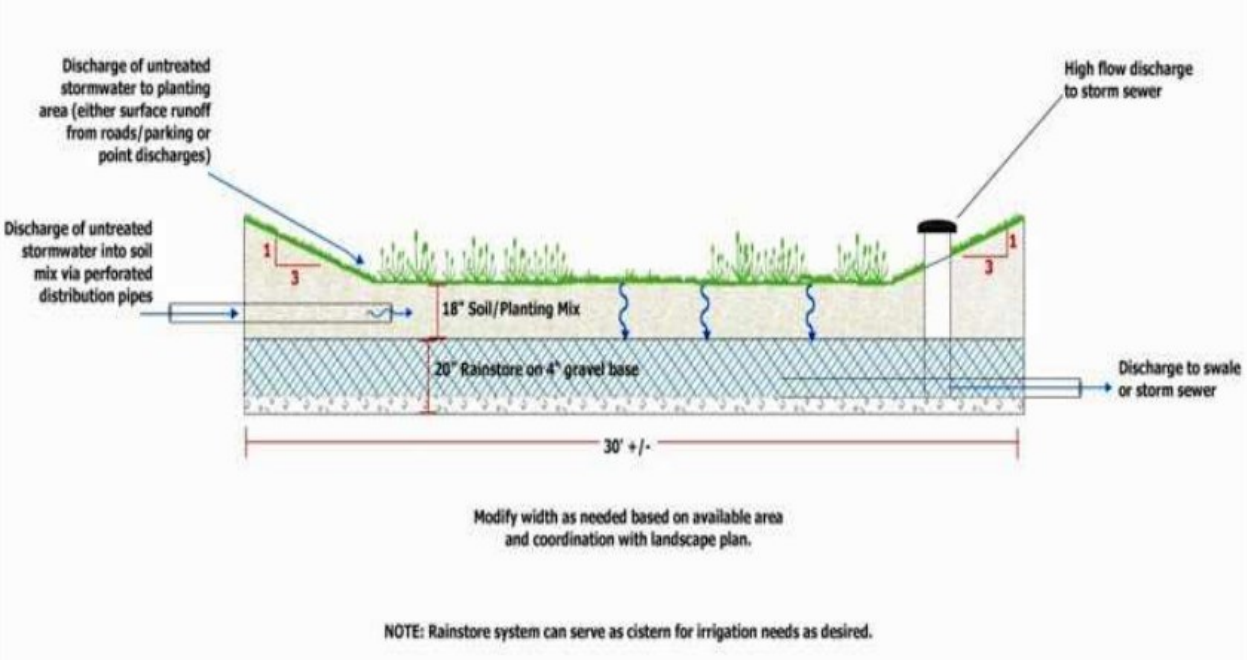
Vegetated Swales

A Vegetated Swale is a broad, shallow, trapezoidal or parabolic channel, densely planted with a variety of trees, shrubs, and/or grasses. It is designed to attenuate and in some cases infiltrate runoff volume from adjacent impervious surfaces, allowing some pollutants to settle out in the process. In steeper slope situations, check dams may be used to further enhance attenuation and infiltration opportunities.


Hawthorne Ridge Subdivision (SE 162nd, South of Foster)



Variations



Vegetated Swale with Infiltration Trench

This option includes a 12 to 24 inch aggregate bed or trench, wrapped in a nonwoven geotextile (See BMP 6.4.4 Infiltration Trench for further design guidelines). This addition of an aggregate bed or trench substantially increases volume control and water quality performance although costs also are increased.

Grass Swale

Grass swales are essentially conventional drainage ditches. They typically have milder side and longitudinal slopes than their vegetated counterparts. Grass swales are usually less expensive than swales with longer and denser vegetation. However, they provide far less infiltration and pollutant removal opportunities. Grass swales are to be used only as pretreatment for other structural BMPs. Design of grass swales is often rate-based. Grassed swales, where appropriate, are preferred over catch basins and pipes because of their ability to reduce the rate of flow across a site.

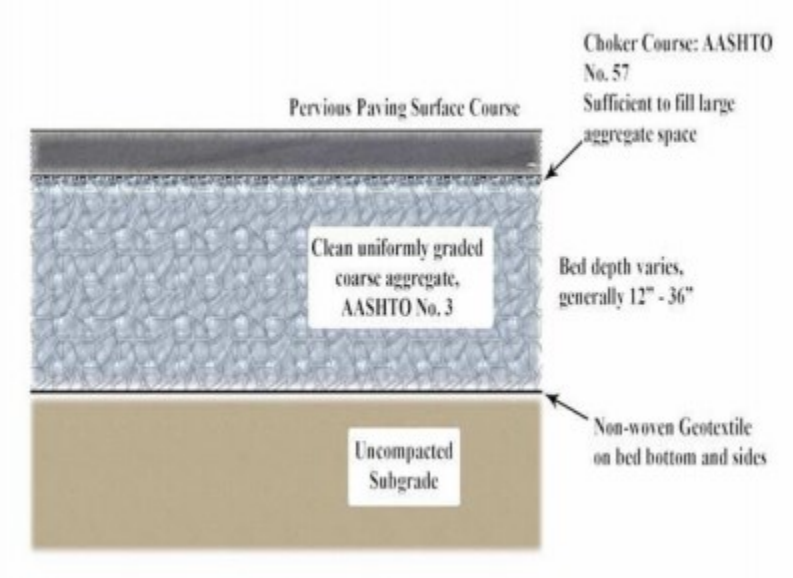
Wet Swales

Wet swales are essentially linear wetland cells. Their design often incorporates shallow, permanent pools or marshy conditions that can sustain wetland vegetation, which in turn provides potentially high pollutant removal.

Maintenance and Inspection Required

- Maintenance activities to be done annually and within 48 hours after every major storm event (> 1 inch rainfall depth)
    - Inspect and correct erosion problems, damage to vegetation, and sediment and debris accumulation (address when > 3 inches at any spot or covering vegetation)
    - Inspect vegetation on side slopes for erosion and formation of rills or gullies, correct as needed.
    - Inspect for pools of standing water; dewater and discharge to an approved location and restore to design grade.
    - Mow and trim vegetation to ensure safety, aesthetics, proper swale operation, or to suppress weeds and invasive vegetation; dispose of cuttings in a local composting facility; mow only when swale is dry to avoid rutting.
    - Inspect for litter; remove prior to mowing.
    - Inspect for uniformity in cross-section and longitudinal slope, correct as needed.
    - Inspect swale inlet (curb cuts, pipes, etc.) and outlet for signs of erosion or blockage, correct as needed.
- Maintenance activities to be done as needed
    - Plant alternative grass species in the event of unsuccessful establishment.
    - Reseed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming.
    - Rototill and replant swale if draw down time is more than 48 hours.
    - Inspect and correct check dams when signs of altered water flow (channelization, obstructions, erosion, etc.) are identified.
    - Water during dry periods, fertilize, and apply pesticide only when absolutely necessary.
- Winter maintenance considerations
    - Inspect swale immediately after the spring melt, remove residuals (e.g. sand) and replace damaged vegetation without disturbing remaining vegetation.
    - If roadside or parking lot runoff is directed to the swale, mulching and/or soil aeration/manipulation may be required in the spring to restore soil structure and moisture capacity and to reduce the impacts of deicing agents.
    - Use nontoxic, organic deicing agents, applied either as blended, magnesium chloride-based liquid products, or as pretreated salt.
    - Use salt-tolerant vegetation in swales.

Pervious Pavement with Infiltration Beds



Pervious pavement consists of a permeable surface course underlain by a uniformly-graded stone bed which provides temporary storage for peak rate control and promotes infiltration. The surface course may consist of porous asphalt, porous concrete, or various porous structural pavers laid on uncompacted soil.

Variations

Pervious Bituminous Asphalt

Pervious asphalt pavement is standard bituminous asphalt in which the fines have been screened and reduced, allowing water to pass through small voids. Pervious asphalt is placed directly on the stone subbase in a single 3 ½ inch lift that is lightly rolled to a finish depth of 2 ½ inches. Because pervious asphalt is standard asphalt with reduced fines, it is similar in appearance to standard asphalt. Recent

research in open-graded mixes for highway application has led to additional improvements in pervious asphalt through the use of additives and higher-grade binders. Pervious asphalt is suitable for use in any climate where standard asphalt is appropriate.

Pervious Concrete Pervious Portland Cement Concrete, or pervious concrete, was developed by the Florida Concrete Association and has seen the most widespread application in Florida and southern areas. Like pervious asphalt, pervious concrete is produced by substantially reducing the number of fines in the mix in order to establish voids for drainage. In northern and mid-Atlantic climates such as Pennsylvania, pervious concrete should always be underlain by a stone subbase designed for stormwater management and should never be placed directly onto a soil subbase. While pervious asphalt is very similar in appearance to standard asphalt, pervious concrete has a coarser appearance than its conventional counterpart. Care must be taken during placement to avoid working the surface and creating an impervious layer. Pervious concrete has been proven to be an effective stormwater management BMP. Additional information pertaining to pervious concrete, including specifications, is available from the Florida Concrete Association and the National Ready Mix Association.

Pervious Paver Blocks Pervious Paver Blocks consist of interlocking units (often concrete) that provide some portion of surface area that may be filled with a pervious material such as gravel. These units are often very attractive and are especially well suited to plazas, patios, small parking areas, etc. A number of manufactured products are available, including (but not limited to): • Turfstone; UNI Eco-stone; Checkerblock; EcoPaver As products are always being developed, the designer is encouraged to evaluate the benefits of various products with

respect to the specific application. Many paver products recommend compaction of the soil and do not include a drainage/storage area, and therefore, they do not provide optimal stormwater management benefits. A system with a compacted subgrade will not provide significant infiltration.

Reinforced Turf and Gravel Filled Grids Reinforced Turf consists of interlocking structural units that contain voids or areas for turf grass growth and are suitable for traffic loads and parking. Reinforced turf units may consist of concrete or plastic and are underlain by a stone and/or sand drainage system for stormwater management There are also products available that provide a fully permeable surface through the use of plastic rings/grids filled with gravel.. Reinforced Turf applications are excellent for Fire Access Roads, overflow parking, occasional use parking (such as at religious facilities and athletic facilities). Reinforced turf is also an excellent application to reduce the required standard pavement width of paths and driveways that must occasionally provide for emergency vehicle access. While both plastic and concrete units perform well for stormwater management and traffic needs, plastic units tend to provide better turf establishment and longevity, largely because the plastic will not absorb water and diminish soil moisture conditions. A number of products (e.g. Grasspave, Geoblock, GravelPave, Grassy Pave, Geoweb) are available and the designer is encouraged to evaluate and select a product suitable to the design in question.

Maintenance and Inspection Required

- Prevent Clogging of Pavement Surface with Sediment
  - Vacuum pavement 2 or 3 times per year.
    - Pavement washing systems or compressed air units are not recommended.
  - Maintain planted areas adjacent to pavement.
  - Immediately clean any soil deposited on pavement.
  - Do not allow construction staging, soil/mulch storage, etc. on unprotected pavement surface.
  - Clean inlets draining to the subsurface bed twice per year.
- Winter maintenance

    - Do not use abrasives such as sand or cinders on or adjacent to the pervious pavement.
    - Set snow plow blade slightly higher than usual.
- Repairs
    - Potholes in the pervious pavement are unlikely.
    - For damaged areas of less than 50 square feet, a sunken area could be patched by any means suitable with standard pavement, with the loss of porosity of that area being insignificant. The sunken area can also be filled with pervious mix.
    - If an area greater than 50 sq. ft. is in need of repair, approval of patch type should be sought from either the engineer or owner. Under no circumstance should the pavement surface ever be seal coated. Any required repair of drainage structures should be done promptly to ensure continued proper functioning of the system.

