BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report

July 1, 2023 – June 30, 2024

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

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Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

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DEP FORM 3800-FM-BCW0491, MS4 Annual Progress Report

ATTACHMENTS

Attachment Number	Description
1	**Integrated Public Education and Outreach** (MCM#1) and **Public Involvement and Participation Program** (MCM#2)
2	**Reporting Period Carlisle Borough Website Content -** Stormwater Articles from Carlisle Gazette, all Carlisle Borough Website Stormwater Page Content, and all Carlisle Borough Social Media Platform Stormwater Related Public Information.
3	**Carlisle Borough Links of Annual Events and Materials for Solicited Public Involvement and Participation from Specific Audience Groups Including for both the Borough and County-wide.** Solicited Public Involvement and Participation Provided – Carlisle Community Brunch & Barrel Event, Bare Root Tree Planting both Spring and Fall, Capital Region Council of Governments, Carlisle Parks & Recreation Summer Camp Stormwater Lessons, Carlisle Area School District Multi Day Tree Planting and Tree Tending Lesson both Spring and Fall, Downtown Carlisle Clean Up, South Central PA MS4 Workgroup.
4	**Illicit Discharge Detection and Elimination** - Carlisle Borough's IDD&E Program (MCM#3, BMP#1), Illicit Discharge Citizen Complaint Form, IDD&E Violations Spreadsheet Tracking for Reporting Year.
5	**Stormwater System Map** - Map of Carlisle Borough's Stormwater System Map
6	**Outfalls** - MS4 Outfall Map 2021, Completed Annual Dry Weather Inspection Forms and Documents.
7	**Stormwater Management Ordinance** - Stormwater Management Ordinance (MCM#3, BMP#5) and Carlisle Borough Stormwater Management Ordinance Website Information.

Municipal Separate Storm Sewer System (MS4)
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Attachment Number	Description
8	**BMPs** - BMP Inspection Program, Completed Annual BMP Inspection Forms and Documents, BMP Installation Log.
9	**Pollutions Prevention and Good Housekeeping** - Summarization of Training Completed including Topics, Presenters and Attendees, and Employee Training Plan for Reporting Period.
10	**Summary of Progress Achieved** - Updated Summary of Progress Achieved BMP Project Schedule and Anticipated Activities for the Next Permitting Year.

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, 2023 TO JUNE 30, 2024

GENERAL INFORMATION			
Permittee Name:	Borough of Carlisle	NPDES Permit No.:	PAI133517
Mailing Address:	53 W. South Street	Effective Date:	August 1, 2020
City, State, Zip:	Carlisle, PA 17013	Expiration Date:	July 31, 2025
MS4 Contact Person:	Corey Flythe	Renewal Due Date:	January 27, 2025
Title:	Water Resources Operations Mgr.	Municipality:	Borough of Carlisle
Phone:	717-240-6980	County:	Cumberland
Email:	cflythe@carlislepa.org		

Co-Permittees (if applicable): N/A

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?
Conodoguinet Creek	WWF	No	---	---	---
Letort Spring Run Basin, PA 34 Bridge to Railroad	EV, MF	No	---	---	---
Letort Spring Run Basin, Railroad Bridge at Letort Park to Mouth	HQ-CWF, MF	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 Stormwater Impacts	Borough of Carlisle	Corey Flythe	717-240-6980
#2 Public Involvement/Participation	Borough of Carlisle	Corey Flythe	717-240-6980
#3 Illicit Discharge Detection and Elimination (IDD&E)	Borough of Carlisle	Corey Flythe	717-240-6980
#4 Construction Site Stormwater Runoff Control	Cumberland County Conservation District	Matt Stough	717-240-7838
#5 Post-Construction Stormwater Management in New Development and Redevelopment	Borough of Carlisle	Corey Flythe	717-240-6980
#6 Pollution Prevention / Good Housekeeping	Borough of Carlisle	Corey Flythe	717-240-6980

MCM #1 – PUBLIC EDUCATION AND OUTREACH ON STORMWATER 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**: June 2024 **Were updates made?** ☒ Yes ☐ No

3. **What were the plans and goals for public education and outreach for the reporting period?**
   The plans and goals for the Public Education and Outreach portion of the reporting period for the Borough of Carlisle included the following:
   - The addition of public information regarding stormwater within the community and beyond, to be implemented and located on the Borough's website and social media outlets.
   - Produce and distribute Borough Gazette Newsletter articles with stormwater related content for the benefit of residents and stormwater in the environment.
   - Publish a stormwater educational notice in the local newspaper for primary and secondary target audiences within and outside of Carlisle Borough.
   - Distribute educational materials to primary and target audiences within the public, implementing educational practices at community events. Material distribution included displays, signs, posters, pamphlets and brochures.
   - To increase informational outreach to various audiences within the community. Examples of groups to be included consisted of borough residents, Carlisle Area School District students, business owners, Borough public works personnel, Borough parks and recreation personnel and Borough codes enforcement officers.
   - Work with local community members and organizations to educate and to answer questions and concerns regarding stormwater management in the community.

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:**

The specific plans and goals for Carlisle Borough's MS4 Public Education and Outreach portion are for Carlisle Borough to:

- Distribute new stormwater educational materials and/or information to specific audiences; especially within the Carlisle Borough Community, utilizing various methods of distribution including but not limited to displays, signs, posters, pamphlets, brochures, website and media content.
- Engage in community events, implementing stormwater education for all ages. Events to include local programs in water resources/stormwater related opportunities when able and applicable.
- Review and update Target Audience groups as new groups are identified.
- Review the current status of the Carlisle Borough Public Education and Outreach Program and implement updates as needed.

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:** June 2024 **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:** June 2024 **Were updates made?** ☒ Yes ☐ No

3. **Do you have a municipal website?** ☒ Yes ☐ No
   - (URL: https://www.carlislepa.org)

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

Please See Attachment 2D for Carlisle Borough Website Content.

The Borough possesses an MS4 Stormwater webpage that is continuously updated. The MS4 Stormwater webpage is specifically dedicated to the topic. The following is a brief listing of MS4 related Carlisle Borough Website Content:

- MS4 & Watershed Management Information including what and how an MS4 operates and how the permit works. Information on all six MS4 MCM's are located on the Borough's webpage.
- Stormwater Management Ordinance
- Annual Municipal Separate Storm Sewer System (MS4) Status Reports
- Stormwater Education, Stormwater Runoff, Stormwater Utility and Stormwater Utility FAQ, Stormwater Easements, Stormwater Credit Program, Illicit Discharges and Citizen Reporting.

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

The Borough publishes newsletters seasonally in the Carlisle Borough Gazette, specifically containing information to the public about stormwater.

The Borough publishes to various social media platforms regularly regarding MS4 and stormwater related activities.

The Borough provides and updates printed material on MS4 and stormwater related topics, that are made available to the public within Borough Hall.

- Public Announcements regarding public infrastructure projects that involved stormwater improvements.
- Public Announcements regarding Borough locations and community greening and sustainability where local water sources and stormwater practices were improved.
- Public Announcements where stormwater practices were implemented in the community to help mitigate runoff and flooding.
- Summer Playground Educational workshops for local youth, topics included stormwater, water resources and local waterway conservation.
- Working with Penn State Extension, the Alliance for the Chesapeake Bay and the Carlisle Area School District in planting, tending and educating over 400 students and volunteers on the benefits of reforestation to stormwater management.
- Working with Tree Pennsylvania, Tree Vitalize and the Pennsylvania Department of Conservation and Natural Resources in teaching the benefits to stormwater during the implementation of suburban forests.
- Participating in Annual Earth Day Events to educate the public on stormwater.
- Working with Borough Parks and Recreation, the local Shade Tree Commission and the Carlisle Area School District to reforest local parks and improve the stormwater management within and around the local parks.
- Partnering with the Alliance for the Chesapeake Bay to convert an unused lawn area at our Wastewater Treatment Plant into a riparian forest buffer. 50 volunteers from around the community, including several Borough staff members, joined with the Alliance to plant the over 500 trees needed to create the buffer.
- Partnering with the local Carlisle Borough community organizations, obtaining a grant and pursuing and implementing a Brunch and Barrel event for local residents to learn all about municipal MS4's, rain barrels, water conservation and in finishing, were able to take home their rain barrel to use on their property.

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

- Working with surrounding MS4 Communities to support a public education event for the community.
- Working with the community in public education events to improve stormwater management within their communities.
- Maintain and pursue public education implementation with local organizations, including pursuance of a stormwater Best Management Practices of a pollinator meadow.
- Creation and implementation of new stormwater related material made available to the public through various manners of distribution.

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).

Additional methods of distributing stormwater educational materials during the previous reporting period include the following methods:

- Literature made available to the Public at Borough Hall;
- Literature published in a local newspaper;
- Literature posted in the Community Carlisle Gazette;
- Carlisle Borough Earth Day Event ;
- Carlisle Borough Parks and Recreation Summer Camp;
- During tours of municipal facilities, provided to the public; and
- During multiple tree planting events.

MCM #1 Comments:

- See Attachment 1 Title Page and Attachment 1A for Carlisle Borough's PEOP/PIPP
- See Attachment 2A Title Page and Attachment 2A PDF
- See Attachment 2B Title Page and Attachment 2B PDF
- See Attachment 2C Title Page and Attachment 2C PDF
- See Attachment 2D Title for Borough Website Content

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:** June 2024 **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
Stormwater Management Ordinance (2022 Model Ordinance)	09/24/2019	10/10/2019	10/10/2019
Chesapeake Bay Pollutant Reduction Plan	11/06/2019	12/06/2019	12/06/2019

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: 04/06/24

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 following instances of cooperation and participation in MS4 activities, presentations Carlisle Borough made to local watershed conservation organizations, and similar instances of participation or coordination with organizations in the community include the following:

   1.) A Southcentral Pennsylvania MS4 Workgroup Workshop and Presentation. Approximately thirty (30) members meet quarterly to discuss MS4 topics, collaborate and host a guest speaker for the field. The Southcentral Pennsylvania MS4 Workgroup collaborates on effective solutions for Watershed impacts, local decision making, innovative approaches and permittee partnerships among local MS4 partners. The Southcentral Pennsylvania MS4 Workgroup strives to work together to improve water quality and to help members meet their MS4 permit requirements effectively and efficiently. Carlisle Borough attended the annual workshops.

   2.) Earth Day Celebration at Earth Artisan & Outfitter. The Earth Day Celebration at Earth Artisan & Outfitter was held in collaboration with multiple local organizations including the Borough of Carlisle. The earth day event was a free outdoor event open to the public. The Carlisle Borough MS4 Coordinator held a booth that provided educational outreach to the community and all attendees regarding stormwater and stormwater management applicable to their own properties. An educational stormwater activity was featured and aided in engaging participation in stormwater education, display boards were created and utilized to educate residents and community members on stormwater and its great impacts to all forms of life. Materials were provided to the public on the benefits of managing stormwater on their very own properties. Materials were provided to the public, designed to provide education to various age groups and various audiences.

   3.) Brunch & Barrel Community Event – A community based environmental and water resources educational workshop to teach and provide a hands-on learning experience for residents to build a rain barrel.

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 following activities in which members of the public assisted or participated in the implementation of the SWMP include:

   1.) Two Bare Root Tree Plantings. The plantings were completed at Lemon Street Walkway and within a grass median located at Garland Drive and Rockledge Court, within Carlisle Borough. Combined efforts from Carlisle Borough MS4 Coordinator, Carlisle Borough Personnel, Tree Pennsylvania, The Pennsylvania Department of Conservation and Natural Resources and other local members brought both Spring and Fall plantings to prosperous fruition. The planting promoted and engaged efforts to promote and improve stormwater management through natural tree canopies and the use of tree canopies in urban landscapes to aid in controlling runoff and reducing the volume of runoff. The tree plantings will help in reducing runoff by transpiration, interception, reduced through fall, increased infiltration and phytoremediation.

   2.) Planning, Incorporation and Maintenance of a Pollinator Meadow – Carlisle Borough has pursued the planning and implementation of a native pollinator meadow at the Carlisle Borough Compost Facility in a combined effort to reduce stormwater runoff on the site and reduce pollutant loads. In the coming year the meadow will display an educational path and educational postings for the public on the importance and impact of native pollinator meadows in their community.

   3.) A Downtown Carlisle Association - Earth Day Clean Up was performed in combined efforts to clean up downtown Carlisle. Members of the community and Carlisle Borough Personnel partnered together to clean up various areas of downtown Carlisle including storm drains.

   4.) Tree Planting and Tending with Carlisle High School. The MS4 Coordinator partnered with the Carlisle High School, Chesapeake Bay Foundation and Penn State Extension Master Watershed Stewards in a combined effort to teach local students the importance of tree planting, tree tending and tree maintenance with regards to the Carlisle High School Geo-Environmental Science Department. Students were taught firsthand the benefits of reforestation and the benefits of reforestation to stormwater management practices. The students were taught how trees and reforestation help to improve water quality and local watershed health and how reforestation helps to greatly lessen the volume of stormwater pollutants.

   5.) Carlisle Borough Parks & Recreation Summer Camp Educational Lessons. The Carlisle Borough MS4 Coordinator worked with Carlisle Parks and Recreation in coordination with their 2024 Summer Day Camp Program. The Carlisle Borough 2024 Summer Day Camp Program is an 11-week, full day camp made available to Carlisle Borough youth within the community. A strong aspect of the Summer Day Camp program is to provide the community youth with a positive camp structure with themed educational activities. I am helping to educate our Carlisle Borough community youth on our local water sources and conserving these areas. The educational water resources/conservation themed presentation was held for approximately forty-two (42) children.