OTHER BMPS THAT MAY BE BUILT IN THE BOROUGH FOR PA DEP CREDIT

Infiltration Trenches

An Infiltration Trench is a “leaky” pipe in a stone filled trench with a level bottom. An Infiltration Trench may be used as part of a larger storm sewer system, such as a relatively flat section of storm sewer, or it may serve as a portion of a stormwater system for a small area, such as a portion of a roof or a single catch basin. In all cases, an Infiltration Trench should be designed with a positive overflow.

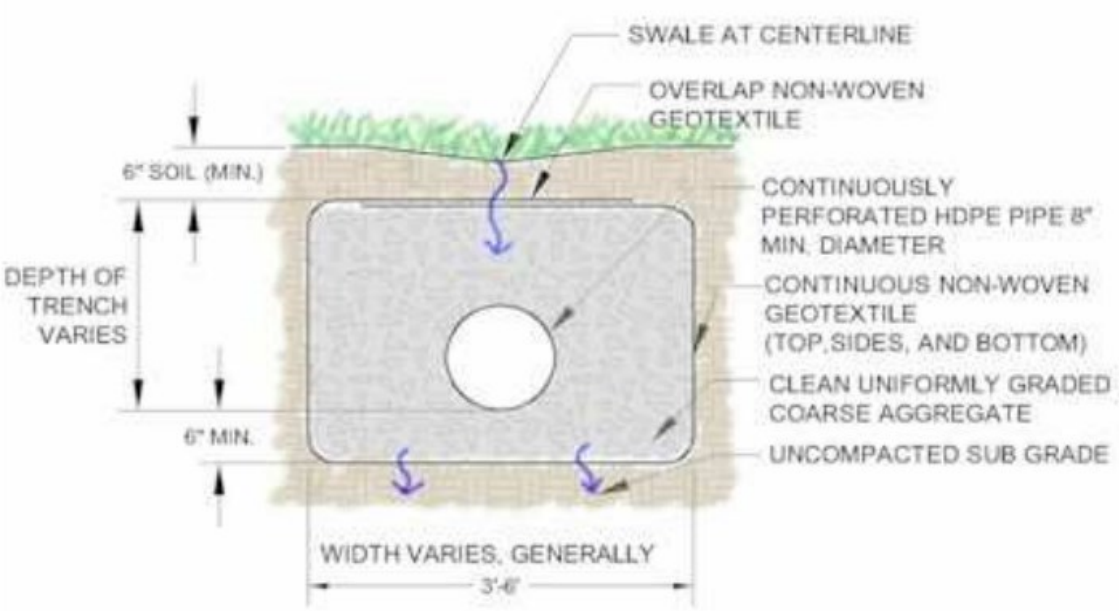
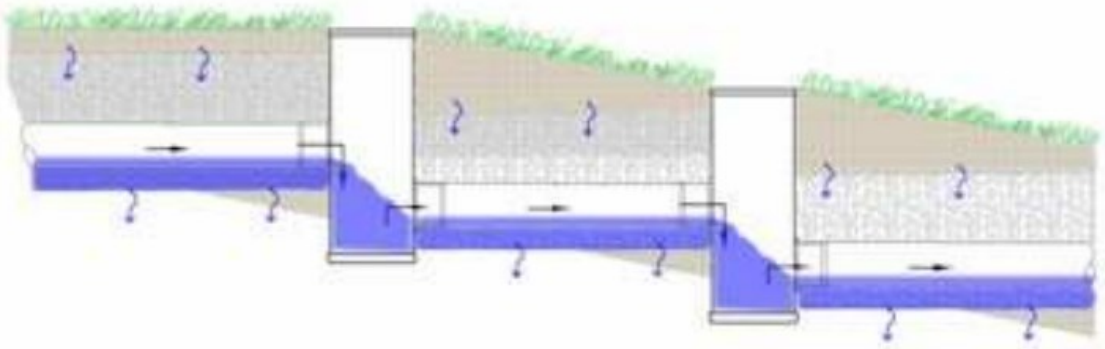


Figure 6.4-1



Variations

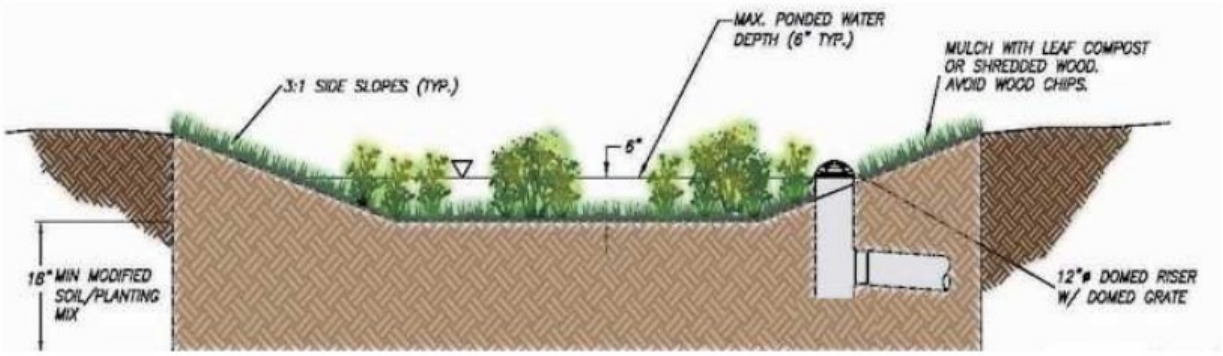
Infiltration Trenches generally have a vegetated (grassed) or gravel surface. Infiltration Trenches also may be located alongside or adjacent to roadways or impervious paved areas with proper design. The subsurface drainage direction should be to the downhill side (away from subbase of pavement), or

located lower than the impervious subbase layer. Proper measures should be taken to prevent water infiltrating into the subbase of impervious pavement. Infiltration Trenches may also be located down a mild slope by “stepping” the sections between control structures as shown in the figure below. A level or nearly level bottom is recommended for even distribution.

Maintenance and Inspection Required

- Catch Basins and Inlets should be inspected and cleaned at least 2 times per year.
- The vegetation along the surface of the Infiltration Trench should be maintained in good condition, and any bare spots revegetated as soon as possible.
- Vehicles should not be parked or driven on a vegetated Infiltration Trench, and care should be taken to avoid excessive compaction by mowers.

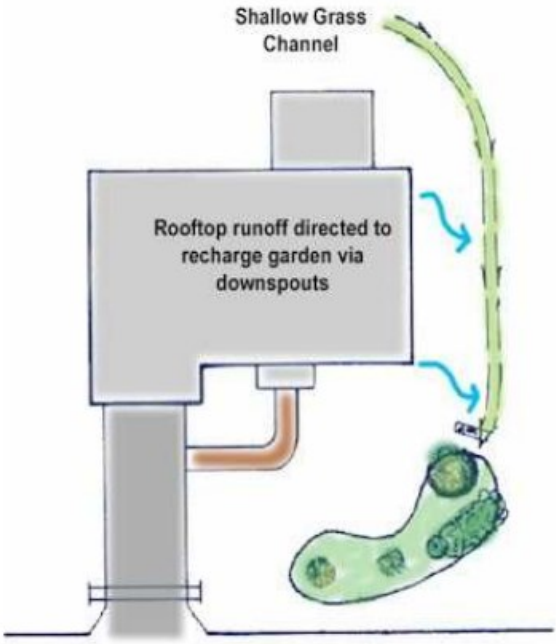
Rain Gardens/Bioretention



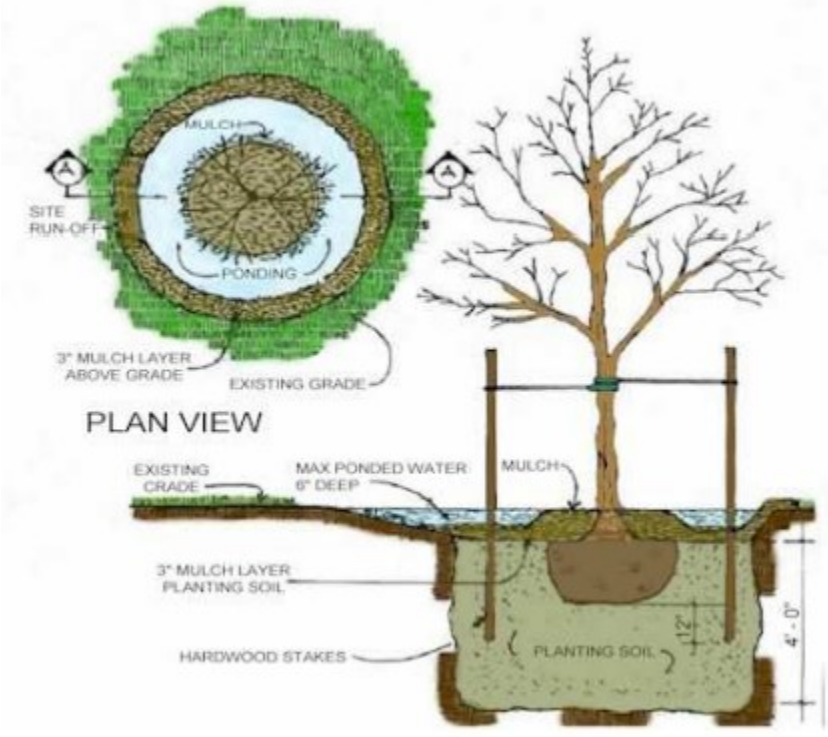
A Rain Garden (also called Bioretention) is an excavated shallow surface depression planted with specially selected native vegetation to treat and capture runoff.

Example Applications

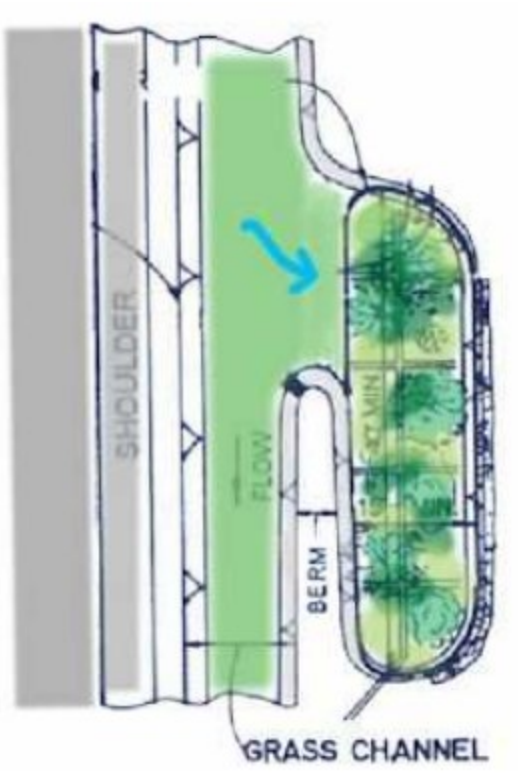
- Residential On-lot



- Tree and Shrub Pits



- Roads and Highways



- Parking Lot Island Bioretention

Maintenance and Inspection Required

- While vegetation is being established, pruning and weeding may be required.
- Detritus may also need to be removed every year. Perennial plantings may be cut down at the end of the growing season.
- Mulch should be re-spread when erosion is evident and be replenished as needed. Once every 2 to 3 years the entire area may require mulch replacement.
- Bioretention areas should be inspected at least two times per year for sediment buildup, erosion, vegetative concerns, etc.
- During periods of extended drought, bioretention areas may require watering.
- Trees and shrubs should be inspected twice per year to evaluate health.