MCM #2 Comments:

See Attachment 5 for Solicited Public Involvement and Participation from Specific Audience Groups Including the Following for both the Borough and County-wide:

-Attachment 3 – Links to Activities Regarding Implementation of SWMP
Brunch and Barrel Community Educational Event
Bare Root Tree Planting Spring
Bare Root Tree Planting Fall
Carlisle Parks & Recreation Summer Camp Stormwater Lessons
Carlisle Area School District Tree Planting and Tree Tending Spring
Carlisle Area School District Tree Planting and Tree Tending Fall
Downtown Carlisle Clean Up

-Attachment 3A - South Central PA MS4 Workgroup

-Attachment 3B - Capital Region Council of Governments

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:** June 2024 **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):** June 2024
3. **Total No. of Outfalls in MS4:** 24 **Total No. of Outfalls Mapped:** 24
4. Total No. of Observation Points: 0 Total No. of Observation Points Mapped: 0
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):** June 2024

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?** 24
2. **Indicate the percentage of all outfalls screened in the past five years.** 100%
3. **Indicate the percent of outfalls screened during the reporting period that revealed dry weather flows:** 100%
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: 10/10/2019

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.

   N/A

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?

   The following IDD&E related information was distributed and presented to public employees, businesses, and the general public during this reporting period:

   - IDD&E Information and Citizen Form on the Carlisle Borough Website
   - IDD&E Informational Workshop to Carlisle Borough Public Works, Community Codes Enforcement and Parks & Recreation Personnel.

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:

- See Attachment 4A - Carlisle Borough's IDDE Program
- See Attachment 4B - IDD&E Citizen Complaint Form
- See Attachment 4C - IDD&E Violations Spreadsheet for Reporting Year
- See Attachment 5 - Carlisle Borough's Stormwater System Map
- See Attachment 6 - Carlisle Borough Outfalls, Mapping, Inspections and Documentation
- See Attachment 7 - Carlisle Borough Stormwater Management Ordinance
- See Attachment 7 - Carlisle Borough Stormwater Management Ordinance (Carlisle Borough Website)

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: 03/11/2011
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:

N/A

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: 10/10/2019
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: 10/10/2019
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.

   N/A

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):
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	**(PLEASE SEE ATTACHMENT NO. 8 FOR COMPLETE BMP LISTING)**			° ' "	° ' "			
2				° ' "	° ' "			
3				° ' "	° ' "			
4				° ' "	° ' "			
5				° ' "	° ' "			
6				° ' "	° ' "			
7				° ' "	° ' "			
8				° ' "	° ' "			

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:

See Attachment No.8 for Carlisle Borough BMP Inspection Program,
BMP Installation Log (2023-2024),
Completed BMP Inspections for the Reporting Period (2023-2024)

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? June 2024
3. When was it last updated? June 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: June 2024

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: June 2024 Date of latest training: 06/16/2024

3. Training topics covered:

Please see Attachment No. 9 for Summarization of Training completed.

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

Please see Attachment No. 9 for Summarization of Training completed.

5. Names of training attendees:

Please see Attachment No. 9 for Summarization of Training completed.

MCM #6 Comments:

See Attachment 9 for MS4 Employee Training Program

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)	June 2021	☒	
Source Inventory		☐	
Investigation of Suspected Sources		☐	
Ordinance/SOP for Controlling Animal Wastes		☐	

PCM Comments:
N/A

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)	11/29/2019	07/23/2020	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)	154,802.93	103.41	1,160.33
☐ 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: 09/30/25
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.

5. **Summary of progress achieved during reporting period.**

   Please See Attachment No.10 for a summary of the progress achieved during the reporting period.

6. **Anticipated activities for next reporting period.**

   See Attachment No. 10 for the anticipated activities for the next reporting period.

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)
54	FAIRGROUND AVENUE LINEAR PARK ON LOT D	0.49	32	0.49	ACRES	40°12' 34"	77° 11' 21"	05/2024	X		641

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 Inspection	Satis-factory ?

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).

Susan Armstrong, Carlisle Borough Manager	Susan Armstrong
Name of Responsible Official	Signature
717-240-6922	September 20, 2024
Telephone No.	Date

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 1

Integrated Public Education and Outreach and
Public Involvement and Participation Program

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)

Integrated Public Education and Outreach and Public Involvement and Participation Program

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

I. INTRODUCTION

The Borough of Carlisle (Borough) is located in central Cumberland County, within the Cumberland Valley. The Borough is approximately 5.7 square miles in area, with the majority of the land containing high density urbanized development. As of the 2010 United States census, the Borough population was 18,682. The population as of 2014 was 18,916, based on Penn State Data Center estimates. Carlisle serves as the Cumberland County seat. The Borough is home to Dickinson College and the Penn State Dickinson School of Law. The United States Army War College at the Carlisle Barracks is located on the border of the Borough in adjacent North Middleton Township.

The topography of the Borough is a broad valley over limestone bedrock with slopes under eight percent. The Borough is located within the Conodoguinet Creek Watershed. Streams tributary to Conodoguinet Creek that receive runoff from the Borough are Alexander Spring Run, Letort Spring Run, and the Molly Grub. The land in the extreme western edge of the Borough drains to Alexander Spring Run. The north-central portion of the Borough drains to Conodoguinet Creek, and the Letort Spring Run basin is comprised of the remainder of the Borough. The Molly Grub drains into Letort Spring Run at Letort Park, located in the east-central portion of the Borough. Letort Spring Run eventually drains into the Conodoguinet Creek about 3.9 stream miles north of the Borough in North Middleton Township. Conodoguinet Creek discharges into the Susquehanna River in East Pennsboro Township, Cumberland County. The Susquehanna River discharges into the Chesapeake Bay. Therefore, the Borough is located entirely within the Chesapeake Bay watershed.

II. PERMIT REQUIREMENTS

The Borough received a National Pollutant Discharge Elimination System (NPDES) Permit from the Pennsylvania Department of Environmental Protection (DEP) in 2015 for the Borough's Municipal Separate Storm Sewer System (MS4). The NPDES Permit has an effective date of May 1, 2015. The Borough's MS4 collects runoff and conveys it through a system of street gutters, pipes and swales, before discharging the runoff to surface waters located in the Borough or downstream from the Borough. The MS4 Permit places specific requirements on the Borough that includes public education and public involvement in water quality improvement issues. Specifically, the MS4 Permit outlines a series of six (6) Minimum Control Measures, or MCMs. Each of these contains multiple Best Management Practices (BMPs) and Measurable Goals that must be met. The Borough has chosen to integrate several BMPs of MCM #1 and MCM #2 into a singular Plan since both MCMs address working with citizens to attain cleaner water. The requirements for MCM #1 and MCM #2 as provided in the MS4 Permit are as follows:

> ***MCM #1: Public Education and Outreach on Stormwater Impacts***
> *Implement a public education program to distribute education materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff. (40 CFR Part 122.34(b)(1)(i))*

- **BMP #1:** Develop, implement and maintain a written Public Education and Outreach Program (PEOP).

- **BMP #2:** Develop and maintain lists of target audience groups that are present within the areas served by the regulated MS4s. In most communities the target audiences shall include residents, businesses (including commercial, industrial and retailers), developers, schools, and municipal employees.

- **BMP #3:** Annually publish at least one issue of a newsletter, a pamphlet, a flyer, or a web site that includes general stormwater educational information, a general description of the Borough's Stormwater Management Program, and/or information about stormwater management activities. The list of publications and the content should include a list of references (or links) to refer the reader to additional information (e.g., PADEP and USEPA stormwater websites, and any other sources that will be helpful to readers). Implement at least one of the following alternatives:

    a. Publish and distribute in printed form a newsletter, a pamphlet or a flyer containing information consistent with this BMP.

    b. Publish educational and informational items including links to PADEP's and USEPA's stormwater websites on the municipal website.

- **BMP #4:** Distribute stormwater educational materials and/or information to the target audiences using a variety of distribution methods, including but not limited to: displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements (e.g., at bus and train stops/stations), bill stuffers, posters, presentations, conferences, meetings, fact sheets, giveaways, storm drain stenciling. Select and utilize at least two distribution methods in each permit year (in addition to the newsletter and website provisions of BMPs #3 and #4).

MCM #2: Public Involvement / Participation
Comply with applicable state and local public notice requirements when implementing a public involvement/participation program. (40 CFR Part 122.34(b)(2)(i))

- **BMP #1:** Develop, implement and maintain a written Public Involvement and Participation Program (PIPP) which describes various types of possible participation activities and describes methods of encouraging the public's involvement and of soliciting the public's input. The PIPP shall include, but be limited to:

a. Opportunities for the public to participate in the decision-making processes associated with the development, implementation, and update of programs and activities related to the permit.

b. Methods of routine communication to groups such as watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the regulated small MS4s or their receiving waters.

c. Making periodic reports available to the public on the municipal website, municipal offices, or by US Mail upon request.

- **BMP #2:** Prior to adoption of any ordinance required by the Permit, provide adequate public notice and opportunities for public review, input, and feedback.

- **BMP #3:** Regularly solicit public involvement and participation from the target audience groups. This should include an effort to solicit public reporting of suspected illicit discharges and the Borough's implementation of its Stormwater Management Program (SWMP). Conduct public meetings to discuss the on-going implementation of the SWMP. The PIPP shall include, but be limited to:

  a. Holding at least one public meeting per year to solicit public involvement and participation from target audience groups after giving reasonable notice through the usual outlets a reasonable period in advance of each meeting. During the meetings, present a summary of the Borough's progress, activities, and accomplishments with implementation of the SWMP, and provide opportunities for the public to provide feedback and input.

  b. Documenting and reporting instances of cooperation and participation; presentations made to local watershed organizations and conservation organizations; and similar instances of participation or coordination with community organizations.

  c. Documenting and reporting activities in which members of the public assisted or participated in meetings and in the implementation of the Borough's SWMP, including education activities or organized implementation efforts such as cleanups, monitoring, storm-drain stenciling, or others.

Public Education and Outreach Program (PEOP)

I. Purpose:

The Borough of Carlisle recognizes the benefit and importance of stormwater education and the need to develop and implement an outreach program. This document shall be referred to as the official Carlisle Borough Public Education and Outreach Program (PEOP). It will be used to develop the Public Education and Outreach tasks for each permit year. The PEOP is intended to serve as a roadmap to inform the public about water quality impacts of stormwater discharges and actions available to reduce stormwater pollutants.

II. Identification of Target Audience:

Identifying the target audience(s) is important to the development of the Public Education and Outreach Program. The target audiences are noted as follows:

- Borough Residents;
- Carlisle Area School District Students (focus on schools located in the Borough);
- Business Owners;
- Building Contractors;
- Commercial and Residential Developers;
- Land Development Design Professionals;
- Land Development Contractors;
- Borough Public Works and Park and Recreation Employees; and
- Dickinson College staff and students.

In order to meet the educational requirements of the MS4 Permit, the Borough will perform some of the following tasks on a yearly basis while other tasks will be performed at least once per 5-year permit cycle.

III. Yearly tasks and their associated target groups are as follows:

a. Borough Gazette Newsletter articles (minimum of one stormwater related article per year). Potential topics to include educational article on MS4 program, actions residents can undertake to reduce stormwater contamination, status of Borough stormwater management improvement projects, and how to report on any suspicious items in storm system. Primary target audience: Borough residents and business owners. Secondary Target Audience: Any member of the other groups.

b. Develop and maintain the Borough's web site with informational items on Stormwater. Primary Target Audience: Borough residents and business owners. Secondary Target Audience: Any member of the other groups. Potential items on the web site include:

- Map showing watersheds and stormwater management facilities
- PADEP's "When it Rains it Drains" brochure
- Illicit Discharges Fact Sheet
- Procedures for reporting on illicit discharges
- Don't Let Stormwater Run Off With Your Time and Money brochure
- Information on swimming pool draining procedures

c. Continue to support the Letort Regional Authority. The Authority's mission is to protect and preserve the LeTort Spring Run and its watershed by promoting flood control and developing access and recreational opportunities within the watershed. Public involvement and education regarding the use and understanding of the watershed's resources is one of the goals of the Authority. Primary Target Audience: commercial and residential developers, land development design professionals, land development contractors and residents.

d. Distribute "When it Rains, It Drains", "Don't Let Stormwater Run Off with Your Time and Money" and "What is Stormwater" with zoning permit applications and construction contracts. Primary Target Audience: Building Contractors.

e. Publish a stormwater educational notice in the local newspaper (the Carlisle Sentinel) Primary Target Audience: Borough residents. Secondary Target Audience: Newspaper readership outside of Carlisle Borough.

f. Provide links on the Borough website to other stormwater related websites such as PADEP USEPA, CAPCOG, and Letort Regional Authority.

g. Provide yearly updates to the public works and codes enforcement employees of the importance of being alert for the detection of prohibited materials in the Borough's separate storm sewer system and procedures to follow if an illicit discharge is observed. This will be performed at a monthly PW staff meeting. Primary Target Audience: Public Works Employees

IV. Potential Permit Cycle Education and Outreach Tasks are as follows:

a. Water and Sanitary Sewer Bill Stuffers. Distribute stormwater educational materials and/or notices of upcoming stormwater related events in one of the quarterly utility bills mailed to Borough water and sanitary sewer system users. Primary Target Audience: Borough residents and business owners.

b. Social Media Outlets. Post notices of upcoming stormwater related events on the Borough Face Book page and/or other social media outlets such as mySidewalk, NextDoor, and via

notices at neighborhood meetings such as the East Side Neighbors Association, South of South Street Neighborhood Association, Pitt Street Pride and the ABC North West Community Group. Primary Target Audience: Borough residents and Dickinson College Students.

c. Storm Drain Stenciling. Storm Drain Stenciling has been done in the form of "Don't Dump, Drains to the Letort" markers on most street inlets in the Borough that are tributary to Letort Spring Run. Worn, damaged, or missing markers will be replaced on an as-needed basis.

d. Posters. Prepare and place posters throughout Carlisle Borough at downtown businesses, and at Borough Hall announcing special events related to stormwater management topics such as its Rain Barrel Workshop and Adopt a Storm Drain Program. Primary Target Audience: Dickinson College Students, Borough residents, and Business owners.

e. Borough Council Public Meetings. Borough Council generally holds two monthly public meetings that are publicly advertised in the Carlisle Sentinel. Borough Council holds a workshop meeting and a general Borough Council meeting monthly (except in December) which are publicly advertised in the Carlisle Sentinel. Reporters from the Carlisle Sentinel and the Harrisburg Patriot typically attend Borough Council meetings. Presentations and discussions related to stormwater topics are occasional agenda items at the meetings. The meeting agenda is typically placed on the Borough website and meeting notices are also placed on the Borough website. Potential presentation topics may include the Stormwater Management Ordinance, MS4 Program, and establishment of a stormwater utility fee. Carlisle Borough staff will devote a section of either a Workshop Committee meeting or a Borough Council meeting on MS4 permit requirements, pending changes to the stormwater management ordinance, how stormwater requirements could impact development, and the status of compliance with the Borough's MS4 Permit and its Chesapeake Bay Pollutant Reduction Plan. Primary Target Audience: Borough elected officials, Borough residents, and newspaper outlets.

f. Community Event Displays. Provide stormwater related educations materials (brochures, pamphlets, posters, and displays) at a table set up at various community events such as the Amani Festival, Dickinson Community Service Day, Carlisle Summerfair, or Harvest of the Arts Festival. Primary Target Audience: Borough residents, Carlisle school district students, and Dickinson College students.

g. Distribute stormwater educational materials to Carlisle Area School District Elementary Schools. Primary Audience: Elementary School Students.

V. Review:

Each year, the Borough will assess the effectiveness of the tasks performed and adjust the PEOP, as appropriate.

Public Involvement & Participation Program (PIPP)

I. Purpose:

Carlisle Borough recognizes the desire to reduce stormwater runoff as well as improve the quality of stormwater. A requirement of its MS4 Permit is to develop a stormwater management program that includes a public involvement and participation program. This document shall be referred to as the official Carlisle Borough Public Involvement and Participation Program (PIPP).

The PIPP is intended to provide the public with the opportunity to participate in the Borough's stormwater management program development and implementation by involving the public in the decision-making regarding stormwater management, informing the public of stormwater related activities, and attempting to gain broader support for Borough stormwater projects.

II. Methods of Encouraging the Public's Involvement:

See Public Education and Outreach Program (PEOP)

III. Potential Permit Cycle Public Participation Activities:

a. Support watershed, stream and storm drain clean-ups along Letort Spring Run and throughout the Borough of Carlisle. Primary Target Audience: residents, businesses and students.

b. Adopt a Storm Drain Campaign. Institute and run an Adopt a Storm Drain Campaign to have volunteers "adopt" a storm drain near their home and keep it clear of debris and trash. This ensures that stormwater can flow into storm drains as quickly as possible to reduce pollution and street flooding. Volunteers are asked to attend to their adopted storm drain once a week and remove any debris on top of the inlet grating. Carlisle Borough may hold an annual workshop with volunteers to explain the program and provide all supplies needed (gloves, safety vests, and leaf litter bags). Primary Target Audience: Carlisle residents, businesses and students.

c. Rain Barrel Workshops. Partner with or hold publicly advertised workshops to help Carlisle residents construct rain barrels. After an educational presentation, residents are allowed to take home their own rain barrel. Workshops are organized with assistance from the Cumberland County Conservation District. At these workshops, volunteers teach participants about the importance of reducing stormwater pollution and the benefits of using rain barrels. Primary Target Audience: Carlisle Borough residents.

d. Penn State Extension Watershed Education. Implement various kinds of stormwater management educational activities, presentations and informational sessions around the Borough. Primary Target Audience: Carlisle Borough students, residents and businesses.

IV. Soliciting Public Input:

a. The Carlisle Borough MS4 Coordinator will attend regularly held meetings of the Penn State Master Watershed Stewards for Cumberland County and across the state of Pennsylvania, to provide routine communication to the group and seek input on PEOP and PIPP activities.

b. The Borough will post updates on public outreach activities, upcoming public meetings with stormwater agenda items, other MS4 Permit activities, and its annual MS4 report on the Borough website.

c. The Borough will dedicate a portion of at least one Borough Council Workshop or Council meeting annually to stormwater issues in the Borough and seek input from meeting attendees. All Council meetings will be publicly advertised in the Carlisle Sentinel to solicit public involvement and participation.

d. Prior to adoption of any ordinance required by the Permit, the Borough will publicly advertise the draft ordinance to provide adequate public notice and opportunities for public review, input, and feedback.

e. The Borough will make its annual MS4 reports available to the public on the municipal website, at the Public Works engineering Department offices, or by US Mail upon request.

VI. Review:

Each year, the Borough will assess the effectiveness of the tasks performed and adjust the PIPP, as appropriate.

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 2

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Carlisle Borough Website And Social Media MS4 Material

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 2A

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Carlisle Borough Website and Social Media MS4 Material

(2023-2024) Carlisle Borough Winter Gazette Article (Community Newsletter)

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

Employee Spotlight

The Borough's employees are the foundation to its success in the constant delivery of vital, core services to our residents and stakeholders. They are committed, accountable, resilient, and ethical. We want to celebrate those employees who reached milestone anniversaries in 2023. Thank you all for your service to the Carlisle community!

5 Years

Mike Boswell, Field Operations Foreman
Officer Jamie DiMartile
Tonya Gochenaur, Payroll Specialist
Officer Ronald Hoover
Wade Schlusser, Water Treatment Plant Operator
K9 Officer Ryan Stover

10 Years

Officer John Hanner
Detective Christopher Miller

15 Years

Staff Sergeant Joshua Bucher
Corporal Scott Hertzler
Travis Kaufmann, Water Treatment Plant Operator

20 Years

Robert Cribbs, Biosolids Operator
Mike Stoner, Lab Technician
Karen Toth, Lab Technician

25 Years

Lieutenant Steve Latshaw
Todd Wickard, Biosolids Operator

35 Years

Randy Bender, Water Plant Operator
Rick Frieben, Engineering Technician

40 Years

Linda Dougherty, Engineering Assistant

Lower Your Sodium This Winter

Pennsylvania waterways do not take a break from accumulating runoff throughout the winter season! Runoff from driveways and sidewalks contains increased sodium from the ice melt that is used to ensure safe travel. That extra sodium in the runoff ends up in our local waterways. There are a few simple things you can do to help reduce the amount of salt used.

Check the Temperature

When the temperature is lower than 15 degrees, avoid the salt. Salt works by lowering the freezing temperature so ice crystals cannot form. Traditional salt is only effective when temperatures are above 15 degrees. Consider substitutes such as calcium chloride or even sand for traction on sidewalks and driveways.

Sweep it Up

After a snow or ice event, sweep up leftover ice melt granules to eliminate the chances of salt being washed into stormwater drains. Just a teaspoon of salt in five gallons of water can change an ecosystem and cause harm to fish and other aquatic plants and animals.

Slow Down & Use Less

When winter travel is necessary, slow down. Reducing your speed on wet or icy roads can lessen the chance of an accident. One pound of de-icer is all that is needed to clear a 20-foot driveway, ten squares on a sidewalk, or 250 square feet. That is equal to one big coffee mug!

Just one pound of de-icer can clear a 20-foot driveway. That's the equivalent of one big coffee mug!

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 2B

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Carlisle Borough Website And Social Media MS4 Material

(2023-2024) Carlisle Borough Summer Gazette Article (Community Newsletter)

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

Upcoming Green Infrastructure Projects

In April, Borough Council gave the green light to three green infrastructure projects that will advance Carlisle Borough's stormwater management efforts.

The projects are part of our Stormwater Master Plan, which supports our goals of reducing flooding, meeting the regulations of our stormwater permit, and improving local water quality. These three projects have been prioritized because they will play a key role in helping us meet the nitrogen, phosphorous, and sediment reduction requirements set by the Pennsylvania Department of Environmental Protection's Bureau of Clean Water.

Biddle Mission Park Riparian Buffer: Relocation of walking trail; management of stream access; installation of vegetated riparian buffer. A riparian buffer is a strip or zone of vegetation along the banks of a water body that serves as a protective barrier between the water and the land. They control erosion, improve water quality, enhance wildlife habitats, and reduce downstream flooding by absorbing excess water.



Biddle Mission Stream

Orange Street Basin: Convert the grass-lined basin into a dry extended detention basin and wet pond. Dry detention basins can hold more runoff than grass swales, providing better flood control. Wet ponds are more effective at removing pollutants and are easier to maintain.

Thornwald Park Green Infrastructure Concepts: Create concepts for green infrastructure stormwater retention structures to address our water quality responsibilities and downstream flooding along Walnut Bottom Road.

These three projects are just pieces of our stormwater management puzzle, and there are other areas to address. Staff will continue to monitor, evaluate, and prioritize projects to address our stormwater needs and ensure an effective allocation of resources.

Land Use Reform Work Continues

The Borough's Land Use Reform subcommittee was formed in January of 2023 with the goal of reviewing Carlisle's adopted land use policies and regulations and consider recommendations for improvement. The subcommittee also reviews urban and suburban design best practices, off-street parking standards and alternatives, and strategies to induce small-scale housing markets, infill of vacant or underutilized developed land, and reuse of existing buildings.

Borough Council has acted on several of the subcommittee's recommendations. In December 2023, Council voted to rezone the former Frog, Switch & Manufacturing Company to Urban Mixed Use, to allow for a wider variety of land uses, including residential, commercial, and open space. Council has also acted to reduce parking minimums to one off-street space per one-bedroom or less dwelling unit and two spaces for dwelling units with two or more bedrooms.

At its July Meeting, Borough Council approved a zoning ordinance amendment that allows for a fee in-lieu of parking. Developers can request a reduction in off-street parking for a one-time fee. Fee-in-lieu of parking provides the Borough with funds to manage parking demand while encouraging infill and the reuse of existing developed land that is underutilized. This pattern of development could help the Borough meet its climate action goals as well by reducing traffic generation, demolition, and associated emissions.

Up next on the committee's agenda is a look at Accessory Dwelling Units or ADUs. An ADU is a small residence on a single-family lot with a larger, primary dwelling. An ADU can be built new or be converted from an existing structure such as a garage. ADUs can provide rental income to homeowners and an affordable way for renters to live in single-family neighborhoods. You can find the latest information on the subcommittee's activities at www.carlislepa.org/lur.

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 2C

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Carlisle Borough Website and Social Media MS4 Material

(2023-2024) Carlisle Borough PEO & PIP

a.) Brunch & Barrel Event
b.) High School Tree Planting Events
c.) Bare Root Tree Plantings
d.) Summer Day Camp Lessons
e.) Native Plantings
f.) Earth Day Events
g.) Tree City USA Event
h.) Stormwater Projects
i.) Leaf Collection
j.) Lawn To Meadow Conversion
k.) Green Infrastructure

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

Instagram:

Brunch & Barrel: https://www.instagram.com/p/C66mxf2Ox37/?img_index=1

High School Tree Planting: https://www.instagram.com/p/C6E6INOPjbe/?img_index=1

Bare Root Tree Planting: https://www.instagram.com/p/C553il2u28h/?img_index=1

Summer Day Camp Lesson:
https://www.instagram.com/reel/CvsJhKlNKab/?fbclid=IwY2xjawEzLldleHRuA2FlbQIxMAABHc45OvLUWa6Jfpw3hsf-LS-IiGkfT9cjN4PKLE3tuRJHDTvNEHiGYl95TQ_aem_JKWEnxvCu4jowCQV6QTHbw

Native Plantings: https://www.instagram.com/p/Cs_3PE0uWDu/?img_index=1

Facebook:

Brunch & Barrel:
https://www.facebook.com/carlislepa/posts/pfbid0gfpBq6bvyQwzuQ6Mc2FAM4JM6A2QETmwjbpxEM8ogaP9viTrhKM84XGrNjLfvk3tl

Earth Day Event:
https://www.facebook.com/carlislepa/posts/pfbid025JdTxbupk2uNpQ56dkMa3NSXgJCU7xojtgCoPp1FwUELwvMmAbQTFwZjwfVZefkBl

Tree City USA:
https://www.facebook.com/carlislepa/posts/pfbid0BPhvbpEFkbrJranPmSkwJMT6k3yXu6y5J2zxktvRBjM3ZM6agL2uNHTyiDrdStZel

High School Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid02nmsZQvZ7KAUukdTLsmE6BCzBNR3pnyBgwamqeVkwgMSb9c53yRNfpfCaopaAvdakl