Constructed Wetlands

Constructed Wetlands are shallow marsh systems planted with emergent vegetation that are designed to treat stormwater runoff.

Variations

• Shallow Wetlands are large surface area CWs that primarily accomplish water quality improvement through displacement of the permanent pool.

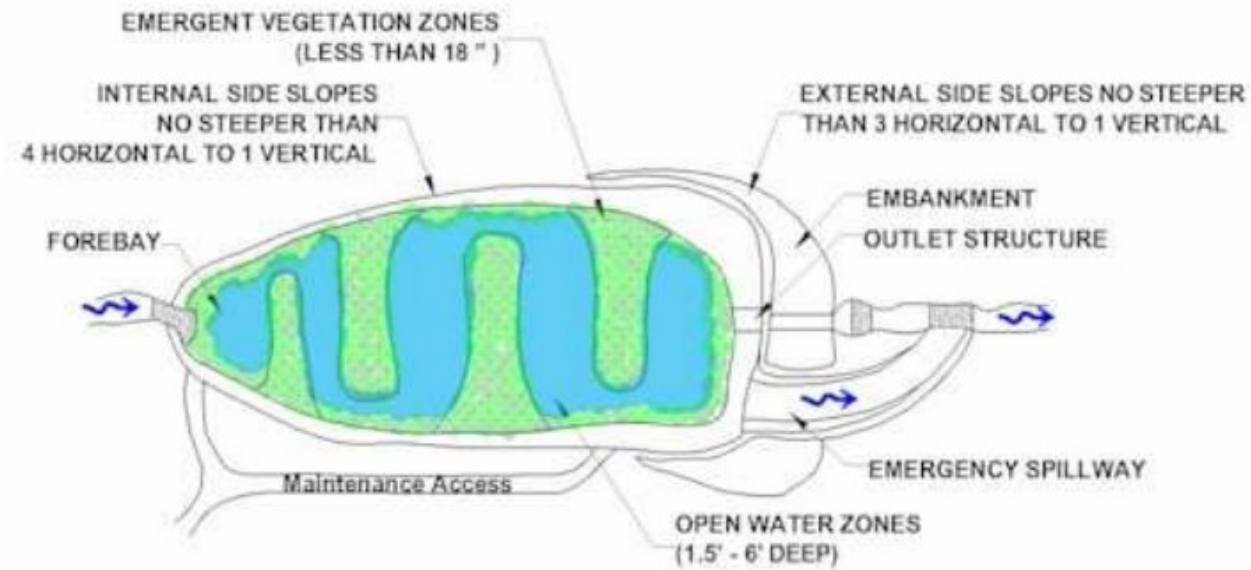
• Extended Detention Shallow Wetlands are similar to Shallow Wetlands but use extended detention as another mechanism for water quality and peak rate control.

• Pocket Wetlands are smaller CWs that serve drainage areas between approximately 5 and 10 acres and are constructed near the water table.

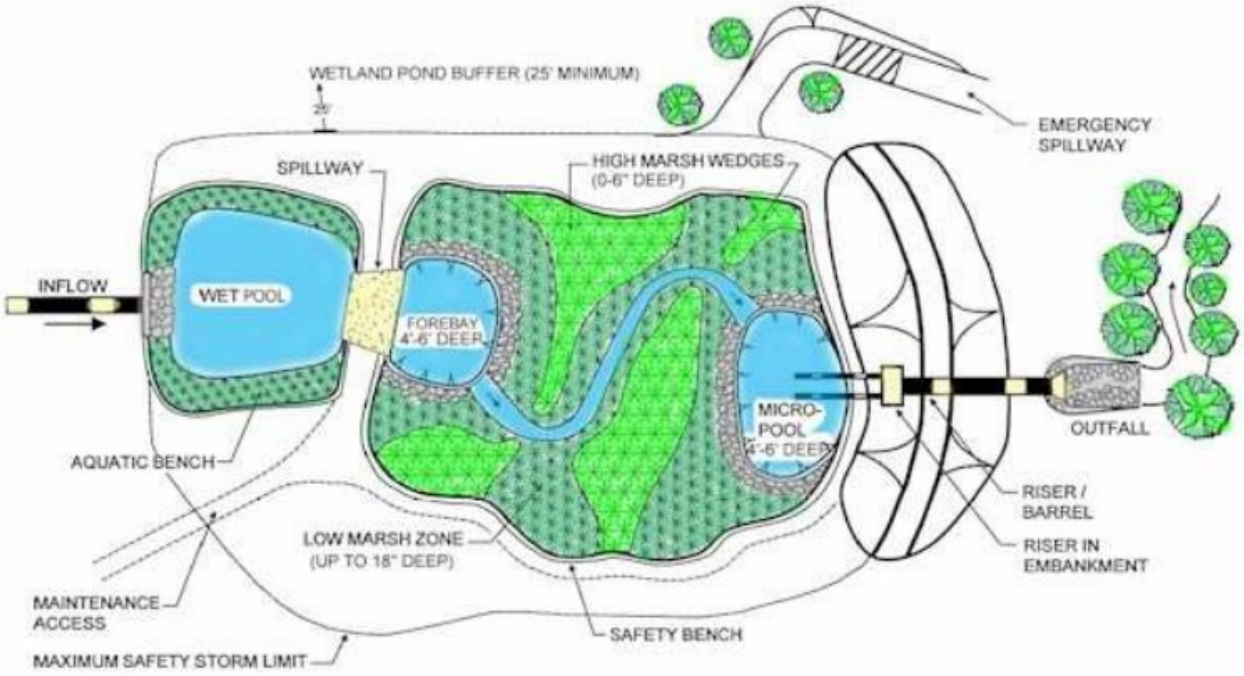
• Pond/Wetland systems are a combination of a wet pond and a constructed wetland.

Applications

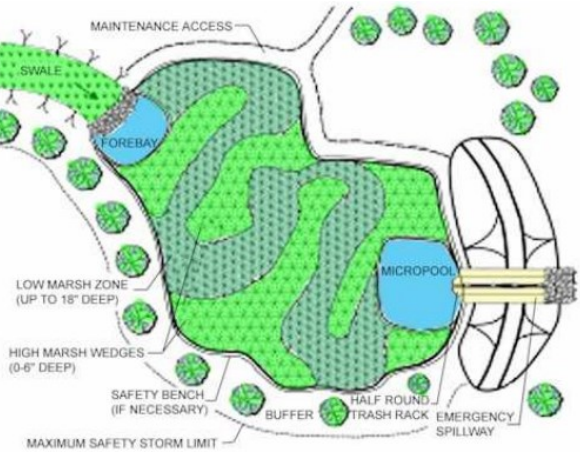
Alternating bands of deeper water and shallow marsh.

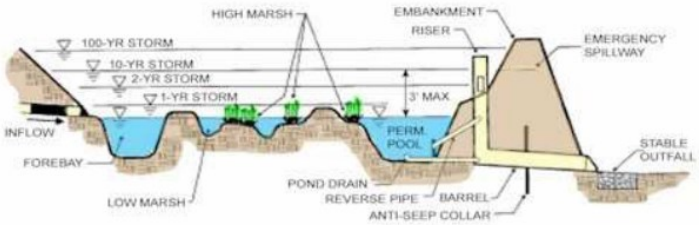


Wet Pond/Wetland System



Pocket Wetland





Maintenance and Inspection Required

- During the first growing season, vegetation should be inspected every 2 to 3 weeks.
- During the first 2 years, constructed wetlands should be inspected at least 4 times per year and after major storms (> 2 inches of rainfall in 24 hours).
    - Inspections should assess the vegetation, erosion, flow channelization, bank stability, inlet/outlet conditions, and sediment/debris accumulation.
- Wetland and buffer vegetation may require support – watering, weeding, mulching, replanting, etc. during the first 3 years. Undesirable species should be removed and desirable replacements planted if necessary.
- Once established, they should be inspected at least semiannually and after major storms as well as rapid ice breakup.
- Vegetation should maintain at least an 85% cover of the emergent vegetation zone in the summer so that there is adequate regrowth before winter.
- Annual harvesting of vegetation may increase the nutrient removal. Care should be taken to avoid disturbance, especially of bottom sediments, during harvesting. The potential disturbance from harvesting may outweigh its benefits.
- Sediment should be removed from the forebay before it occupies 50% of the forebay, typically every 3 to 7 years.

REFERENCES

"When It Rains It Drains." *Stormwater Management*, Pennsylvania Department of Transportation, 2019, www.penndot.gov/doing-business/localgovernment/stormwatermanagement/pages/default.aspx.

"Guidelines for the Development and Implementation of Environmental Emergency Response Plans." *Resources*, Pennsylvania Department of Environmental Protection, 2019, www.dep.pa.gov/Business/Water/Waterways/Pages/Resources.aspx

"Guidance for Preparing Standard Operating Procedures." *Guidance for Preparing Standard Operating Procedures*, United States Environmental Protection Agency, 6 July 2016, www.epa.gov/quality/guidance-preparing-standard-operating-procedures https://www.epa.gov/quality/guidance-preparing-standard-operating-procedures

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"UNITED STATES DEPARTMENT OF LABOR." *Occupational Safety and Health Administration*, United States Department of Labor, 2013, www.osha.gov/Publications/OSHA3646.html.

"Pennsylvania Stormwater Best Management Practices Manual – Chapter 6: Structural BMPs." *DEP Department of Environmental Protection,* Pennsylvania Department of Environmental Protection, 2006, http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=7922&DocName=CHAPTER%206%20-%20STRUCTURAL%20BMPS.PDF%20%20%3Cspan%20style%3D%22color%3Agreen%3B%22%3E%3C%2Fspan%3E%20%3Cspan%20style%3D%22color%3Ablue%3B%22%3E%3C%2Fspan%3E

ATTACHMENT 5.2

BMP INSPECTIONS REPORT

Structural BMP (Best Management Practice) Inspections

Annual Inspections for Reporting Period
7/1/2020 - 6/30/2021

Inspections Conducted on 7/1/2020 - 9/29/2021

Report Produced: 9/29/2021

Inspections Conducted By: ARRO Consulting

Number of Inspections: 16
Number of Violations: 1

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: BMP011001P
BMP Address: 33 Roths Church Road

Responsible Party: DAUPHIN DEPOSIT CORP ATTN M & T BANK CORP SERVICES
Address: 1 M AND T PLZ 18TH FLR, BUFFALO NY 14203

Inspection Date: 6/8/2021
Maintenance Needed? Yes
Describe Maintenance: Remove Debris from Outlet into MS4 Storm System
Maintenance Complete? Yes, Borough contacted property owner. Grass area was cleaned to removed debris and sediment.