Bare Root Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid0teiccfytBo5iV18MBb8JnwdjcfwD6KkDKLQZHdV9ECDghfmg728aJ6YJU68TdLzhl

Upcoming Stormwater Projects:
https://www.facebook.com/carlislepa/posts/pfbid02eh2u2sUdpkaNtZngS6C47g8VTxMvqbJ72X8o4qcLUAfg524q5BNohj5zv6D2pGyYl

Lemon Street Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid025o8fSGFuCstMcetJhUBU2nJ8mivFjK52WfeJ4a6kqR5g3mNfLUuVzx8LJCmPaE63l

High School Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid02FvuH8Ft3XoWoyTfQuWWToLdpfv3LZdXQ2NgQ96od4Z15JPVfzmQGiaAfyy4nQpRVl

Leaf Collection:
https://www.facebook.com/carlislepa/posts/pfbid02CvvvKQb4e7EpS7Nte6UfWbGsz5k2bWNWwXe2zgfSCDUo94yjSpX2qorVEunjTv5Kl

Lawn-to-Meadow Conversion:
https://www.facebook.com/carlislepa/posts/pfbid02SHmwt6nwaoR3FeR4FrCMrAQoyxhWXuVCodDFugAKcdr71aZKf7eMU6S3gaCPqfQSl

Native Plantings:
https://www.facebook.com/carlislepa/posts/pfbid02mYn1CzDpwmssXbQNQFLfrBuA9GooGq1iLjGJVVbcvLon4uSbMVm5NeEZoY1raamfl

LinkedIn

Brunch & Barrel:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7224085769936646145/?actorCompanyId=4027636

Earth Day:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7190726707362897921/?actorCompanyId=4027636

Bare Root Tree Planting:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7186428860995973120/?actorCompanyId=4027636

Green Infrastructure:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7186044409262579713/?actorCompanyId=4027636

Lemon Street Tree Planting:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7137860129940504576/?actorCompanyId=4027636

BOROUGH OF CARLISLE

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Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 2D

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Carlisle Borough Website and Social Media MS4 Material

(2023-2024) Carlisle Borough PEO & PIP

Carlisle Borough Website – Stormwater Management Information

https://www.carlislepa.org/residents/stormwater_management/index.php

MS4 & Watershed Management

Stormwater Management Ordinance

Annual Municipal Separate Storm Sewer System (MS4) Status Report (2022-2023)

Welcome to the Borough of Carlisle's Stormwater Management Information page. This page is designed to provide Borough residents and businesses with access to information, tools and resources to help preserve and protect clean water in the Borough and downstream communities. We hope that you will find this information useful. Please remember that actions taken by both residents and businesses can have a positive impact on our water resources.

What is Stormwater Runoff?

Stormwater runoff is water from rain or melting snow that "runs off" across the land instead of seeping into the ground. It is created when rain or snow falls on roads, driveways, parking lots, rooftops and other covered surfaces that do not allow water to soak into the ground. Stormwater runoff is the number one cause of stream impairment in urban areas such as the Borough of Carlisle.



Most of the rain and snow falling within the Borough eventually enters area waterways. The Borough operates and maintains a storm sewer system to collect runoff from streets and other impervious surfaces and conveys the water to area streams. Carlisle's Municipal Separate Storm Sewer System (also referred to as its MS4) includes over 28 miles of underground pipes and over 2,000 street inlets. The Borough also owns the land just west of W. South Street and S. Orange Street. This large field is used to capture and temporarily hold stormwater before it is released into storm sewers.

As stormwater flows over streets, sidewalks, lawns, and other areas; it can pick up pollutants such as motor oil, road salt, pet waste, fertilizers, pesticides, and debris. The stormwater eventually travels through the storm sewer system and is discharged untreated to either Letort Spring Run, Conodoguinet Creek, or Alexander Spring Creek, impacting area water quality.

In addition to Borough owned and maintained facilities, there are numerous private facilities, such as detention basins, vegetative swales, and other landscaped areas, that help manage stormwater and reduce runoff.

Select Language

Chapter 217. Stormwater Management

[HISTORY: Adopted by the Borough Council of the Borough of Carlisle 8-11-1983 by Ord. No. 1431, approved 8-11-1983; amended in its entirety 3-10-2011 by Ord. No. 2147, approved 3-11-2011. Subsequent amendments noted where applicable.]

GENERAL REFERENCES
Fees — See Ch. **120**.
Floodplain management — See Ch. **135**.
Sewers — See Ch. **197**.
Street openings for utility installations — See Ch. **223**, Art. **IV**.
Subdivision and land development — See Ch. **226**.

Article I. General Provisions

§ 217-1. Short title.

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

§ 217-2. Statement of findings.

The Borough Council finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases runoff volumes, 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 non-point source pollution of water resources.
[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

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).

E. The use of green infrastructure and low impact development (LID) are intended to address the root cause of water quality impairment by using systems and practices which use or mimic natural processes to infiltrate and recharge, evapotranspire, and/or harvest and use precipitation near where it falls to earth. Green infrastructure practices and LID contribute to the restoration or maintenance of predevelopment hydrology.
[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

F. 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) program.
[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

§ 217-3. Purpose.

The purpose of this chapter is to promote health, safety, and welfare within the Borough and its watershed by minimizing the harms and maximizing the benefits described in § **217-2** of this chapter through provisions designed to:

A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 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, reduce runoff volumes and mimic predevelopment hydrology.
[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

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

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

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

G. Provide proper operation and maintenance of all permanent stormwater management (SWM) best management practices (BMPs) that are implemented within the Borough.

H. Provide standards to meet NPDES permit requirements.

I. Meet general water quality and soil disturbance goals by implementing measures to:

(1) Minimize disturbance to floodplains, wetlands, natural slopes over 15%, and existing native vegetation.

(2) Preserve and maintain trees and woodlands. Maintain or extend riparian buffers and protect existing forested buffer. Provide trees and woodlands adjacent to impervious areas whenever feasible.

(3) Establish and maintain nonerosive flow conditions in natural flow pathways.

(4) Minimize soil disturbance and soil compaction. Over disturbed areas, replace topsoil to a minimum depth equal to the original depth or four inches, whichever is greater. Use tracked equipment for grading when feasible.

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

(6) Incorporate the techniques for low-impact development practices described in the most current version of "The Pennsylvania Stormwater Best Management Practices Manual" (SWM Manual). [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]

(7) Minimize thermal impacts to waters of the commonwealth.

§ 217-4. Statutory authority.

A. Primary authority.

(1) The Borough is empowered to regulate these activities by the authority of the Stormwater Management Act, Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1 et seq., as amended, Article **XXII** and Section 1202(74) of the Pennsylvania Borough Code, 53 P.S. § 47201 et seq., and 53 P.S. § 46202(74).

(2) Hereafter, all earth disturbance activities and land development within this Borough, including, without limitation, the location, design and construction within the watershed of stormwater management systems, obstructions, flood control projects, subdivisions and major land developments, highways and transportation facilities, facilities for the provision of public utility services and facilities owned or financed in whole or in part by funds from the commonwealth, shall be in full compliance with the requirements of the Cumberland County Stormwater Management Plan and shall be conducted in a manner consistent therewith. Any violation of the Cumberland County Stormwater Management Plan shall be considered a violation of this chapter.

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, and/or the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1, et seq., as amended, The Stormwater Management Act.
[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

§ 217-5. Applicability; minimum requirements.

A. 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 as is reasonably necessary to prevent injury to health, safety or other property. The following activities are encompassed by the definition of regulated activities (see § **217-11**) and shall be subject to the provisions of this chapter unless otherwise exempted by § **217-13**:

(1) Land development and/or redevelopment.

(2) Subdivision.

(3) Construction of new or additional impervious or semi-pervious surfaces (streets, driveways, parking lots, etc.).

(4) Construction of structures or additions to existing structures, as determined by the Borough.

(5) Diversion or piping of any natural or man-made stream channel.

(6) Installation of stormwater management facilities or appurtenances thereto.

(7) Forest management/timber operations that include logging road construction and timber harvesting.

B. In interpreting and applying the provisions of this chapter, they shall be held to be the minimum requirements for the promotion of public health, safety, comfort, convenience and general welfare. Where provisions of this chapter impose greater restrictions than those of Chapter **135**, Floodplain Management, of this Code, Chapter **226**, Subdivision and Land Development, of this Code, or of any statute, other ordinance, restriction or regulation, the provisions of this chapter shall be controlling. Where the provisions of Chapter **135**, Chapter **226** or of any statute, other ordinance, resolution or regulation impose greater restrictions than this chapter, the provisions of such statute, resolution, ordinance or regulation shall be controlling. This chapter shall be interpreted whenever possible to achieve a result consistent with the provisions of Chapter **135** and Chapter **226**, as applicable.

§ 217-6. Repealer.

Any other Chapter or ordinance provision(s) or regulations of the Borough inconsistent with any of the provisions of this chapter are hereby repealed to the extent of the inconsistency only.

§ 217-7. Severability.

In the event that a court of competent jurisdiction declares any section or provision of this chapter invalid, such decision shall not affect the validity of any of the remaining provisions of this chapter.

§ 217-8. Compatibility with other requirements.

Approvals issued and actions taken under this chapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation, chapter or ordinance.

§ 217-9. Waiver procedure.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. If the Borough of Carlisle determines that any requirement under this chapter cannot be achieved for a particular regulated activity, the municipality may, after an evaluation of alternatives, approve measures other than those in this chapter, subject to § **217-9B** and **C**.

B. Waivers or modifications of the requirements of this chapter may be approved by the Borough of Carlisle if enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that the modifications will not be contrary to the public interest and that the purpose of the chapter is preserved. Cost or financial burden shall not be considered a hardship. Modification may be considered if an alternative standard or approach will provide equal or better achievement of the purpose of the chapter. A request for modifications shall be in writing and accompany the stormwater management site plan submission. The request shall provide the facts on which the request is based, the provision(s) of the chapter involved and the proposed modification.

C. No waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre may be granted by the Borough of Carlisle unless that action is approved in advance by the Department of Environmental Protection (DEP) or the Cumberland County Conservation District.

Article II. Definitions

§ 217-10. Word usage.

For the purposes of this chapter, certain terms and words used herein shall be interpreted as follows:

A. Words used in the present tense include the future tense; the singular number includes the plural; and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

§ 217-11. Definitions.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

AGRICULTURAL ACTIVITY

Activities associated with agriculture, such as agricultural cultivation, agricultural operation, 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 municipality for approval to engage in any regulated activity at a project site in the municipality.

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.

BOROUGH
The Borough of Carlisle, Cumberland County, Pennsylvania; Carlisle Borough.

BOROUGH COUNCIL
The governing body of the Borough of Carlisle, Cumberland County, Pennsylvania.

CODE
The Code of the Borough of Carlisle.

CONSERVATION DISTRICT
A conservation district, as defined in § 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.

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 VOLUME
The volume of runoff that is captured and released into the waters of the commonwealth at a controlled rate.

DEVELOPMENT SITE (SITE)
See "project site."

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

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 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.

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 or delineated by applicable FEMA maps and studies as being a special flood hazard area. Also includes areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania DEP Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by DEP).

FLOODWAY
The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the 100-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 100-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 forestland. 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.

GREEN INFRASTRUCTURE

Systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater on the site where it is generated.

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).

IMPERVIOUS SURFACE (IMPERVIOUS AREA)

A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to: roofs; additional indoor living spaces, patios, garages, storage sheds and similar structures; and any new streets or sidewalks. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration.

KARST

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

LAND DEVELOPMENT (DEVELOPMENT)

Inclusive of any or all of the following meanings:

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 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. Any subdivision of land as defined in the Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247, 53 P.S. § 10107.

C. Development in accordance with § 503(1.1) of the PA Municipalities Planning Code.[1]

LOW IMPACT DEVELOPMENT (LID)

Site design approaches and small-scale stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater. LID can be applied to new development, urban retrofits, and revitalization projects. LID utilizes design techniques that infiltrate, filter, evaporate, and store runoff close to its source. Rather than rely on costly large-scale conveyance and treatment systems, LID addresses stormwater through a variety of small, cost-effective landscape features located on-site.

MUNICIPALITY

Carlisle Borough, Cumberland County, Pennsylvania.

NRCS

USDA Natural Resources Conservation Service (previously SCS).

PEAK DISCHARGE

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

PERSON

Any individual, group of individuals, unincorporated association, partnership, corporation, limited liability partnership, limited liability company and any other form of entity.

PERVIOUS AREA

Any area not defined as impervious.

PROJECT SITE

The specific area of land where any regulated activities in the municipality are planned, conducted, or maintained.

QUALIFIED PROFESSIONAL

Any person licensed by the Pennsylvania Department of State 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 as specified in § **217-5**.

REGULATED EARTH DISTURBANCE ACTIVITY

Activity involving earth disturbance subject to regulation under 25 Pa. Code 92, 25 Pa. Code 102, or the Clean Streams Law.[2]

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 4% chance).

RIPARIAN BUFFER

A permanent area of trees and shrubs located adjacent to streams, lakes, ponds and wetlands.

RUNOFF

Any part of precipitation that flows over the land.

SEDIMENT

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

STATE WATER QUALITY REQUIREMENTS

The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code and the Clean Streams Law.[3]

STORMWATER

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

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

The Cumberland County Stormwater Management Plan for managing stormwater runoff adopted by the County of Cumberland as required by the Stormwater Management Act, the Act of October 4, 1978, P.L. 864, (Act 167),[4] as amended.