BMP Inspection Status: Inspection Passed - Upon Completed Maintenance
Inspector Name: Scott Miller
Comments:

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: BMPOP006001
BMP Address: Monocacy Trail

Responsible Party: SPRING FORGE PHASE IV HOMEOWNERS ASSOC
Address: 6259 REYNOLDS MILL RD, SEVEN VALLEYS PA 17360-8844

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No
Date Maintenance Completed: 6/8/2021

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name:
Comments: Active NPDES Permit, Under Construction
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: BMPOP005002
BMP Address: 558 Monocacy Trail

Responsible Party: SPRING FORGE DEVELOPMENT
Address: 6259 REYNOLDS MILL RD, SEVEN VALLEYS PA 17360

Inspection Date: 6/8/2021
Maintenance Needed? Yes
Describe Maintenance: Mowing
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name:
Comments: Active NPDES Permit, Under Construction
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: BMP016005
BMP Address: 430 N Main Street, Spring Grove, PA

Responsible Party: SPRING FORGE DEVELOPMENT
Address: 6259 REYNOLDS MILL RD, SEVEN VALLEYS PA 17360

Inspection Date: 6/8/2021
Maintenance Needed? Yes
Describe Maintenance: Removal of trash
Maintenance Complete? Yes
Date Maintenance Completed: 6/8/2021
Describe Maintenance Conducted: Remove

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: Scott miller
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Detention Basin
BMP Address: N MAIN STREET

Responsible Party: Spring Grove Borough
Address: PO BOX 126, SPRING GROVE PA 17362-0126

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Detention Basin
BMP Address: MONOCACY TRAIL

Responsible Party: SPRING FORGE PHASE IV HOMEOWNERS ASSOC
Address: 6259 REYNOLDS MILL RD, SEVEN VALLEYS PA 17360-8844

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name:
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Detention Basin
BMP Address: 312 Greenwood Road

Responsible Party: SPRING FORGE PHASE IV HOMEOWNERS ASSOC
Address: 6259 REYNOLDS MILL RD, SEVEN VALLEYS PA 17360

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments: Active NPDES Permit, Under Construction
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Vegetated Swale
BMP Address: 558 Monocacy Trail

Responsible Party: SPRING FORGE DEVELOPMENT
Address: 6259 REYNOLDS MILL RD, SEVEN VALLEYS PA 17360

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments: Active NPDES Permit, Under Construction
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Subsurface Infiltration Bed
BMP Address: E Third Ave

Responsible Party: Spring Grove Borough
Address: 1 Campus Ave, Spring Grove, PA

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Dry Extended Detention Basin
BMP Address: 327 Pine Avenue

Responsible Party: PREDIX PROPERTIES LLC
Address: 485 SUNSET RD, THOMASVILLE PA 17364-9440

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name:
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Detention Basin
BMP Address: E Third Avenue

Responsible Party: CFR DEVELOPMENT INC
Address: 1623 POT SPRING RD, LUTHERVILLE TIMONIUM MD 21093

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Subsurface Storage
BMP Address: 6 South Main Street

Responsible Party: MT ZION UNITED CHURCH OF CHRIST
Address: 12 N MAIN ST, SPRING GROVE PA 17362-1014

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Pervious Pavement Infiltration Bed
BMP Address: Railroad Street - Spring Grove Borough Public Works/Park

Responsible Party: Spring Grove Borough
Address: 1 CAMPUS AVE, SPRING GROVE PA 17362

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name:
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Vegetated Swale
BMP Address: 526 Monocacy Trail

Responsible Party: Spring Grove Borough - Property owned by Spring Forge Development
Address: 1 Campus Ave, Spring Grove, PA

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name:
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

Structural BMP Inspection Summary

Permit Number (if applicable):
Inspection Type: Annual
BMP ID: Infiltration Basin
BMP Address: Hoisery Ally

Responsible Party: Spring Grove Borough
Address: 1 CAMPUS AVE, SPRING GROVE PA 17362

Inspection Date: 6/8/2021
Maintenance Needed? No
Maintenance Complete? No

BMP Inspection Status: Inspection Passed - No Maintenance Necessary
Inspector Name: AT
Comments:
Inlet Cleaning Performed? No

Field Photograph(s):

ATTACHMENT 6.1

TRAINING DOCUMENTATION AND SIGN IN SHEET

Training Log

Course: Annual Spring Grove Borough MS4 Training

Date: 6/8/2021

Instructor: Andrew Tuleya

Attendees (PLEASE PRINT)

Name: Scott Miller

Name: Scott Zeigler

Name: Bob Staub

Name: Andrew Tuleya

Name: Hayden Folfas

Name:

Name:

Name:

Name:

Name:

Name:

Name:

Name:

Name:

Name:

Name:

Annual Stormwater Pollution Prevention Planning Training for Borough Staff

Prepared June 2021 by

ARRO

1

Training Outline

- Training Purpose
- Spring Grove's Stormwater Permit and Program
- Minimum Control Measures (MCMs) and Training Requirements
  - Education
  - Involvement
  - Illicit Discharge Detection and Elimination
  - Construction/Post-Construction Stormwater Management
  - Good Housekeeping Procedures
  - Questions/Comments

2

2

The Purpose of Employee Training on Stormwater (MS4)

- Fulfill the requirements of Spring Grove's small municipal separate storm sewer systems (MS4s) permit.
- Educate Staff on specifications of permit requirements related to employee activities.
- Enable Staff to carry out daily functions while simultaneously protecting our waterways.
- Prepare Staff to effectively and efficiently respond to incidents that could potentially harm our environment, including but not limited to waterways.
- Provide Staff a forum to contribute thoughts and/or questions related to Stormwater Management.

3

3

Spring Grove's Stormwater (MS4) Program

- The EPA's National Pollutant Discharge Elimination System (NPDES) general permit covers small municipal separate storm sewer systems (MS4s) in certain portions of the State of Pennsylvania
  - For More Info - https://www.epa.gov/npdes/npdes-permit-basics
- Spring Grove is categorized as an MS4 designated by the Pennsylvania Department of Environmental Protection (PA DEP) under the Clean Water Act (CWA) and associated regulations.
- Spring Grove is a PAG-13 General Permit holder
- MS4 owners and operators covered under this general permit must manage, implement, and enforce management programs for controlling all stormwater discharges
- Link to PA DEP's NPDES General Permit Requirements

4

4

Spring Grove's Stormwater (MS4) Program (Continued)

- Except where specifically prohibited under the "Discharges Not Authorized by this General Permit" section, this General Permit authorizes the discharge of stormwater to surface waters from regulated small MS4s. In addition, the following non-stormwater discharges are authorized by this General Permit as long as such discharges do not cause or contribute to pollution as defined in Pennsylvania's Clean Streams Law:
  - 1. Discharges or flows from firefighting activities.
  - 2. Discharges from potable water sources including water line flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of Total Residual Chlorine (TRC).
  - 3. Non-contaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.
  - 4. Diverted stream flows and springs.
  - 5. Non-contaminated pumped ground water and water from foundation and footing drains and crawl space pumps.
  - 6. Non-contaminated HVAC condensation and water from geothermal systems.
  - 7. Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.
  - 8. Non-contaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

5

5

GIS Access

- Spring Grove Borough manages its Stormwater data via ArcGIS Online
- Link to The Borough's ArcGIS Online Account
  - https://bsgpa.maps.arcgis.com/home/index.html
  - SGB Stormwater Management Dashboard
    - https://arcg.is/1KD4OW
  - You will need credentials supplied by The Borough Manger to access The Borough's GIS Data.
  - Staff has the ability to view GIS data for The Borough through a web browser (desktop or mobile).
  - Survey 123 Download and Use Instructions
    - https://www.youtube.com/watch?v=jfaSLJ6BYr4&list=PLGZUzt4E4O2L7h2PdpL7st93nURZAW58d
    - Utilized for inspections and maintenance
    - Available in a web browser

6

6

MCM Descriptions

- MCM 1
  - Permittees are required to implement and maintain a public education and outreach program, and distribute education materials to the community and employees to help reduce the discharge of pollutants caused by stormwater runoff.
- MCM 2
  - Permittees are required to create and foster opportunities for public participation in the MS4 management program for controlling stormwater discharges. Recommended activities include adopt-a-stream programs, public surveys, storm drain stenciling, stream cleanups, tree plantings, and Earth Day events.
- MCM 3
  - Permittees are required to develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4 in accordance with 40 CFR § 122.34(b)(3). 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.

7

7

MCM Descriptions(continued)

- MCM 4
  - Permittees are required to maintain an ordinance to require the implementation of E&S control BMPs, including sanctions for non-compliance, that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) by September 30, 2022. The permittee may not issue a building or other permit or final approval to those without valid NPDES permit coverage under 25 Pa. Code Chapter 102.DEP or the applicable county conservation district must be notified within 5 days of any permit applications involving an earth disturbing activity involving one acre or more, in accordance with Pa. Code § 102.42.
- MCM 5
  - Permittees are required to maintain an ordinance to require implementation of PCSM BMPs, including sanctions for non-compliance, that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) by September 30, 2022. Use of low impact development (LID) should be expanded and encouraged, as well as ensuring adequate O&M of all PCSM BMPs.
- MCM 6
  - Permittees are required to develop and implement an operation and maintenance program that includes a training component to prevent and reduce pollutant runoff from municipal operations in accordance with 40 CFR § 122.34(b)(6). A permittee will satisfy this MCM by developing, implementing, and maintaining procedures for pollution prevention and good housekeeping on permittee owned or operated properties and / or roads.

8

8

MCM 1 – Education and Outreach

- Annual Employee Training Program (THIS IS IT!)
- Target Audience Group
  - Staff is a Target Audience
- Educational Materials
- Public Form for Complaints Regarding Water Quality or Illicit Discharge

9

What is Stormwater?

- Stormwater is rainwater or melted snow that runs off streets, lawns and other sites. When stormwater is absorbed into soil, it is filtered and ultimately replenishes aquifers or flows into streams and rivers.
- In developed areas, impervious surfaces such as pavement and roofs prevent precipitation from naturally soaking into the ground. Instead, water runs rapidly into storm drains, sewer systems and drainage ditches and can cause
  - Downstream flooding
  - Stream bank erosion
  - Increased turbidity (muddiness created by stirred up sediment) from erosion
  - Habitat destruction
  - Combined storm and sanitary sewer system overflows
  - Infrastructure damage
  - Contaminated streams, rivers and coastal water

Source: https://www.epa.gov/greeningepa/epa-facility-stormwater-management

10

Sanitary Sewer vs. Storm

- The Sanitary Sewer receives water from interior plumbing such as toilets, sinks and showers and goes to a treatment plant for processing.
- The Storm Sewer receives stormwater from the street, parking lots, roofs, yards and sidewalks. This water goes DIRECTLY TO THE NEAREST STREAM, WITHOUT ANY TREATMENT.

Sanitary Storm

11

Typical Stormwater Pollutants

- Petroleum
  - Oil, Grease, Leaking Vehicles
- Cooking greases/oils (homes, restaurants)
- Sediment (soil)
- Trash/garbage
- Engine coolants/antifreeze (glycols)
- Heavy metals from vehicle break parts and tires
- Fertilizers and pesticides (residential, industrial, agriculture uses)
- Fecal Bacteria
  - Pet Waste, Human Waste from sewer breaks
- Detergents from outdoor car washing, mop wash water dumped outdoors, etc.
- Liquids from uncovered dumpsters
  - printing inks, food, etc

12

MCM 2 – Involvement and Participation

- Involvement of Target Audience Groups in Stormwater related events that promote active participation and further the education of Spring Grove's Stormwater program.
  - Adopt-A-Stream
  - Public Surveys- Please visit the town's website to participate in the 2021 stormwater public survey.
  - Storm Drain Stenciling
  - Rain Barrel Workshops
  - Social Media Driven Events
  - Stream Cleanups
  - Tree Plantings
  - Earth Day Events

13

13

MCM 3 – Illicit Discharge Detection and Elimination

- §339-38 of the Borough's Stormwater Management Ordinance allows Borough personnel to obtain access to private property for stormwater related activities. §339-36 prohibits illicit discharges into the Borough's stormwater system
- Public Illicit Discharge Form
  - Borough Staff is notified immediately if an Illicit Discharge is reported
  - Public can also call Borough Office to report an illicit discharge
- Standard operating procedures for illicit discharge elimination and detection
  - ARRO has developed a Survey123-based form to complete outfall inspections
  - Paper Copies can also be downloaded here

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14

MCM 3 – Illicit Discharge Detection and Elimination (continued)

- Dry Weather Screening Procedures
  - Dry weather screening is a field test method for inspecting stormwater drainage areas to help locate and identify illicit discharges to a municipal stormwater system. Field testing or screening is designed primarily for assessing flowing discharges from a stormwater conveyance system.
- The Borough has developed a Standard Operating Procedure (SOP) for Dry Weather Screenings
  - Hard copies will be available for staff at each facility, as well as digitally through Borough Administration.
  - Anyone performing dry weather screens must be properly trained in the **(I) Site Procedures, (II) Monitoring Procedures and (III) Illicit Discharge Elimination Procedures** outlined in Spring Grove Borough's Dry Weather Screening Protocols.
  - The Borough MUST Maintain complete records of IDDE program investigations and make available to PA DEP during field reviews of the permittee's MS4 program.

15

15

Dry Weather Screening Protocols

- 20% of Borough outfalls must be screened each year, for a total of 100% inspected at the end of the 5-year term
  - Each outfall with observed dry weather flow (discharge occurring more than 72 hours after a rainfall event) must be inspected every year, even if the flow was runoff or groundwater
- Inspect, document, and photograph outfall conditions using PA DEP's MS4 Outfall Field Screening Report, or the Survey123 Staff Outfall Inspection Form
  - This form can later be exported to DEP's format and filed according to the annual MS4 reporting cycle

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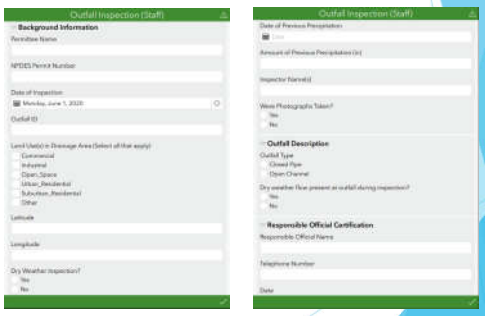
Dry Weather Screening Form (Survey123)



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If an Illicit Discharge is Found …

- Complete the screening form for the outfall and be sure to photograph and accurately describe the nature of the flow
- A sample of the flow should be collected and tested for the following parameters:
  - Conductivity
  - Temperature
  - Ammonia-Nitrogen
  - pH
  - Chlorine
  - Copper
  - Detergents
  - Color
  - Oil Sheen
  - Odor
  - Trash, Sewage, and Surface Scum
- All attempts should be made to identify the source of the illicit discharge by inspecting upstream stormwater infrastructure. Referencing the MS4 map can aid in narrowing down the search area.

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MCM 4 – Construction Site Stormwater Runoff Control

- The Borough has an ordinance that requires the implementation and maintenance of Erosion and Sediment Control BMPs, including sanctions for non-compliance as applicable.
- Appropriate staff should review the Chapter 339 Stormwater Management Ordnance and other associated document for more information.
  - https://ecode360.com/30595386

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MCM 5 – Post-Construction Stormwater Management

- The Borough has an ordinance that requires the implementation and maintenance of post-construction stormwater management for new development and redevelopment projects, including sanctions for non-compliance.
- Appropriate staff should review the Chapter 339 Stormwater Management Ordnance and other associated document for more information.
  - https://ecode360.com/30595386
- The Borough is required to conduct annual inspections for structural BMPs
- The Borough is required to conduct regular maintenance activities associated with publicly owned BMPs. This may include the following:
  - Mowing
  - Plant Composition and Health
  - Trash and Debris Accumulation
  - Sedimentation and Erosion
  - Dewatering
  - Overall Functionality based on Design and Intent
- The Borough has developed a Standard Operating Procedure (SOP) for Publicly Owned BMPs
  - Hard copies will be available for staff at each facility, as well as digitally through Borough Administration.
  - An Inspection and Maintenance Form has been provided in the SOP, as well as within the Borough's Survey123 account.

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BMP Inspection Considerations

- Utilize BMP Inspection Survey123 form to document BMP conditions annually
- What to look for when inspecting stormwater BMPs:
  - Accumulation of sediment, litter, grease
  - Standing water
  - Erosion; animal holes
  - Overgrown vegetation
  - Poor vegetation establishment
  - Obstructed inlet/outlet
  - Structural damage

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BMP Maintenance Considerations

- All BMPs are different and require individualized maintenance, but generally, the following maintenance needs can be expected:
  - Clean upstream inlets and outlets to ensure they are free of sediment and debris buildup
  - Replant vegetation if bare spots or poor establishment is observed
  - Identify and promptly correct erosion or slope stability problems
  - Discharge standing water to an approved location (except in the case of wet ponds and wetlands)
  - Properly dispose of litter prior to mowing
- More specific maintenance guidelines can be referenced in the BMPs SOP

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MCM 6 – Pollution Prevention Plan and Good Housekeeping Procedures

- The Borough is required to develop and implement an operation and maintenance program that includes a training component to prevent and reduce pollutant runoff from municipal operations.
- Provide annual training aimed to eliminate the discharge of pollutants during municipal operations.
  - Spill Prevention and Response
  - Waste Disposal
  - Routine Visual Inspections to Detect and Correct Potential Discharges At Properties Owned or Operated By The Permittee
- Develop, implement, and maintain a good housekeeping plan for Borough-owned or operated properties where the following occurs.
  - Vehicle or Heavy Equipment Maintenance
  - Handling of:
    - Deicers, fertilizers, pesticides, road maintenance materials, or hazardous materials.

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MCM 6 – Pollution Prevention Plan and Good Housekeeping Procedures

- Facilities Owned by Spring Grove Borough
  - Public Works Shop
  - Wastewater Treatment Plant
  - Municipal Building
  - Red Lion Bus Property
  - Community Center
  - Regional Parks and Recreation Center

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Potential Sources of Pollution at Your Facility

- Material Loading and Unloading
  - - Ex. Bulk chemicals, hypochlorite, petroleum products, etc.
- Outdoor storage of materials & equipment
  - - Ex. soil, mulch, petroleum and machinery storage
- Dust or Particulate Generating Processes
  - - Gravel parking lots or roads
- Illicit Connections
  - - Ex. Plumbing mistakes/cross connections where interior drains discharge to storm sewer
- Improper Waste Management
  - - Ex. Uncovered dumpsters

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Activities to Document for Annual MS4 Report

- BMP Maintenance
  - Mowing
  - Inlet/Outlet Cleaning
  - Clearing Trash/Debris/Vegetation
  - Infrastructure Repair/Replacement
  - Revegetation
- Inlet Cleaning
  - Number of Inlets Cleaned
  - Amount of Debris Collected
- Street Sweeping
  - Miles Swept
  - Amount of Debris Collected
- Storm Drain Vacuuming/Cleaning
- Documented Spills
- Pesticide Application
- Fertilizer Application
- Snow/Ice Removal Applications
- Public Complaints specific to Stormwater
- Annual Training Sessions
- Tree Planting
- Costs Associated with Activities!

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Review of Standard Operating Procedures (SOPs)

1. Municipal Vehicle Operations
2. Municipal Vehicle Maintenance
3. Municipal Vehicle Fueling
4. Municipal Equipment Washing
5. Sodium Hypochlorite
6. Paint
7. Herbicides
8. Lawn Fertilizers
9. Petroleum Products
10. Street Sweeping Debris
11. Calcium Chloride
12. Salt Storage Shed
13. Brine
14. Generators
15. Flammable Liquids
16. Municipal Lawn Care
17. Batteries
18. Household Cleaners
19. Safe T Sorb
20. Aqua Phalt

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1. MUNICIPAL VEHICLE OPERATION

- Vehicle inspection
  - All Borough vehicles should be inspected prior to operation to ensure that all components are functioning properly
- Vehicle operation
  - All Borough vehicles are to be operated in a safe and legal manner
  - Vehicles should not be driven off of roadways, if possible
  - If driving must be done off of a roadway, any dirt carried back onto the roadway must be immediately cleaned up using a shovel and broom, or by a street sweeper if possible

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2. MUNICIPAL VEHICLE MAINTENANCE

- Public works building
  - All maintenance on Borough vehicles is performed at either a municipal facility with adequate spill prevention and countermeasure capabilities or at a private garage if maintenance cannot be performed at any municipal facility.
- Maintenance activities to prevent stormwater contamination
  - Periodically check vehicles for leaks
    - Use drip pans to collect leaking fluids and utilize dry cleanup methods whenever possible
  - Avoid hosing down work areas and do not wash areas containing spillage or contaminants with water
  - Keep waste streams separate and label and track the recycling/disposal of waste material
  - Do not pour liquid waste into floor drains, sinks, inlets, or other storm drain or sewer connections
  - Drain oil filters before recycling
  - Hazardous waste materials such as gasoline, mineral spirits and solvents are to be properly labeled, stored and disposed of in accordance with federal, state and county regulations
  - Non-hazardous substances that are contaminated with hazardous substances are also considered a hazardous waste.

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3. MUNICIPAL VEHICLE FUELING

- Safe fueling practices
  - When fueling vehicles, Borough personnel are to observe proper safety techniques and constantly monitor all fueling operations to prevent or react to spillage:
    - Do not leave a fueling operation unattended.
    - Shut off engine and ensure that the fuel is the proper type for the equipment.
    - Discourage "topping off" of vehicle fuel tanks through training and signage.