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.

SUBDIVISION

As defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247.[5]

USDA

United States Department of Agriculture.

WATERS OF THIS 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.

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.

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

[2] *Editor's Note: See 35 P.S. § 691.1 et seq.*

[3] *Editor's Note: See 35 P.S. § 691.1 et seq.*

[4] *Editor's Note: See 32 P.S. § 680.1 et seq.*

[5] *Editor's Note: See 53 P.S. § 10101 et seq.*

Article III. Stormwater Management Standards

§ 217-12. General requirements.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. For all regulated activities, unless preparation of a SWM site plan is specifically exempted in § **217-13**:

(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 a SWM site plan, which demonstrates compliance with the requirements of this chapter.

B. SWM site plans approved by the Borough, in accordance with § **217-22**, shall be on site throughout the duration of the regulated activity.

C. The Borough, after consultation with DEP, may 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.[1]

[1] *Editor's Note: See 53 P.S. 691.1 et seq.*

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 (e.g., during construction) to meet the purposes and requirements of this chapter and to meet all requirements under the Pennsylvania Code Title 25 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) [The Pennsylvania Department of Environmental Protection (DEP). 363-2134-008 (2000), as amended and updated. Erosion and Sediment Pollution Control Program Manual. Harrisburg, PA.], commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008 (2000), as amended and updated.

E. 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 stages.

(2) For development taking place in stages, 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 § **217-14** and the peak rate controls of § **217-15** do not need to be retrofitted to existing impervious areas that are not being altered by the proposed regulated activity.

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

G. For all regulated activities not exempted by § **217-13**, implementation of the volume controls in § **217-14** is required.

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 by implementing measures to:

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

(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.

(3) Incorporate methods described in the Pennsylvania Stormwater Best Management Practices Manual (BMP Manual). If methods other than green infrastructure and LID methods are proposed to achieve the volume and rate controls required under this chapter, the SWM site plan must include a detailed justification demonstrating that the use of LID and green infrastructure is not practicable.

I. For all new development projects, 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 stages. Similarly, for new development projects taking place in stages, the entire proposed new development plan must be used in determining conformance with this chapter.

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

K. The design of all facilities over karst topography shall include an evaluation of measures to minimize adverse effects in accordance with the procedures outlined in Section 7.4 (Special Management Areas – Karst Areas) of the most current version of the SWM Manual. [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]

L. 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.

M. Normally dry, open top, storage facilities should completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm.

N. The design storm volumes to be used in the analysis of peak rates of discharge should be obtained from the latest version of the Precipitation-Frequency Atlas of the United States, 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,[2] and the Stormwater Management Act.[3]

[2] *Editor's Note: See 53 P.S. 691.1 et seq.*

[3] *Editor's Note: See 32 P.S. § 680.1 et seq.*

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

§ 217-13. Exemptions.

A. Regulated activities resulting in less than or equal to 1,000 square feet of new impervious surface are exempt from Article **IV** Stormwater Management (SWM) Site Plan Preparation Requirements, including §§ **217-14** and **217-15** of this chapter. Regulated activities greater than 1,000 square feet and less than or equal to 5,000 square feet of new impervious area may be exempt from the SWM site plan preparation requirements, including §§ **217-14** and **217-15** of this chapter when justification is provided that stormwater impact is minimal.*

B. Regulated activities that create new disconnected impervious areas greater than 1,000 square feet and less than or equal to 5,000 square feet that are proven to meet the seventy-five-foot minimum pervious flow path requirement outlined in Appendix B[1] are exempt from the SWM site plan preparation requirements, including §§ **217-14** and **217-15** of this chapter.*

[1] *Editor's Note: Appendix B is on file in the office of the Borough Secretary.*

C. Regulated activities meeting the following parcel size and square footage requirements are exempt from the peak rate control requirements, but not the volume control or SWM site plan preparation requirements of this chapter. These criteria shall apply to the total proposed development even if development is to take place in phases. The effective date of this chapter shall be the starting point from which to consider tracts as "parent tracts" in which future subdivisions and respective impervious area computations shall be cumulatively considered.*

New Impervious Area Exemption Criteria for Peak Rate Control

Total Parcel Size (acres)	Total Parcel Size (square feet)	New Impervious Area Exemption (square feet)
Less than 0.25	Less than 10,890	1,500
0.25 to 0.5	10,890 to 21,780	2,500
Greater than 0.5	Greater than 21,780	5,000

D. Agricultural plowing and tilling are exempt from the SWM site plan requirements, including §§ **217-14** and **217-15** of this chapter, provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

E. 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 Chapter 102.

* NOTE: The Borough has, at its discretion, the ability to deny exemption from any requirements of this chapter. Exemption from any requirements of this chapter does not convey exemption from any requirements of any other applicable local codes or ordinances (i.e., local building permit requirements).

§ 217-14. Volume controls.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

The green infrastructure and low impact development practices provided in the BMP Manual shall be utilized for all regulated activities wherever possible. Water volume controls shall be implemented using the Design Storm Method in Subsection **A** or the Simplified Method in Subsection **B** below for all regulated activities not otherwise exempted by § **217-13**. 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 [see Section 8.7 of the most current version of the SWM Manual (Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.)] 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 or its equivalent.

(b) Twenty percent of existing impervious area, when present, shall be considered meadow in the model for existing conditions.

B. The Simplified Method [see Section 8.7 of the most current version of the SWM Manual (Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.)] 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 detention or rate control facilities. For new impervious surfaces:

(1) Stormwater facilities shall be sized to 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 include reuse, evaporation, transpiration, and infiltration.

(3) Infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first 1/2 inch of the permanently removed runoff should be infiltrated.

(4) The second one inch of runoff from new impervious surfaces should be detained using structural and nonstructural BMPs (as outlined in the most current version of the SWM Manual) and released at a controlled rate.

(5) Regulated activities eligible under this method are exempt from the requirements of § **217-15**, Rate controls.

(6) This method is exempt from the requirements of § **217-15**, Rate controls.

§ 217-15. Rate controls.

See Section 8.3 of the most current version of the SWM Manual. [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]

A. Areas not covered by a release rate map from an approved Act 167 stormwater management plan. Post-development discharge rates shall not exceed the predevelopment discharge rates for the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year 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.

B. Areas covered by a release rate map from an approved Act 167 stormwater management plan (see Appendix C[1]). For the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year storms, the post-development peak discharge rates will follow the applicable approved release rate maps (see Appendix C). For any areas not shown on the release rate maps, the post-development discharge rates shall not exceed the predevelopment discharge rates.

[1] *Editor's Note: Appendix C is on file in the office of the Borough Secretary.*

§ 217-16. Additional SWM and drainage requirements.

A. Subbasin requirements. Special requirements shall apply to activity within a geographical area which supplies stormwater runoff to a point directly west of the intersection of the terminus of West South Street and Orange Street [A map of this area is on file in the Borough Engineer's Office and is incorporated into this paragraph.]:

(1) Use of stormwater pond facility. Fully on-site stormwater management shall not be required in this area, but development in the area shall make use of a Borough-constructed jointly used stormwater pond facility for purposes of stormwater handling, control and management.

(2) Additional responsibilities of applicant, developer or party seeking subdivision, earth disturbance or land development approval. Payment of a fee for the use of this stormwater pond facility shall be a requisite to any area development, earth disturbance, subdivision or land development within the scope of this chapter, which fee shall be determined by Borough Council from time to time and set forth in Chapter **120**, Fees. It shall also be the responsibility of the applicant, developer or other party to construct and maintain any and all drainage structures necessary to direct flow off the site in question and into the jointly used drainage swales and facilities in such manner as not to erode or otherwise compromise the integrity of existing or future facilities; the method used to bring flow to the jointly used facilities shall be subject to approval of the Borough Engineer. This responsibility shall also include the acquisition of any easements or other interests necessary to the delivery of flow to the jointly used facilities.

(3) Limitation on meaning of "jointly used facility or facilities." The jointly used facility or facilities shall include only those facilities owned by the Borough and maintained by it. The term shall not include any common ditches, swales or other facilities used by two or more landowners or any other private arrangement or agreement for the use and/or conveyance of stormwater.

(4) Use of jointly used facility. Nothing herein is intended to preclude Borough Council from authorizing use of the jointly used facility by parties outside of the area upon such terms and conditions as it deems proper and in a manner not inconsistent with its purpose as described herein.

§ 217-16.1. Riparian buffers.

[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. In order to protect and improve water quality, a riparian buffer easement shall be created and recorded as part of any subdivision or land development that encompasses a riparian buffer.

B. Except as required by Chapter 102, the riparian buffer easement shall be measured to be the greater of the limit of the 100-year floodplain or a minimum of 35 feet from the top of the streambank (on each side).

C. Minimum management requirements for riparian buffers.

(1) Existing native vegetation shall be protected and maintained within the riparian buffer easement.

(2) Whenever practicable invasive vegetation shall be actively removed and the riparian buffer easement shall be planted with native trees, shrubs and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.

D. The riparian buffer easement shall be enforceable by the municipality and shall be recorded in the appropriate County Recorder of Deeds Office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for the continued private ownership and shall count toward the minimum lot area a required by zoning, unless otherwise specified in the municipal Zoning Ordinance.

E. Any permitted use within the riparian buffer easement shall be conducted in a manner that will maintain the extent of the existing 100-year floodplain, improve or maintain the stream stability, and preserve and protect the ecological function of the floodplain.

F. The following conditions shall apply when public and/or private recreation trails are permitted within riparian buffers:

(1) Trails shall be for nonmotorized use only.

(2) Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.

G. Septic drainfields and sewage disposal systems shall not be permitted within the riparian buffer easement and shall comply with setback requirements established under 25 Pa. Code Chapter **73**.

§ 217-16.2. Erroneous permit.

[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. 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 a board, agency or employee of the Carlisle Borough purporting to validate such a violation.

Article IV. Stormwater Management (SWM) Site Plan Requirements

§ 217-17. Plan requirements.

The following items shall be included in the SWM site plan:

A. Appropriate sections from the Carlisle Borough Subdivision and Land Development Ordinance (see Chapter **226**), and other applicable Code provisions, ordinances, and regulations, shall be followed in preparing the SWM site plans.

B. The Borough Engineer 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 Engineer may either disapprove the submission and require a resubmission, or in the case of minor deficiencies, the Borough Engineer may accept submission of modifications.

C. Provisions for permanent access or maintenance easements as determined necessary by the Borough Engineer for all physical SWM BMPs, such as ponds and infiltration structures, to implement the operation and maintenance plan discussed in Subsection **E(15)** below.

D. Include the following signature block:

Borough Engineer or his designee, on this date (_____), has reviewed and hereby certifies that the SWM site plan meets all design standards and criteria of Chapter **217** of the Code of the Borough of Carlisle governing Stormwater Management.

E. The SWM site plan shall provide the following information with plan(s) drawn to a scale of one inch equals 50 feet:

(1) A written description of the overall stormwater management concept for the project.

(2) Name, address and telephone number of the SWM plan preparer and of the landowner or developer submitting the plan.

(3) Names of adjacent or surrounding landowners.

(4) Site boundaries with bearings and distances.

(5) Existing topography and proposed finished grades illustrating all natural features of the area.

(6) The location and dimensions of all existing and proposed buildings and other impervious areas such as existing and proposed street and parking areas, sidewalks and other structures.

(7) The Location and dimensions of existing and proposed lots, tracts or parcels.

(8) 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, and other environmentally sensitive areas, such as brownfields. [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]
[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

(9) Stormwater runoff design computations and documentation as specified in this chapter, or as otherwise necessary to demonstrate that measures have been taken to meet the requirements of this chapter, including the recommendations and general requirements in § **217-12**.

(10) Expected project time schedule.

(11) A soil erosion and sediment control plan, where applicable, as prepared for and submitted to the approval authority.

(12) The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and adjacent aquatic features and on any existing stormwater conveyance system that may be affected by the project. The plan shall show how the proposed SWM facilities relate to or tie into existing facilities, both on site and off site.

(13) Plan and profile drawings of all SWM BMPs, including drainage structures, pipes, open channels, and swales.

(14) The SWM site plan shall show the locations of existing on-lot wastewater facilities and water supply wells.

(15) The SWM site plan shall include an operation and maintenance (O&M) plan for all proposed physical stormwater management facilities (see Appendix A[1]). This plan shall address long-term ownership and responsibilities for operation and maintenance as well as schedules for O&M activities.
[1] *Editor's Note: Appendix A is on file in the office of the Borough Secretary.*

(16) Such other information as may be required by the Borough Engineer.

(17) The identity and location of all stormwater facilities, streets and other features identified for future public use as depicted on the Official Map.
[Added 12-11-2014 by Ord. No. 2212, approved 12-11-2014]

(18) A justification must be included in the SWM site plan if BMPs other than green infrastructure methods and LID practices are proposed to achieve the volume, rate and water quality controls under this chapter.
[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

§ 217-18. Plan submission.

A. Five copies of the SWM site plan shall be submitted as follows:
[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

(1) Two copies to the Borough.

(2) One copy to the Borough Engineer.

(3) One copy to the County Conservation District.

(4) One copy to the County Planning/Commission Office.