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4. MUNICIPAL EQUIPMENT WASHING

- If a commercial car wash is not used, vehicles should be washed at a municipal facility with adequate containment and drainage that does not discharge to a storm sewer system
- The wash water is to be directed into drainage that does not discharge to a storm sewer system and not directed outdoors.
- Utilize phosphate-free biodegradable detergents whenever possible and consider using detergent-based or water-based cleaning systems in place of organic solvent degreasers

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5. SODIUM HYPOCHLORITE (BLEACH)

- Use the following precautions when working with Sodium Hypochlorite and associated materials:
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of material needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Store separate from other chemicals
  - Provide secondary containment

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6. PAINT

- Proper handling and disposal techniques
  - Wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain water or solvent based paints
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of material needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Store separate from other chemicals
  - Provide secondary containment

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7. Herbicides

- Proper handling and disposal techniques
  - Wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain herbicides
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of product needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Dumping materials into drains or onto the ground is prohibited
  - Store separate from other chemicals
  - Provide secondary containment

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8. LAWN FERTILIZERS

- Proper handling and disposal techniques
  - Wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain lawn fertilizers
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of product needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Dumping materials into drains or onto the ground is prohibited
  - Store separate from other chemicals
  - Provide secondary containment

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9. PETROLEUM PRODUCTS

- Proper handling and disposal techniques
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of product needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Dumping materials into drains or onto the ground is prohibited
  - All equipment that uses these products should have absorption pads underneath them in case of a fuel or oil leak.
  - Provide secondary containment

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10. STREET SWEEPING DEBRIS

- Street sweeping materials should be disposed of at a sanitary landfill
  - If the debris have a color or odor associated with them, they are considered hazardous waste and must be disposed of at a proper permitted facility
- The Pennsylvania Department of Environmental Protection (PA DEP) states the following recommendations for recycling of street sweeping materials:
  - Reuse as antiskid
  - Remix within a new salt mixture for winter application on roads
  - Reuse as the subgrade beneath a paved municipal road or parking lot
  - Reuse for filling potholes
  - Reuse as repair material along roads within the municipally or for privately owned roads within the public right- of-way
  - Reuse in other fill

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11. CALCIUM CHLORIDE (ROAD SALT)

- Proper handling and disposal techniques
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of materials needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Dumping materials into drains or onto the ground is prohibited
  - Store separate from other chemicals
  - Provide secondary containment

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12. SALT STORAGE SHED

- PA DEP and SPC Water Resource Center recommend the following proper handling and disposal procedures
  - Locate away from water sources
  - Locate on an impervious surface
  - Maintain adequate drainage controls to prevent runoff
  - Locate all salt and de-icing areas outside the 100-year floodplain, areas of localized flooding, and away from stormwater facilities
  - After loading materials, clean up any spills that occurred
  - Cover all salt and de-icing material storage piles with tarps, hard shelters, or within dikes/berms

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13. BRINE

- Proper handling and disposal procedures
  - Keep containers closed, except when removing or adding material
  - Use only the amount of materials needed for the task
  - Clean up spills as soon as possible
  - Dispose of waste material in approved cans
  - Dumping materials into drains or onto the ground is prohibited
  - Store separate from other chemicals
  - Provide secondary containment
- A 23% brine solution may be stored outside; however, if the temperature drops below 0° F, it may freeze. A circulator pump should be installed to reduce the risk of freezing

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14. GENERATORS

- Proper handling and disposal procedures for petroleum products, used to power generators
  - Keep containers closed, except when removing or adding material
  - Use only the amount of petroleum product needed for the task
  - Clean up spills as soon as possible
  - Dispose of waste material in approved cans
  - Dumping materials into drains or onto the ground is prohibited.
  - Provide secondary containment.

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15. FLAMMABLE LIQUIDS

- Proper handling and disposal procedures
  - Wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain flammable liquids
  - Keep containers closed, except when removing or adding material
  - Use only the amount of product needed for the task
  - Spills should be addressed immediately
  - Dispose of waste material in approved waste cans
  - Dumping materials into drains or onto the ground is prohibited
  - Store chemicals separate from each other
  - Provide secondary containment

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16. MUNICIPAL LAWN CARE

- Lawn care vehicle inspection
  - All Borough lawn vehicles should be inspected prior to operation to ensure that all components are functioning properly
- Lawn care vehicle operation
  - All Borough lawn care vehicles are to be operated in a safe and legal manner
  - Vehicles should not be driven off of roadways, if possible
  - If driving must be done off of a roadway, any dirt carried back onto the roadway must be immediately cleaned up using a shovel and broom, or by a street sweeper if possible
- Disposal of debris
  - Lawn Debris should be collected in the proper containers and disposed of via compost piles. Composting requires three basic ingredients (EPA, 2018):
    - Browns- This includes materials such as dead leaves, branches, and twigs
    - Greens- This includes materials such as grass clippings, vegetable waste, fruit scraps, and coffee grounds
    - Water- Having the right amount of water, greens, and browns is important for compost development
  - Items that will be used for compost from lawn care activities are cardboard, yard trimmings (untreated with chemical pesticides), grass clippings, hay and straw, leaves, sawdust, and wood chips.

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17. BATTERIES

- Proper handling and disposal procedures
  - Wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling batteries
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of batteries needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Store separately from other chemicals
  - Provide secondary containment

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18. HOUSEHOLD CLEANERS

- Household cleaners may contain ammonia, bleach, aerosol, corrosive substances, and other harmful chemicals
- Proper handling and disposal procedures
  - Wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying household cleaners
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of household cleaner needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Do not dump excess materials into drains or onto the ground
  - Separate from other chemicals
  - Provide secondary containment

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19. SAFE T SORB

- Safe T Sorb is a highly absorbent granule substance that is used for oil, mixtures of soluble oils, acids, paints, inks, water and other liquid spills
- Proper handling and disposal procedures
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of product needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Do not dump excess materials into drains or onto the ground
  - Separate from other chemicals
  - Provide secondary containment

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20. AQUA PHALT

- Aqua Phalt is used to repair cracks or holes on concrete and asphalt surfaces
- Proper handling and disposal procedures
  - Keep containers closed, except when removing or adding material (OSHA, 2013)
  - Use only the amount of product needed for the task (OSHA, 2013)
  - Clean up spills as soon as possible (OSHA, 2013)
  - Dispose of waste material in approved cans (OSHA, 2013)
  - Separate from other chemicals.
  - Provide secondary containment
  - The contents of open bags of Aqua Phalt should be moved to plastic containers which are sealed, kept inside, and away from storm drains

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GENERAL SOP: LIQUID spills

- In the event of an accident involving contaminants, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on all vehicles that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.
- In the event of a spill:
  - Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
  - Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
  - For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
  - If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
  - The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

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GENERAL SOP: SOLID spills

- Spills should be immediately addressed as this will mitigate the potential for runoff to enter the Borough's MS4. Hazardous material cleanup debris should be disposed in proper containers. Do not allow debris to enter drains that are connected to Borough's stormwater system.
- In the event of a spill:
  - Substances should be swept up immediately and should be disposed of in a Borough owned trash bag.
  - Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
  - For a major spill, where materials threaten to enter the storm sewer system, the Borough Police Department and Fire Department should be immediately contacted to provide assistance.
  - If a major spill occurs and enters a floor drain, notify the Borough's Wastewater Treatment Facility.
  - The Police and Fire Departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

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Common Incidents

- Forklift + distracted driver + 55 gallon drum = STORMWATER POLLUTION

- Spilled liquid chemical from ruptured drum is a potential source of pollution to the local stream.
- It is important that all materials and equipment are stored properly to prevent accidents such as the one shown here.

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Oil Leaking from Outdoor Compressor

Oil leaking from outdoor compressor

Storm sewer inlet

▶ Rain will wash the oil into the storm sewer and into local streams.

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Spill Response and Notification

- Major and Minor Spills
- All spills, indoor or outdoor, must be reported even if they are not yours.

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Spill Response and Notification

- Minor spills are considered to be those of **less than 5-gallons** which pose no significant harm to human health or the environment and have not entered the storm sewer system, stormwater pond, water body or the groundwater table.
- You are responsible for cleaning up these spills.

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Minor Spills

- Stop the source of the spill!
  - Roll drums upright (hole pointing up)
  - Turn off process
  - Shut pipe valves
- Contain spills using booms, pads, absorbent material in the on-site spill kits.
- Divert runoff from spills away from storm drain inlets using booms, pads or absorbent materials.
- Patch leaks – temporary patch until a permanent solution is applied
- Collect contaminated materials in a trash bag and discard appropriately.
- Do not leave absorbent powders on ground. They must be swept up.
- Contact a supervisor and/or Borough Manager for assistance with spill documentation and notification procedures if you cause or find a **minor** spill.

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Major Spills

- A major spill **is considered an emergency.**
- It is a spill that cannot be safely contained by staff or cleaned up and/or has made its way into the storm sewer system, stormwater pond, waterbody or groundwater table or is a threat to human health.
- If you cause or find a **major** spill and cannot find a SWPPP team member, dial 911 for the Fire Department's HAZMAT Unit immediately.
- You must remain on-site until assistance arrives.
- Your supervisor will assist you with proper documentation and spill notification procedures.

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THANK YOU FOR YOUR TIME!

- Questions? Comments?
- Please sign the sign in sheet if you have not already done so.
- If you have any questions, please contact me via e-mail Andrew.Tuleya@arroconsulting.com

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ATTACHMENT 6.2

GOOD HOUSEKEEPING OPERATION & MAINTENANCE PROGRAM

Standard Operating Procedures for Municipal Vehicle Operation

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

Table of Contents

INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all vehicles owned by the Borough are operated in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when operating any Borough-owned vehicles.

MUNICIPAL VEHICLE OPERATIONS

The Borough owns a fleet of vehicles for Borough staff, Public Works, and construction use.

MUNICIPAL VEHICLE OPERATION PROCEDURES

VEHICLE INSPECTION

All Borough vehicles should be inspected prior to operation to ensure that all components are functioning properly.

- The area underneath of where the vehicles are parked should be checked to see if there is any staining or other signs of leaking fluids.
- Any vehicles with signs of fluid leakage should be immediately scheduled for maintenance to repair those leaks.
- A fluid catch pan must immediately be placed under the portion of the vehicle where the leak is occurring.
- Any vehicles leaking fluids should not be parked over or near a floor drain.
- Vehicles that are leaking fluids must not be operated until the leaks are repaired.

VEHICLE OPERATION

All Borough vehicles, including contractor vehicles, are to be operated in a safe and legal manner that reduces the likelihood of accidents, and which reduces the potential for pollution to enter the municipal storm sewer system through a discharge incident. This includes obeying all road and traffic rules, and being alert at all times.

- Vehicles should not be driven off of roadways if possible.
- If driving must be done off of a roadway, any dirt that the vehicle carries back onto the roadway must be immediately cleaned up using a shovel and broom, or by a street sweeper if possible.

SPILLS FROM VEHICLES

In the event of an accident involving vehicle fluids or cargo, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on all vehicles that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads and/or sand.

In the event of a spill:

- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the Borough police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

REFERENCES

"When It Rains It Drains." *Stormwater Management*, Pennsylvania Department of Transportation, 2019, www.penndot.gov/doing-business/localgovernment/stormwatermanagement/pages/default.aspx.

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"UNITED STATES DEPARTMENT OF LABOR." *Occupational Safety and Health Administration*, OSHA, 2019, www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10420&p_table=STANDARDS.

"Safety, Health, and Environmental Manual: Safety and Health Requirements." *EPA Environmental Protection Agency*, Environmental Protection Agency, 2004, www.epa.gov/sites/production/files/2015-09/documents/safety_health_508.pdf.

Standard Operating Procedures for Municipal Vehicle Maintenance

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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MUNICIPAL VEHICLE MAINTENANCE

The Borough owns a fleet of vehicles for Borough staff, Public Works, and construction use.

MUNICIPAL VEHICLE MAINTENANCE PROCEDURES

PUBLIC WORKS BUILDING

All maintenance on Borough vehicles is performed at either a municipal facility with adequate spill prevention and countermeasure capabilities or at a private garage if maintenance cannot be performed at any municipal facility.

MAINTENANCE ACTIVITIES TO PREVENT STORMWATER CONTAMINATION

- Periodically check vehicles stored outside for leaks and put leaking vehicles coming in for service under cover and immediately place drip pans under them.
- Use the drip pans to collect leaking fluids and utilize them while you unclip hoses, unscrew filters, or remove other parts.
- After the vehicle is moved, utilize dry cleanup methods whenever possible. Suitable materials such as paper towels, rags, absorbent pads and sand are to be maintained on site for the cleanup and disposal of oils, chemicals, or other hazardous materials.
- Use absorbent materials to clean up any spilled fluids on the floor. Immediately clean up absorbent materials, place into a trash bag and dispose of them in the municipal trash.
- Avoid hosing down work areas and do not wash areas containing spillage or contaminants with water so that the runoff does not enter the storm sewer system.
- Utilize non-hazardous cleaners and solvents whenever possible and maintain an organized inventory of materials.
- Routinely inspect vehicle storage and maintenance areas to determine the effectiveness of the pollution prevention/operation and maintenance program.