B. Additional copies shall be submitted as requested by the Borough Engineer.

C. For any SWM site plan that proposes to use any BMPs other than green infrastructure and LID practices to achieve the volume and rate controls required under this chapter, the municipality will not approve the SWM site plan unless it determines that green infrastructure and LID practices are not practicable.
[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

D. If the municipality disapproves the SWM site plan, the municipality will state the reasons for the disapproval in writing. The municipality also may approve the SWM site plan with conditions and, if so, shall provide the acceptable conditions for approval in writing.
[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

§ 217-19. Plan review.

A. The SWM site plan shall be reviewed by the Borough Engineer for the Borough for consistency with the provisions of this chapter. After review, the Borough Engineer shall approve or disapprove the SWM site plan. If it is recommended to disapprove the SWM site plan, the Borough Engineer shall state the reasons for the disapproval in writing. The Borough Engineer also may approve the SWM site plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. The SWM site plan review shall be completed within the time allowed by the Municipalities Planning Code[1] for reviewing subdivision plans.
   [1] *Editor's Note: See 53 P.S. § 10101 et seq.*

B. For SWM site plans that do not require subdivision and land development approval, the Borough Engineer shall notify the applicant in writing within 60 calendar days whether the SWM site plan is approved or disapproved. If the SWM site plan involves a subdivision and land development plan, the notification period is 90 days. If a longer notification period is provided by other statute, regulation, or ordinance, the applicant will be so notified by the Borough Engineer. If the Borough Engineer disapproves the SWM site plan, the Borough shall cite the reasons for disapproval in writing.

§ 217-20. Modification of plans.

A modification to a submitted SWM site plan that involves a change in SWM BMPs or 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 modified SWM site plan in accordance with this article.

§ 217-21. Resubmission of disapproved stormwater management site plans.

A disapproved SWM site plan may be resubmitted, with the revisions addressing the Borough Engineer's concerns, in accordance with this article. The applicable review fee must accompany a resubmission of a disapproved SWM site plan.

§ 217-22. Authorization to construct and term of validity.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]
In circumstances where no subdivision or land development plan is required, the Borough Engineer's approval of an SWM site plan authorizes completion of the regulated activities contained in the SWM site plan for a maximum term of validity of five years following the date of approval. The Carlisle Borough may specify a term of validity shorter than five years in the approval of any SWM site plan. Terms of validity shall commence on the date the Borough Engineer signs the approval for an SWM site plan. In the case of a required subdivision or land development plan, the maximum term of validity shall be five years following the date of preliminary plan approval by the Borough Council. If an approved SWM site plan is not completed according to § **217-23** within the term of validity, then the Borough may consider the SWM site plan disapproved and may revoke any and all permits issued by the Borough. SWM site plans that are considered disapproved by the Borough shall be resubmitted in accordance with § **217-21** of this chapter.

§ 217-23. As-built plans, completion certificate and final inspection.

A. The applicant 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 within 30 calendar days of project completion or, in the case of dedicated public improvements, prior to acceptance of the improvements by the Borough Council.

B. The as-built submission shall include a certification of completion signed by a qualified professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. The latitude and longitude coordinates for all permanent SWM BMPs must also be submitted, at the central location of the BMPs. If any licensed qualified professionals contributed to the construction plans, then a licensed qualified professional must sign the completion certificate.
   [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

C. After receipt of the as-built plan, the Borough may conduct a final inspection.

§ 217-24. Municipal liability.

The granting of a permit or approval of a stormwater plan or facility shall not constitute a representation, guaranty or warranty of any kind by the Borough of Carlisle or by any official or employee thereof and shall create no liability upon the Borough, its officials or employees.

Article V. Operation and Maintenance

§ 217-25. Responsibilities of developers and landowners.

A. The Borough Engineer shall make the final determination on the continuing maintenance and inspection responsibilities prior to final approval of the SWM site plan. The Borough Engineer may require a 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 and operating responsibility for any portion of the stormwater management controls. Prior to acceptance by the Borough, all newly installed storm sewer mains and lines shall be inspected by the Borough Engineer, and the person offering dedication shall pay the fee established in the amount and according to the formula set forth in Chapter **120**, Fees.

B. Facilities, areas, or structures used as stormwater management BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.

C. The operation and maintenance 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.

§ 217-26. Operation and maintenance agreements.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

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)[1] 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 agreement.

(2) The owner shall convey to the municipality conservation easements to assure access for periodic inspections by the municipality and maintenance, as necessary.

(3) The owner shall keep on file with the municipality 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 municipality within 10 working days of the change.

[1] *Editor's Note: Said appendix is on file in the Borough offices.*

B. The owner is responsible for operation and maintenance of the SWM BMPs. If the owner fails to adhere to the operation and maintenance agreement (see the sample Operations and Maintenance Agreement in Appendix A[2]), the Borough may perform the services required and charge the owner appropriate fees. Nothing herein shall be construed to place a duty or obligation upon the Borough to perform any services or repairs. Nonpayment of fees may result in a lien against the property or other judicial action.

[2] *Editor's Note: Appendix A is on file in the office of the Borough Secretary.*

§ 217-26.1. Performance guarantee.

[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]
For SWM site plans that involve subdivision and land development, the applicant shall provide a financial guarantee to the municipality 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.

Article VI. Fees and Expenses

§ 217-27. General.

The Borough may include all costs incurred in the review fee charged to an applicant. Any person who has filed a SWM plan pursuant to this chapter shall pay a fee in an amount and according to a formula as set forth in Chapter **120**, Fees, as enacted and ordained by the Borough Council from time to time, for review of said plan by the Borough Engineer. No plan shall be approved until said fee has been paid. The review fee may include but not be limited to costs for the following:

A. Administrative/clerical processing.

B. Review of the SWM site plan.

C. Attendance at meetings.

D. Inspections.

Article VII. Prohibitions

§ 217-28. Prohibited discharges and connections.

A. Any drain or conveyance, whether on the surface or subsurface, which allows any nonstormwater discharge, including, but not limited to, sewage, process wastewater, wash water, ammonia, chlorine, petroleum products (gasoline, fuel oil, etc.) pesticides, pollutants and other hazardous materials to enter the waters of the commonwealth is prohibited.

Handling and disposal of all materials and wastes shall comply with all federal and state requirements. Structural and nonstructural BMPs, in accordance with Chapters **5** and 6 of the most current version of the SWM Manual, shall be implemented where necessary to preserve the quality of stormwater runoff.

B. Discharges to waters of the commonwealth which are not composed entirely of stormwater shall be prohibited, except as provided in Subsection **C** below, and discharges allowed under a state or federal permit.

C. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this commonwealth:
[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

(1) Discharges or flows from firefighting activities;

(2) Discharges from potable water sources, including waterline flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of total residual chlorine (TRC).

(3) Noncontaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.

(4) Noncontaminated HVAC condensation and water from geothermal systems.

(5) Diverted stream flows and springs.

(6) 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.

(7) Flows from riparian habitats and wetlands.

(8) Noncontaminated pumped groundwater and water from foundation and footing drains and crawl space pumps.

(9) Dechlorinated swimming pool discharges.

(10) Uncontaminated groundwater.

(11) Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.

(12) Routine external building wash down (which does not use detergents or other compounds).

(13) Noncontaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

D. In the event that the Borough Engineer or DEP determines that any of the discharges identified in Subsection **C** significantly contribute to pollution of the waters of this commonwealth, the Borough or DEP will notify the responsible person(s) to cease the discharge.

§ 217-29. Roof drains and sump pumps.

[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]
Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs wherever feasible.

§ 217-30. Alteration of SWM BMPs.

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures, without the written approval of the Borough.

Article VIII. Enforcement and Penalties

§ 217-31. Right of entry.

Upon presentation of proper credentials and in accordance with applicable law, the Borough Engineer may enter at reasonable times upon any property within the Borough to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this chapter.

§ 217-32. Inspection.

SWM BMPs must be inspected by the landowner, or the owner's designee (including the Borough Engineer for dedicated and owned facilities) according to the following list of minimum frequencies or as otherwise specified by the Borough. All inspection reports shall

be submitted to the Borough Engineer within 30 days of the inspection.

A. Annually for the first five years.

B. Once every three years thereafter.

C. During or immediately after the cessation of a ten-year or greater storm. Inspections should be conducted during or immediately following precipitation events. A written inspection report shall be created to document each inspection. The inspection report shall contain the date and time of the inspection, the individual(s) who completed the inspection, the location of the BMP, facility or structure inspected, observations on performance, and recommendations for improving performance, if applicable. Inspection reports shall be submitted to the municipality within 30 days following completion of the inspection.
[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

§ 217-33. Enforcement.

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 § **217-13**.

B. Inspections regarding compliance with the SWM site plan during project construction are a responsibility of the Borough.

§ 217-34. Suspension and revocation.

A. Any approval or permit issued by the Borough Engineer may be suspended or revoked for:

(1) Noncompliance with or failure to implement any provision of the approved SWM site plan or operation and maintenance agreement.

(2) A violation of any provision of this chapter or any other applicable law, Code chapter, 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 or nuisance, pollution, or which endangers the life or property of others.

B. A suspended approval may be reinstated by the Borough Engineer when:

(1) The Borough Engineer has inspected and approved the corrections to the violations that caused the suspension.

(2) The Borough Engineer is satisfied that the violation has been corrected.

C. An approval that has been revoked by the Borough Engineer 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 Engineer may provide a limited time period for the owner to correct the violation. In these cases, the Borough Engineer 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 Engineer may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this chapter.

§ 217-35. Violations and Penalties.

A. Any person violating the provisions of this chapter shall be guilty of a summary offense and, upon conviction, shall be subject to a fine of not more than $1,000 for each violation, recoverable with costs, and/or imprisonment for a period not exceeding 30 days for each violation. Each day that the violation continues shall be a separate offense, and penalties shall be cumulative.

B. In addition, the Borough may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this chapter. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

§ 217-36. Appeals.

A. Any person aggrieved by any action of the Borough Engineer or his designee, relevant to the provisions of this chapter, may appeal to the Borough Council which shall hold a hearing pursuant to the Local Agency Law, 2 Pa.C.S.A. § 551 et seq., within 30 days of that action.

B. Any person aggrieved by any decision of the Borough Council, relevant to the above appeal of this chapter, may appeal to the Cumberland County Court of Common Pleas within 30 days of the Borough Council's decision.

Stormwater Utility

The Borough of Carlisle adopted ordinance 2315 in November of 2018, creating a stormwater management utility and associated fee for property owners in the Borough. The stormwater utility fee provides a dedicated funding source for stormwater management services. Previously, the Borough used general tax revenue for this purpose. Funds raised by the fee will go toward operation and maintenance of public stormwater infrastructure, stormwater quality initiatives, compliance with our stormwater permit, and our stormwater rehabilitation and improvement program to reduce flooding.

The stormwater fee is assessed to property owners as a separate line item on their water and sewer bill. The Stormwater Utility Fee is based on a property's impervious area that significantly impedes or prevents stormwater from soaking into the ground.

Stormwater Rates

Single-Family Residential

- Tier 1:
    - $10.50 Per Quarter
    - up to 1,800 square feet of impervious area
- Tier 2:
    - $21.00 per quarter
    - more than 1,800 and up to 3,600 square feet of impervious area
- Tier 3:
    - $31.50 per quarter
    - more than 3,600 square feet of impervious area

Non Single-Family Residential

- Based on measured impervious area
- $21 per quarter per 2,410 square feet or part thereof

Stormwater Credit Program

Chapter 220-7 of the Ordinance provides for a stormwater service charge and Chapter 220-11 of the Ordinance provides credits for property owners who effectively manage their stormwater to reduce its impacts on the Borough's stormwater system. This Manual provides the Borough of Carlisle's Stormwater Management Utility customers with details on the credits available to reduce their monthly Stormwater Management Service Charge. The Borough provides credits as a means for customers to reduce the amount of their monthly service charge by implementing an activity to reduce the contribution of stormwater and pollutants to the Borough's Stormwater Management System.

Frequently Asked Questions

Search the FAQs...

Stormwater Utility

- What is stormwater?
- What is a stormwater utility?
- What do you mean by "stormwater system"?
- How is a stormwater utility fee calculated?
- Will there be any opportunity for appeals of credit considerations?
- Is the area of a sidewalk along a public street counted in a property's impervious surface area?
- Why is a stormwater utility the right funding solution?
- How will the stormwater utility benefit our community?

Stormwater Drainage Easements

What are storm drainage easements?

An easement is a right granted from a property owner to another for a specific use of a portion of the owner's land. Utility operators (stormwater, gas, electric, sewer, etc.) often have easements for the purpose of installing and maintaining their utility lines and structures. As with most utility easements, storm drainage easements are permanent and run with the land (i.e., as well as survive and sustain any sale of the property). Storm drainage easements generally require the property owner to give up certain rights, such as building or installing of temporary or permanent structures (additions, play equipment, decks, certain types of fences, etc.) within the easement to allow for proper function of the system and unimpeded maintenance access.

Who maintains the storm drainage easement?

Property owners are responsible for routine grounds maintenance such as grass mowing and trash or debris removal, and should ensure that systems are kept free of yard waste such as grass clippings, tree trimmings and leaves that may block the flow of water. Trees, shrubs and other growth in easements belong to and are maintained by the property owner. As described to all individual locations, the described entity, Home Owner's Associations or the Municipality maintains the drainage system and structures within the easement to allow for proper function of the system.

How do I know if there is a storm drainage easement on my property?

Storm drainage easements may be shown on a property plan you received when you purchased your home. In addition, easements are recorded in the office of the Cumberland County Recorder of Deeds.