- Maintain inspection records and promptly correct any deficiencies.
- Training will be conducted to educate employees and contractors on proper waste control and disposal procedures.

Waste materials from maintenance activities such as soils, greases, lubricants, anti-freeze, greasy rags, oil filters, air filters, batteries, tires and degreasers are to be placed in appropriately labeled containers and stored inside municipal facilities for proper disposal and recycling.

- Keep waste streams separate (i.e. waste oil and solvents).
- Label and track the recycling and disposal of waste material.
- Promptly transfer used fluids to the proper container. Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drain or sewer connections.
- Used oils are to be recycled.
- Drain oil filters before disposal or recycling. Place oil filters in a funnel over the waste oil burner to drain excess oil before disposal, and then crush and dispose of the oil filters in accordance with federal and state regulations.
- Used anti-freeze is to be disposed of in the container dedicated for this material within the appropriate municipal facility to be recycled.

Hazardous waste materials such as gasoline, mineral spirits and solvents are to be properly labeled, stored and disposed of in accordance with federal, state and county regulations. Non-hazardous substances that are contaminated with hazardous substances are also considered a hazardous waste.

In general, it is not permitted to store chemicals outside of a municipal facility. If chemical containers must be stored in the open, they must be kept in an enclosed structure that will prevent them from being exposed to any precipitation.

SPILL FROM VEHICLES

In the event of an accident involving vehicle fluids or cargo, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on all vehicles that have the potential for a significant fluid spill. A spill contaminant kit should include liquid absorbent materials such as absorbent pads and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.

- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

REFERENCES

"When It Rains It Drains." *Stormwater Management*, Pennslyvania Department of Transportation, 2019, www.penndot.gov/doing-business/localgovernment/stormwatermanagement/pages/default.aspx.

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Standard Operating Procedures for Municipal Vehicle Fueling

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W Airport Rd
Lititz, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all vehicles owned by the Borough are fueled in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when fueling any Borough-owned vehicles and/or equipment.

MUNICIPAL VEHICLE FUELING

SAFE FUELING PRACTICES

When fueling vehicles, Borough personnel are to observe proper safety techniques and constantly monitor all fueling operations to prevent or react to spillage:

- Do not leave a fueling operation unattended.
- Shut off engine and ensure that the fuel is the proper type for the equipment.
- Discourage "topping off" of vehicle fuel tanks through training and signage.

SPILLS FROM VEHICLES

In the event of an accident involving vehicle fluids or cargo, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on all vehicles that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.

- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for Municipal Vehicle Washing

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all vehicles owned by the Borough are washed in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when washing any Borough-owned vehicles.

MUNICIPAL VEHICLE WASHING

The Borough should wash vehicles in a manner that ensures protection of the environment. Borough personnel should avoid washing vehicles outside and should utilize commercial car washes for Borough vehicles whenever practicable.

WASHING AT MUNICIPAL FACILTIES

If a commercial car wash is not used, vehicles should be washed at a municipal facility with adequate containment and drainage that does not discharge to a storm sewer system. The wash water is to be directed into drainage that does not discharge to a storm sewer system and not directed outdoors. Ensure that wastewater generated from any power washing or steam-cleaning activity is also directed to the floor drain system and does not enter into the environment.

Utilize phosphate-free biodegradable detergents whenever possible and consider using detergent-based or water-based cleaning systems in place of organic solvent degreasers.

SPILLS FROM VEHICLES

In the event of an accident involving vehicle fluids, cargo, or detergents make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on all vehicles that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Sodium Hypochlorite

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all Sodium Hypochlorite owned by the Borough is used in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of Sodium Hypochlorite.

SODIUM HYPOCHLORITE

The Borough intends to properly store Sodium Hypochlorite to mitigate the risk of spill and entrance in the Borough's MS4. Sodium Hypochlorite, also known as bleach, is used as a disinfectant.

PROPER HANDLING AND DISPOSAL PROCEDURES

Sodium Hypochlorite is a corrosive chemical and can cause severe damage to the eyes and skin. Exposure to this chemical is harmful to humans and animals. Borough staff is required to use protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain Sodium Hypochlorite.

Use the following precautions when working with Sodium Hypochlorite and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of material needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Store separate from other chemicals.
- Provide secondary containment.

SPILLS FROM SODIUM HYPOCHLORITE

In the event of a spill involving Sodium Hypochlorite, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill that requires more than one (1) bag of liquid absorbent to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Paint

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all paint, paint thinner, containers, and rags owned by the Borough are used in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of paint.

PAINT

The Borough intends to properly store and use paint and associated materials to mitigate the risk of spills and entrance in the Borough's MS4.

PROPER HANDLING AND DISPOSAL TECHNIQUES

The use of paint involves other materials such as paint thinner, containers, and rags. Borough staff is required to wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain water or solvent based paints. Solvent contaminated items and unattended spills, if left for long periods of time have the potential to enter the Borough's MS4.

Use the following precautions when working with paint and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of material needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Store separate from other chemicals.
- Provide secondary containment.

SPILLS FROM PAINT

In the event of an accident involving paint, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Herbicides

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all herbicides owned by the Borough are used in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of herbicides.

HERBICIDES

The Borough intends to properly use and store herbicides to mitigate the risk of spills and entrance into the Borough's MS4.

PROPER HANDLING AND DISPOSAL PROCEDURES

The application and handling of herbicides can be harmful to humans and aquatic environments. Borough staff is required to wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain herbicides.

Use the following precautions when working with herbicides and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of product needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Dumping materials into drains or onto the ground is prohibited.
- Store separate from other chemicals.
- Provide secondary containment.

SPILLS FROM HERBICIDES

In the event of a spill involving herbicides, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill that requires more than one (1) bag of liquid absorbent materials to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Lawn Fertilizers

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all lawn fertilizers owned by the Borough are used in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of lawn fertilizer.

LAWN FERTILIZER

The Borough intends to properly store lawn fertilizers to mitigate the risk of spills and entrance in the Borough's MS4.

PROPER HANDLING AND DISPOSAL TECHNIQUES

Borough staff is required to wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain lawn fertilizers.

Use the following precautions when working with lawn fertilizer and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of material needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013)
- Dumping materials into drains or onto the ground is prohibited.
- Store separate from other chemicals.
- Provide secondary containment.

SPILLS FROM LAWN FERTILIZERS

In the event of a spill involving lawn fertilizers, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the Borough police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Petroleum Products

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO Project Number: 10843.74

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all petroleum products owned by the Borough are used and stored in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of petroleum products.

PETROLEUM PRODUCTS

The Borough uses petroleum products to fuel various vehicles, generators, and other equipment.

PROPER HANDLING AND DISPOSAL TECHNIQUES

The application and handling of petroleum products can be harmful to humans and aquatic environments.

Use the following precautions when working with petroleum products and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of material needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Dumping materials into drains or onto the ground is prohibited.
- All equipment that uses these products should have absorption pads underneath them in case of a fuel or oil leak.
- Provide secondary containment.

SPILLS FROM PETROLEUM PRODUCTS

In the event of a spill involving petroleum products, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

REFERENCES

"When It Rains It Drains." *Stormwater Management*, Pennslyvania Department of Transportation, 2019, www.penndot.gov/doing-business/localgovernment/stormwatermanagement/pages/default.aspx.

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"UNITED STATES DEPARTMENT OF LABOR." *Occupational Safety and Health Administration*, OSHA, 2019, www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10420&p_table=STANDARDS.

Standard Operating Procedures for the Handling of Street Sweeping Debris

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all street sweeping debris generated from the Borough are managed in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities involving street sweeping debris.

STREET SWEEPING DEBRIS

The Borough intends to properly store and manage street sweeping debris to mitigate pollutants entering the stormwater system. Debris can be transported into the Borough's MS4 through precipitation events and introduce pollutants into the stormwater system. The Borough's stormwater conveyance system may clog with debris, which will reduce its effectiveness.

PROPER HANDLING AND DISPOSAL PROCEDURES

Street sweeping debris should be contained and kept away from drains to avoid contaminants entering the Borough's MS4. Street sweeping materials should be disposed of at a sanitary landfill (PA DEP, 2015). The street sweeper itself should have an absorption pad to mitigate the risk from leaking petroleum products.

The Pennsylvania Department of Environmental Protection (PA DEP) states the following recommendations for recycling of street sweeping materials. Street sweeping materials can be:

- Reused as antiskid (PA DEP, 2015).
- Remixed within a new salt mixture for winter application on roads (PA DEP, 2015).
- Reused as the subgrade beneath a paved municipal road or parking lot (PA DEP, 2015).
- Reused for filling potholes (PA DEP, 2015).
- Reused as repair material along roads within the municipally or for privately owned roads within the public right- of-way (PA DEP, 2015).
- Reused in other fill (PA DEP, 2015).

If the debris have a color or odor associated with them, they are considered hazardous waste and must be disposed of at a proper permitted facility (PA DEP, 2015). Street sweeping debris should be kept away from stormwater conveyances.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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"Disposal/Reuse of Street-Sweeping Debris and Antiskid." *Files.dep.state.pa.us*, Pennsylvania Department of Environmental Protection Bureau of Waste Management, 19 August 2015, files.dep.state.pa.us/Water/BPNPSM/StormwaterManagement/MunicipalStormwater/MCM6_Municipal_Operations/Street_Sweepings_final_Rev_081915.pdf.

Standard Operating Procedures for the Handling of Calcium Chloride

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all calcium chloride owned by the Borough is used and stored in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of calcium chloride.

CALCIUM CHLORIDE

The Borough intends to properly store calcium chloride to mitigate the risk of spills and entrance into the Borough's MS4.

PROPER HANDLING AND DISPOSAL TECHNIQUES

The application and handling of calcium chloride, also known as road salt, can be harmful to humans and aquatic environments.

Use the following precautions when working with Calcium Chloride and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of materials needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Dumping materials into drains or onto the ground is prohibited.
- Store separate from other chemicals.
- Provide secondary containment.

SPILL RESPONSE FROM CALCIUM CHLORIDE

Spills should be immediately addressed as this will mitigate the potential for runoff to enter the Borough's MS4. Hazardous material cleanup debris should be disposed in proper containers. Do not allow debris to enter drains that are connected to Borough's stormwater system.

In the event of a spill:

- Materials should be swept up and disposed in a Borough trash bag.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For a major spill, where materials threaten to enter the storm sewer system, the Borough police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for Salt Storage Sheds

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that the salt storage shed owned by the Borough is maintained in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities related to the salt storage shed.

SALT STORAGE SHED

The Borough intends to properly maintain the salt storage shed that is located at the Public Works Maintenance Complex.

PROPER HANDLING AND DISPOSAL PROCEDURES

In addition to chlorides that are applied to roads, sidewalks, and parking lots, the salt that is located in the storage shed can impact the environment (SPC, PA DEP 2013).

The Pennsylvania Department of Environmental Protection and SPC Water Resource center recommend using the following precautions when conducting operations and maintenance of a salt storage shed:

- Locate away from water sources (SPC, PA DEP 2013).
- Locate on an impervious surface (SPC, PA DEP 2013).
- Maintain adequate drainage controls to prevent runoff (SPC, PA DEP 2013).
- Locate all salt and de-icing areas outside the 100-year floodplain, areas of localized flooding, and away from stormwater facilities (SPC, PA DEP 2013).
- After loading materials, clean up any spills that occurred (SPC, PA DEP 2013).
- Cover all salt and de-icing material storage piles with tarps, hard shelters, or within dikes/berms (SPC, PA DEP 2013).