Stormwater Credit Program

Chapter 220-7 of the Ordinance provides for a stormwater service charge and Chapter 220-11 of the Ordinance provides credits for property owners who effectively manage their stormwater to reduce its impacts on the Borough's stormwater system. This Manual provides the Borough of Carlisle's Stormwater Management Utility customers with details on the credits available to reduce their monthly Stormwater Management Service Charge. The Borough provides credits as a means for customers to reduce the amount of their monthly service charge by implementing an activity to reduce the contribution of stormwater and pollutants to the Borough's Stormwater Management System.

Stormwater Credit Manual

How Can I Make a Difference?

How Can Your Household Help?

Lawn chemicals applied at the wrong times or at excessive rates are washed off by rain storms and carried into the storm sewers. Practicing healthy household habits can keep common pollutants like pesticides, pet waste, grass clippings, and automotive fluids off the ground and out of stormwater. These actions can include the following:

- Dispose of water properly
- Clean up after your pets
- Use fertilizers in accordance with the manufacturer's recommendations.
- Store materials that could pollute storm water indoors
- Keep grass cutting off of the street

Residents looking to do more can consider a range of activities to reduce their properties' stormwater footprint. See the links section for further suggestions.

What Residents Can Watch For:

Inlets are provided in the street to help collect stormwater runoff. However, some may use these inlets as a convenient location to improperly dispose of wastes. These "illicit" discharges negatively impact water quality. Illicit discharges can be accidental or intentional. Residents can help reduce the impact of illicit discharges by immediately reporting unusual circumstances to Borough Public Works staff for follow-up action. Some typical examples of illicit discharges are:

- Sediment leaving a construction site in stormwater
- Spills (Chemical, Gas, Oil)
- Illegal dumping activity into streams or storm sewers
- Dry weather flows within streets or from outfall pipes into storm drains or area streams (48 hours after a precipitation event)
- Waste oil, antifreeze, paint, trash or other household chemical
- Spills on roadways and other accidents
- Discharge of chlorinated swimming pool water

Common indicators of illicit discharges include abnormal odors, strange colors, or oil sheen present around or inside storm inlets or pipes. Keeping harmful substances out of our water benefits everyone; environmentally and economically. If you witness or become aware of an illicit discharge, please contact the Borough Public Works Department at 717-240-6930. You must also fill out an Illicit Discharge Complaint form to provide to Public Works.

CITIZEN COMPLAINT
ILLICIT DISCHARGE REPORTING FORM

Name: _____ **Contact Phone Number:** _____

Date: _____ **Time Discharge Discovered:** _____

Date of Last Rain Event: _____ **Estimated Quantity of Rain**:_____ **in.**

LOCATION OF DISCHARGE (indicate nearby street intersections, addresses, and/or landmarks for reference): _____

_____

_____

WHERE WAS DISCHARGE FOUND? OPEN DITCH STREAM PIPE OUTFALL OTHER: _____

WAS WATER FLOW OBSERVED? NO YES .

WAS FLOW SOLID OR PULSING? SOLID PULSING

WAS A PHOTO TAKEN? NO YES (Please attach a copy to form)

ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

CLARITY: CLEAR CLOUDY OPAQUE

WAS THERE AN:
OILY SHEEN YES NO
GARBAGE/SEWAGE YES NO
OTHER: _____

ADDITIONAL INFORMATION TO ASSIST IN THE INVESTIGATION: _____

_____

_____

Follow up Investigation (to be completed by CCD staff)
OUTFALL NO: _____ **INSPECTOR NAME** _____ **PHONE** _____

FIELD ANALYSIS:

WATER TEMP:	_____ °F / °C	CHLORINE (Total):	_____ mg/l
pH:	_____	BOD5:	_____ mg/l
Oil and Grease:	_____ mg/l	TSS:	_____ mg/l

WAS A SAMPLE COLLECTED? NO YES (if yes attach copy of chain-of-custody record)
COMMENTS: _____

_____

_____

DATA SHEET FILLED OUT BY: (signature): _____ DATE: _____

Additional notes to file: _____

_____

_____

Follow-up with Complainant: _____

_____

_____

_____

Helpful Links

Educational Brochures

- EPA's "After the Storm" Brochure: Breaks down stormwater runoff and pollution and offers solutions for residents and businesses.
- EPA's "Solution for Pollution" Brochure: Helpful household habits for reducing stormwater runoff and pollution.
- PA DEP's "When It Rains, It Drains" Brochure: Covers the basics of stormwater management and offers tips to help reduce runoff and pollution.
- PA DEP's "Don't Let Stormwater Runoff With Your Time & Money" Fact Sheet: Provides helpful information for those in the construction industry.
- PA DEP's "Management of Swimming Pool, Hot Tub, and Spa Water Discharges" Fact Sheet

Informational & Educational Links

- EPA Stormwater Information
- Pennsylvania DEP Stormwater Information
- Center for Watershed Protection: National nonprofit working to protect, restore, and enhance streams, rivers, lakes, wetlands, and bays with helpful information for homeowners
- Dickinson College ALLARM: The Alliance for Aquatic Resource Monitoring (ALLARM)
- Rain Garden Network: Inexpensive stormwater solutions for homeowners
- StormwaterPA: Carlisle Borough partnered with the Cumberland County Planning Department, GreenTreks and other county municipalities to give residents a place to see and post information about stormwater activities in the community.
- The Importance of Cleaning Up After Your Pet: Did you know that your pet's waste can be a pollutant to our waterways? Learn more about why cleaning up after your dog is so important.
- Utilizing Rainwater and Gravity: A Guide to Rain Gardens: Learn all about the benefits of rain gardens and how to set one up for yourself.

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 3

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Carlisle Borough Links of Annual Events and Materials for Solicited Public Involvement and Participation from Specific Audience Groups Including for both the Borough and County-wide.

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

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Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 3A

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

South Central PA MS4 Workgroup Collaboration

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422



MS4 Work Group Meeting

January 23rd, 2024

Susquehanna River Basin Commission

4423 North Front Street

9 AM to 11:00 AM

1. 9:00 AM
    a. Greeting & Introductions
2. 9:15 AM
    a. Diane Uzupis - Department of Agriculture
3. 10:30 AM
    a. Work Group Discussion



MS4 Work Group Meeting

April 25th, 2024

Middletown Borough's Hoffer Park

120 Mill Street, Middletown

9 AM to 11:00 AM

1. 9:00 AM
    a. Greeting & Introductions
2. 9:15 AM
    a. Curtis Wilbern, HRG

In the field Outfall/IDDE Workshop (dress for the weather)

3. 10:30 AM
    a. Work Group Wrap Up

From:	Barbara Arnold
To:	Alex Arcuri; Alexa Korber; Allison Garner; Andrew Stottlemyer; Andy Yencha; Barbara Arnold; Ben Schull; Betsy Logan; Brian Davis; cbarge@uatwp.org; Chris Guarino; Curtis Wilbern; Debra English; Dennis Heisey; Eck, Molly E.; Ed Myers; Elizabeth Grant; Erin Letavic; Garrett Vandebrake; Gerald Duke; Jamie Shallenberger; Janet Hardman; Jennifer Anne Cotting; Jennifer Groller; Jeremy Miller; Jeremy Spicher; Jessica Fieldhouse; Kara Kalupson; Kasha Griva; Kathleen Geigley; Kelly Kurtas; Larry Barrick; Lettice Brown; Lori Schmidt; Luke Arnold; Mary Kate Gallagher; Marysville Borough; Matt Stough; Michelle Kasper; Mike Malewicki; Monique Dykman; P Naugle; Randy Allen; Rebecca Davis; Richard Heimbach; Sara Gibson; Scott Maldonado; Shawn Fabian; Stephanie Harmon; shoffman; Stoner, Kirk; Strine, Tiffany; Taylor Troutman; Terrance Kline; Ty Konyar; vmccollum
Subject:	July 17 agenda
Date:	Wednesday, July 10, 2024 1:40:46 PM
Attachments:	MS4 Work Group Meeting agenda (1).pdf

CAUTION: The following message originated from outside the organization. Please exercise caution before opening attachments, clicking links, or responding.

Good afternoon,

Please find attached the agenda for the meeting next week. The meeting will be held at Susquehanna Township's Municipal Building. The address is below.

1900 Linglestown Road
Harrisburg PA

Diane Griffin will be presenting the technology from IDEXX. IDEXX has equipment that can be used for water testing for recreation, drinking water, and wastewater. If anyone wants to bring a sample, please them to grab the sample just before coming to the meeting. The sample should be:

- Please put them on cold packs.
- 100ml
- Sterile vessel (preferably with sodium thiosulfate)

Please reach out with any questions!

See you next week!

Barbara Arnold
Environmental Coordinator
Lower Allen Township
barnold@latwp.org
717-975-7575 ext 1014

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 3B

Integrated Public Education and Outreach Events
and
Public Involvement and Participation Program Events

Capital Region Council of Governments Collaboration

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

straightening his arm and pointing the gun at her face.

But Blandy, a 20-year military veteran of the Army National Guard, said he is not racist, is a peaceful person, is disinterested in politics and that the situation is just a misunderstanding, according to emails he sent.

Blandy, from Lebanon County, is charged with ethnic intimidation, making terroristic threats, simple assault and summary traffic violations in connection with the incident.

It happened about 6:30 p.m. Friday, as pro-Palestine demonstrators were wrapping up a rally on the Capitol steps when Blandy approached in his white Toyota sedan, according to police.

Capitol Police said they heard people shouting "He has a gun!" before Blandy drove his Toyota north on Third Street, then stopped at a red light at North Street. When police followed him on foot, Blandy drove around the car in front of him past the red light and left the area. He was arrested around an hour later at his South Lebanon Township home, police said.



Central Pennsylvanians hold a rally for Palestine on the steps of the Capitol in Harrisburg on Friday. *Mark Pynes, PennLive*

The woman, who police say he pointed his gun at, spoke with PennLive on the condition of anonymity, saying she fears retaliation. She said when Blandy pulled up to the curb, he asked several questions such as "Do you hate Jews?" and "So you agree with Hamas beheading babies?" Every time she answered, he would pause for several seconds before asking another question.

Toward the end of the exchange, a man walked up to Blandy's car and asked the woman if she was being harassed.

That's when Blandy pulled his gun out and pointed it at her, the woman said. Her 11-year-old son ran away as she backed away, trying to get out of his line of sight. Blandy remained there for 10 to 15 seconds before he pulled away, the woman said.

Hours after the Aug. 31 escape of Danilo Cavalcante from the Chester County Prison, a prison sergeant said in an email that Corrections Officer Hernandez "noted back in July that this inmate was planning an escape."

That email was sent to Capt. Griswold, who forwarded it shortly afterward to the prison's acting warden, Howard Holland, with a note saying, "This was sent to me this afternoon and I have not forwarded it to anyone else. I am not sure how you want to move forward with this information internally." Officials withheld the first names of those mentioned.

County spokesperson Rebecca Brain said that the three people mentioned in the emails "wanted to ensure acting Warden Holland knew that information about an escape was previously noted."

Before the escape, Brain said, security measures for an inmate identified as an "escape risk" were only "enacted and heightened" when the inmate was being taken off prison property.

NOVEMBER 9th | 10am - 3pm

York Expo Center Memorial Hall

MX2023

MANUFACTURERS' EXPO

Presented by The Manufacturers' Association

The Region's Only Business Expo for Manufacturing!

Exhibitor Booths • Breakout Sessions
Supplier Connections • Networking

mascpa.org/expo

FEATURING Keynote Speaker:
TITAN GILROY!



TITANS OF CNC

A Unique Boutique



Clemintines

FILL YOUR CLOSET FOR FALL!

Fall Items Arriving In Store Now!

New Fall Purses from Elle Beaumont and Joy.

Tribal • Renaur • Lulu B • Powder • Parsley & Sage • Keren Hart

Parking behind store
25 E. Main St., Lititz • 717-626-6688
Monday-Saturday 10-5; Sunday 12-4
www.ClemintinesLititz.com
Email us at clemlititz25@gmail

Please like us on Facebook

You Can Help to Prevent Stormwater Pollution!!

Stormwater pollution affects everyone. Stormwater picks up debris, chemicals, dirt, manure, and other pollutants as it flows over surfaces. These pollutants threaten our rivers, streams, and wetlands. We rely on these resources for drinking, recreation, and to support wildlife.



- Remember, only rain goes down the drain.
- Mulch grass; don't blow grass onto roads where it can enter storm drains.



- Wash your car over your lawn or gravel.
- Drain swimming pools into a grassy area.
- Minimize your use of lawn, garden, and salt-melt chemicals.
- Install a rain barrel or cistern to capture roof runoff.



For more ideas, visit DEP or your municipality's website.