For piles less than 3,000 tons:

The Pennsylvania Department of Environmental Protection and SPC Water Resource Center state that recommendations and Best Management Practices (BMPs) from the Salt Institute's "Salt Storage Handbook" must be implemented (SPC, PA DEP 2013). These piles must always be covered and located on an impervious surface (SPC, PA DEP 2013).

For piles greater than 3,000 tons:

The Pennsylvania Department of Environmental Protection and SPC Water Resource Center state that recommendations and BMPs from the Salt Institute's "Voluntary Salt Storage Guidelines for Distribution Stockpiles" must be implemented (SPC, PA DEP 2013). These piles must be located on an impervious surface and covered with canvas, polyethylene or other synthetic material, except when receiving salt, building the stockpile, or distributing out to customers (SPC, PA DEP 2013).

SPILL RESPONSE FROM THE SALT STORAGE SHED

Spills should be immediately addressed as this will mitigate the potential for runoff to enter the Borough's MS4. Hazardous material cleanup debris should be disposed in proper containers. Do not allow debris to enter drains that are connected to Borough's stormwater system.

In the event of a spill:

- Materials should be swept up and disposed of in a Borough trash bag.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For a major spill, where materials threaten to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Brine

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that any brine owned by the Borough is maintained and used in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of brine.

BRINE

The Borough intends to properly store brine to mitigate the risk of spills and entrance in the Borough's MS4.

PROPER HANDLING AND DISPOSAL PROCEDURES

The application and handling of brine can be harmful to humans and aquatic environments. The Pennsylvania Department of Environmental Protection (PA DEP) and Southwestern Pennsylvania Commission for Water Resource Center (SPC) state that, a 23% brine solution may be stored outside; however, if the temperature drops below 0° F, it may freeze (SPC, PA DEP, 2013). A circulator pump should be installed to reduce the risk of freezing (SPC, PA DEP, 2013).

Use the following precautions when working with Brine and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of materials needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Dumping materials into drains or onto the ground is prohibited.
- Store separate from other chemicals.
- Provide secondary containment.

The date the brine is created, the name of person who mixed it, and the concentration of the brine should be recorded with the checklist (SPC, PA DEP, 2013).

SPILL RESPONSE FROM BRINE

Spills should be immediately addressed to mitigate the potential for runoff to enter the Borough's MS4. Hazardous material cleanup debris should be disposed in proper containers. Do not allow debris to enter drains that are connected to Borough's stormwater system. Appropriate spill containment and recovery

equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Generators

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all Borough-owned generators are maintained in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities relating to generators.

Generators

The Borough intends to properly handle generators, which are fueled with petroleum products, to mitigate the risk of spills and entrance in the Borough's MS4.

PROPER HANDLING AND DISPOSAL PROCEDURES

The fuel, or petroleum products, used to power generators can be harmful to humans and the aquatic environment.

Use the following precautions when working with petroleum products and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of petroleum product needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Dumping materials into drains or onto the ground is prohibited.
- Provide secondary containment.

SPILLS FROM GENERATORS

In the event of a spill involving a generator, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on generators that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent materials to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for the Handling of Flammable Liquids

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4

The goal of this SOP is to ensure that all flammable liquids owned by the Borough are used and stored in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require the use of flammable liquids.

FLAMMABLE LIQUIDS

The Borough intends to properly store flammable liquids to mitigate the risk of spill and entrance in the Borough's MS4.

PROPER HANDLING AND DISPOSAL PROCEDURES

Flammable liquids can cause severe damage to the eyes and skin. Exposure to this chemical is harmful to humans and animals. Borough staff is required to wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying products that contain flammable liquids.

Use the following precautions when working with flammable liquids:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of product needed for the task (OSHA, 2013).
- Spills should be addressed immediately (OSHA, 2013).
- Dispose of waste material in approved waste cans (OSHA, 2013).
- Dumping materials into drains or onto the ground is prohibited.
- Store chemicals separate from each other.
- Provide secondary containment.

SPILLS FROM FLAMMABLE LIQUIDS

In the event of a spill involving flammable liquids, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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Standard Operating Procedures for Municipal Lawn Care

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all lawn care vehicles, equipment, and associated activities by the Borough are operated and conducted in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting any lawn care activities.

MUNICIPAL LAWN CARE

The Borough owns vehicles and machinery that are associated with lawn care and landscaping.

LAWN CARE VEHICLE INSPECTION

All Borough lawn vehicles and pieces of equipment should be inspected prior to operation to ensure that all components are functioning properly.

- The area underneath of where the vehicles and equipment are parked should be checked to see if there is any staining or other signs of leaking fluids.
- Any vehicles and equipment with signs of fluid leakage should be immediately scheduled for maintenance to repair those leaks.
- A fluid catch pan must immediately be placed under the portion of the vehicle where the leak is occurring.
- Any vehicles leaking fluids should not be parked over or near a floor drain.
- Vehicles and equipment that are leaking fluids must not be operated until the leaks are repaired.

LAWN CARE VEHICLE OPERATION

All Borough vehicles and equipment, including contractor vehicles and equipment, are to be operated in a safe and legal manner that reduces the likelihood of accidents, and which reduces the potential for pollution to enter the municipal storm sewer system through a discharge incident. This includes obeying all road and traffic rules, and being alert at all times.

- Vehicles should not be driven off of roadways if possible.
- If driving must be done off of a roadway, any dirt that the vehicle carries back onto the roadway must be immediately cleaned up using a shovel and broom, or by a street sweeper if possible.

SPILLS FROM LAWN CARE VEHICLES

In the event of an accident involving vehicle fluids or cargo, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be equipped on vehicles that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or the PA DEP and downstream water users/intakes.

DISPOSAL OF DEBRIS

Lawn Debris should be collected in the proper containers and disposed of via compost piles. The debris should be contained and kept away from precipitation in order to reduce the likelihood that materials will enter the Borough's stormwater system. The EPA states that composting requires three basic ingredients:

- Browns- This includes materials such as dead leaves, branches, and twigs (EPA, 2018).
- Greens- This includes materials such as grass clippings, vegetable waste, fruit scraps, and coffee grounds (EPA, 2018).
- Water- Having the right amount of water, greens, and browns is important for compost development (EPA, 2018).

The EPA lists items that can be used for compost from lawn care activities. These items are (EPA, 2018):

- Cardboard
- Yard trimmings (that are not treated with chemical pesticides)
- Grass clippings
- Hay and straw
- Leaves
- Saw dust
- Wood chips

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

REFERENCES

"When It Rains It Drains." *Stormwater Management*, Pennslyvania Department of Transportation, 2019, www.penndot.gov/doing-business/localgovernment/stormwatermanagement/pages/default.aspx.

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Standard Operating Procedures for the Handling of Batteries

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all batteries owned by the Borough are handled in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting any activities that require the use of batteries.

BATTERIES

The Borough intends to properly store Batteries to mitigate the risk of any waste entering the MS4.

PROPER HANDLING AND DISPOSAL PROCEDURES

Batteries contain acid, which is harmful to humans and animals. Borough staff is required to wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling batteries.

Use the following precautions when working with batteries and associated materials:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of batteries needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Store separately from other chemicals.
- Provide secondary containment.

SPILLS FROM BATTERIES

In the event of a spill involving batteries or battery waste, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand for all activities that have the potential for a significant fluid spill. A spill containment kit should include liquid absorbent materials such as absorbent pads and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles or equipment that requires more than one (1) bag of liquid absorbent material to absorb, or that threatens to enter the storm sewer system, the Borough police department and fire department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's wastewater treatment facility.
- The police and fire departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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"UNITED STATES DEPARTMENT OF LABOR." *Occupational Safety and Health Administration*, United States Department of Labor, 2013, www.osha.gov/Publications/OSHA3646.html.

Standard Operating Procedures for the Handling of Household Cleaners

Spring Grove Borough, York County, Pennsylvania

ARRO Project Number: 00010856.29

ARRO CONSULTING, INC.
108 W AIRPORT ROAD
LITITZ, PA 17543

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INTRODUCTION AND PURPOSE

Polluted stormwater runoff has been identified by the U.S. Environmental Protection Agency (EPA) as one of the main causes of the nation's water quality problems. To help alleviate this situation, the EPA requires communities with Municipal Separate Storm Sewer Systems (MS4s) to obtain a general permit under the National Pollutant Discharge Elimination System (NPDES) program authorizing their stormwater discharges.

Under the NPDES permit for its MS4, Spring Grove Borough (Borough) is required to develop and implement Standard Operating Procedures (SOPs) for municipal activities that have the potential to contribute pollutants to the Borough's MS4.

The goal of this SOP is to ensure that all household cleaners owned by the Borough are handled in a manner that works to prevent polluted runoff into the MS4. Borough personnel are required to follow this manual when conducting activities that require household cleaners.

HOUSEHOLD CLEANERS

Household cleaners may contain ammonia, bleach, aerosol, corrosive substances, and other chemicals that are harmful to humans and animals. The Borough intends to properly store household cleaners to mitigate the risk of spill and entrance into the Borough's MS4.

PROPER HANDLING AND DISPOSAL PROCEDURES

Borough staff is required to wear protective clothing, including safety glasses or goggles and chemical-resistant gloves, when handling and applying household cleaners.

Use the following precautions when working with household cleaners:

- Keep containers closed, except when removing or adding material (OSHA, 2013).
- Use only the amount of household cleaner needed for the task (OSHA, 2013).
- Clean up spills as soon as possible (OSHA, 2013).
- Dispose of waste material in approved cans (OSHA, 2013).
- Do not dump excess materials into drains or onto the ground.
- Separate from other chemicals.
- Provide secondary containment.

SPILLS FROM HOUSEHOLD CLEANERS

In the event of a spill involving household cleaners, make all attempts to prevent the spilled material from entering the storm sewer system or nearby waterways. This could include diking, damming, absorbing, or removing the material from the affected area. Appropriate spill containment and recovery equipment should be on hand when conducting activities that have the potential for a significant fluid spill. A spill containment kit should include absorbent materials such as, Safe T Sorb, absorbent pads, and/or sand.

In the event of a spill:

- Absorbent materials should be sprinkled around and over the spill and then immediately swept up and placed in a trash bag and disposed of in the Borough's municipal trash.
- Dispose of all recovered material properly and in accordance with all applicable state and federal waste disposal regulations.
- For any spill from vehicles or equipment that requires more than one (1) bag of Safe T Sorb to absorb, or that threatens to enter the storm sewer system, the Police Department and Fire Department should be immediately contacted to provide assistance.
- If a major spill occurs and enters a floor drain, notify the Borough's Wastewater Treatment Facility.
- The police and Fire Departments will notify other entities as necessary if the spill has entered the storm sewer system such as the EPA, or PA DEP and downstream water users/intakes.

QUALITY ASSURANCE/QUALITY CONTROL

All Borough personnel are responsible for reviewing and understanding this SOP. The applicable supervisor will review this SOP at the end of every MS4 reporting period for relevancy. The checklist will be signed by supervisor after activities to ensure appropriate measures have been taken. The Borough Manager will be notified immediately if any issues occur. Corrective actions will be taken if needed.

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