In compliance with MS4 permits, this ad is sponsored & paid for by these members of the Capital Region Council of Governments 209 S. Sporting Hill Road, Mechanicsburg, PA 17050 717.761.6211

Annville Township
Carlisle Borough
Carroll Township
Dauphin Borough
Dillsburg Borough
East Hanover Township
East Pennsboro Township
Fairview Township
Goldsboro Borough
Hampden Township Sewer Authority
Highspire Borough
Hummelstown Borough
Lemoyne Borough
Londonderry Township
Lower Allen Township
Lower Paxton Township
Marysville Borough
Mechanicsburg Borough
Middletown Borough
Monroe Township
Newberry Township
New Cumberland Borough
North Middleton Township
Paxtang Borough
Penbrook Borough Stormwater Authority
Shiremanstown Borough
Silver Spring Township
Steelton Borough
South Hanover Township
South Middleton Township
Susquehanna Township
Swatara Township
Upper Allen Township
West Hanover Township
Wormleysburg Borough

Instagram:

Brunch & Barrel: https://www.instagram.com/p/C66mxf2Ox37/?img_index=1

High School Tree Planting: https://www.instagram.com/p/C6E6INOPjbe/?img_index=1

Bare Root Tree Planting: https://www.instagram.com/p/C553il2u28h/?img_index=1

Summer Day Camp Lesson:
https://www.instagram.com/reel/CvsJhKlNKab/?fbclid=IwY2xjawEzLldleHRuA2FlbQIxMAABHc45OvLUWa6Jfpw3hsf-LS-IiGkfT9cjN4PKLE3tuRJHDTvNEHiGYl95TQ_aem_JKWEnxvCu4jowCQV6QTHbw

Native Plantings: https://www.instagram.com/p/Cs_3PE0uWDu/?img_index=1

Facebook:

Brunch & Barrel:
https://www.facebook.com/carlislepa/posts/pfbid0gfpBq6bvyQwzuQ6Mc2FAM4JM6A2QETmwjbpxEM8ogaP9viTrhKM84XGrNjLfvk3tl

Earth Day Event:
https://www.facebook.com/carlislepa/posts/pfbid025JdTxbupk2uNpQ56dkMa3NSXgJCU7xojtgCoPp1FwUELwvMmAbQTFwZjwfVZefkBl

Tree City USA:
https://www.facebook.com/carlislepa/posts/pfbid0BPhvbpEFkbrJranPmSkwJMT6k3yXu6y5J2zxktvRBjM3ZM6agL2uNHTyiDrdStZel

High School Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid02nmsZQvZ7KAUukdTLsmE6BCzBNR3pnyBgwamqeVkwgMSb9c53yRNfpfCaopaAvdakl

Bare Root Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid0teiccfytBo5iV18MBb8JnwdjcfwD6KkDKLQZHdV9ECDghfmg728aJ6YJU68TdLzhl

Upcoming Stormwater Projects:
https://www.facebook.com/carlislepa/posts/pfbid02eh2u2sUdpkaNtZngS6C47g8VTxMvqbJ72X8o4qcLUAfg524q5BNohj5zv6D2pGyYl

Lemon Street Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid025o8fSGFuCstMcetJhUBU2nJ8mivFjK52WfeJ4a6kqR5g3mNfLUuVzx8LJCmPaE63l

High School Tree Planting:
https://www.facebook.com/carlislepa/posts/pfbid02FvuH8Ft3XoWoyTfQuWWToLdpfv3LZdXQ2NgQ96od4Z15JPVfzmQGiaAfyy4nQpRVl

Leaf Collection:
https://www.facebook.com/carlislepa/posts/pfbid02CvvvKQb4e7EpS7Nte6UfWbGsz5k2bWNWwXe2zgfSCDUo94yjSpX2qorVEunjTv5Kl

Lawn-to-Meadow Conversion:
https://www.facebook.com/carlislepa/posts/pfbid02SHmwt6nwaoR3FeR4FrCMrAQoyxhWXuVCodDFugAKcdr71aZKf7eMU6S3gaCPqfQSl

Native Plantings:
https://www.facebook.com/carlislepa/posts/pfbid02mYn1CzDpwmssXbQNQFLfrBuA9GooGq1iLjGJVVbcvLon4uSbMVm5NeEZoY1raamfl

LinkedIn

Brunch & Barrel:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7224085769936646145/?actorCompanyId=4027636

Earth Day:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7190726707362897921/?actorCompanyId=4027636

Bare Root Tree Planting:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7186428860995973120/?actorCompanyId=4027636

Green Infrastructure:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7186044409262579713/?actorCompanyId=4027636

Lemon Street Tree Planting:
https://www.linkedin.com/feed/update/urn:li:ugcPost:7137860129940504576/?actorCompanyId=4027636

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 4

Carlisle Borough

Illicit Discharge Detection and Elimination Program and Illicit Discharge Detection and Elimination Citizen Complaint Form

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE, CUMBERLAND COUNTY, PA
ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM (IDD&E)

I. PURPOSE

The Borough of Carlisle (Borough) owns and operates a Municipal Separate Storm Sewer System (MS4) that is used for collecting and conveying storm water from developed portions of the Borough to area streams to minimize surface flooding. Stormwater is defined as drainage runoff from the surface of the land resulting from precipitation or snow or ice melt. The term "illicit discharge" has many meanings in regulation. From the standpoint of stormwater management, an illicit discharge is defined as a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens. A storm drain with measurable flow but containing no pollutants is simply considered a discharge. Attachment 1 gives examples of some typical illicit discharges. Attachment 2 gives examples of dry weather discharges that are not considered illicit and are therefore exempt from MS4 Permit requirements.

The Borough received a National Pollutant Discharge Elimination System (NPDES) Permit from the Pennsylvania Department of Environmental Protection (DEP) in 2015 for the Borough's MS4. The Borough's MS4 collects runoff and conveys it through a system of street gutters, pipes and swales, before discharging the runoff to surface waters located in the Borough or downstream from the Borough. The MS4 Permit places certain requirements on the Borough. Specifically, the MS4 Permit outlines a series of six Minimum Control Measures, or MCMs. Each of these contains multiple Best Management Practices (BMPs) and Measurable Goals that must be met. MCM#3 covers illicit discharge detection and elimination.

This document shall be referred to as the official Borough of Carlisle Illicit Discharge Detection and Elimination (IDD&E) Program. It will facilitate the detection and elimination of non-stormwater discharges, including illegal dumping into the Borough's MS4. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or other non-stormwater items (such as paint, used oil and wash water) dumped directly into a drain.

II. PROGRAM REQUIREMENTS

The requirements for MCM #3 as provided in the Borough's MS4 Permit are as follows:

- *Develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4*
- *Develop a storm sewer system map showing the location of all outfalls and the names and locations of all surface waters of the Commonwealth that receive discharges from those outfalls.*
- *To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions.*

- *Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the MS4.*
- *Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.*

The following Best Management Practices (BMPs) are to be implemented and achieved:

- **BMP #1:** Develop and implement a written program for the detection, elimination, and prevention of illicit discharges including the following:
  a. Procedures for identifying priority areas.
  b. Procedures for screening outfalls in priority areas during varying seasonal and meteorological conditions.
  c. Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a MS4 outfall.
  d. Procedures for eliminating an illicit discharge.
  e. Procedures for assessing the potential for illicit discharges caused by the interaction of sewage disposal systems (e.g., on-lot septic systems, sanitary piping) with storm drain systems.
  f. Mechanisms for gaining access to private property to inspect outfalls (e.g., land easements, consent agreements, search warrants) and for investigating illicit connections and discharges.
  g. Procedures for program documentation, evaluation and assessment.

- **BMP #2:** Develop and maintain a map of the regulated MS4 showing the location of all outfalls and the locations and names of all surface waters of the Commonwealth that receive discharges from those outfalls.

- **BMP #3:** In conjunction with the map created under BMP #2 (either on the same map or on a different map), show the entire storm sewer collection system including roads, inlets, piping, swales, catch basins, channels, and any other components of the storm sewer collection system , including municipal boundaries and watershed boundaries.

- **BMP #4:** Conduct dry weather screenings of MS4 outfalls to evaluate the presence of illicit discharges. If any illicit discharges are present, 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. In each permit year, at least 40% of the total number of outfalls should be screened.

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

- **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. Education outreach should include:
  a. Distribution of brochures and guidance for target audiences including schools;
  b. Programs to encourage and facilitate public reporting of illicit discharges
  c. Organizing volunteers to locate and visually inspect outfall or to stencil storm drains; and

d. Implement and encourage recycling programs for common wastes such as motor oil, antifreeze and pesticides.

III. STORM SEWER MAP

The existing maps of the Borough's storm sewer system include the location of all known inlets, outfalls, and pipes, which is available to determine the extent of any dry-weather flows and the possible source(s) of illicit discharges is currently under development. A reduced scale copy of the Borough's current storm sewer system map is provided as Attachment 3. The Borough's MS4 Permit requires that a complete map of the system be developed by the end of the 4th year of permit coverage (by April 30, 2019). A table listing the known outfalls is also included in Attachment 3. Attachment 3 will be updated as new information on the Borough's MS4 system is obtained.

IV. PRIORITY AREAS

From the standpoint of the IDD&E, priority areas are those portions of the Borough with a higher likelihood of illicit discharges, illicit connections or illegal dumping. Priority areas may include areas with older infrastructure, a concentration of high-risk activities, or past history of water pollution problems.

All developed parcels in the Borough are connected to the public sanitary sewer system. The Borough undertook a detailed sanitary sewer system flow monitoring program in 2014 followed by extensive internal television inspections and smoke testing of the sanitary sewer system. Based on the results of these investigations, it is highly unlikely there are illicit discharges caused by the interaction of the Borough sanitary sewer systems with the MS4.

Borough staff undertook a review of its storm sewer system and land use records and initially identified the following potential priority areas within the MS4 area:

- Industrial area off Ritner Highway (US Route 11) and Allen Road. This industrial zoned area is bordered on the north by the Norfolk Southern Railroad, which forms the border between the Borough of Carlisle and North Middleton Township and represents the largest industrial land use area in the Borough. Land use is primarily composted of trucking terminals, but does have some manufacturing operations and large bakeries. The Borough's MS4 in this area does not have an outfall. The entire area eventually drains to a vegetative swale that flows north, via a culvert under the Norfolk Southern Railroad tracks before entering a vegetative swale on the north side of the railroad tracks in North Middleton Township. The vegetative swale flows north into the industrial area off Newville Road (PA Route 641) before eventually entering Alexander Spring Run. The approximate travel distance from the Borough border through the vegetative swales in North Middleton Township to Alexander Spring Run is about 1.05 miles. Given the lack of an outfall, this area is eliminated as a priority area.

- Industrial area north of E. High Street and east of Carlisle Spring Road. This industrial zoned area is primarily occupied by the Carlisle Frog & Switch manufacturing operations. There is no Borough owned stormwater management facilities in this area. Runoff from the site drains to E. High Street, where the Borough's has a stormsewer on the south side of the road that

eventually drains to Letort Spring Run (Outfall Numbers 9 through 12). Given the industrial component, this should be a priority area.

- Downtown Historic District. The Borough does not have a record of illicit discharges, illicit connections, or water quality problem areas within the Borough caused by illicit discharges. Nevertheless, the downtown historic district is the oldest area of the Borough, has the highest concentration of development with a mix of land uses. This area has the oldest portion of the Borough's MS4, which eventually drains into a 54-inch concrete culvert that discharges to Letort Spring Run at Outfall No.2. Given the service area age and size, this should be considered a priority area.

V. STORMWATER MANAGEMENT ORDINANCE

The current Stormwater Management Ordinance was adopted by Borough Council on March 11, 2011 and is codified as Chapter 217 of the Code of the Borough of Carlisle. Chapter 217, Article VII, Section 217-28, states that it shall be illegal to discharge non-storm water to the Borough-owned separate storm sewer system. Chapter 217-31, Article VIII provides the Borough with the right to enter onto any property within the Borough, upon presentation of proper credentials, to inspect the condition of the stormwater structures and facilities in regards to any aspect regulated by Chapter 217. Chapter 217-35, Article VIII provides for penalties for violating the provisions of Chapter 217.

VI. EDUCATIONAL OUTREACH

Outreach to the target audience regarding ways to detect and eliminate illicit discharges is another integral part of the IDDEP. This outreach may include:

- Developing informational materials and guidance documents for the target audiences noted in the Borough Public Education and Outreach Program (PEOP) for MCMs #1 and #2. These materials are located on the Borough's website.
- Placing advertisements for the general public regarding illicit discharges.
- Providing within the stormwater section of the Borough's website a reporting form for the public to use to notify the Borough of potential illicit discharges, illegal dumping or outfall pollution.
- Using an inlet-marking program for storm drains.
- Partnering with ALLARM on its volunteer Adopt a Storm Drain Program within the Borough's MS4.
- Providing links on the Borough website to the Cumberland County Solid Waste Authority information on available recycling programs for common household wastes such as motor oil, antifreeze and pesticides.

VII. IDD&E PROGRAM

The Borough's MS4 Permit requires that a program be developed to address the discharge of illicit (non-stormwater) pollutants into the MS4. A standard procedure has been developed for detecting pollutants in storm drains, inlets, and outfalls. Borough staff trained in the detection of illegal discharges can prevent and help eliminate sources of pollutants to area waterways.

a. OUTFALL LOCATIONS. According to the definition provided in the Borough's MS4 Permit, a municipal stormwater outfall means a point source "where a municipal separate storm sewer discharges to other surface waters of the Commonwealth. This does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream and are used to convey waters of the Commonwealth." The Borough has mapped the MS4 outfalls located within its limits. A reduced scale copy of the Borough's current storm sewer system map is provided as Attachment 3. A table listing the known outfalls is also included in Attachment 3.

b. **OUTFALL VISUAL INSPECTION RATIONALE.** In most urban areas, the flow of water from a storm drain system is not a routine event during dry weather periods and, therefore, can be an indicator of illicit discharges (e.g., illegal dumping and unauthorized connections to a MS4). However, dry weather flows from an MS4 can be from other non-stormwater discharges that would not be considered an illicit discharge and are a normal event for some MS4 outfalls (depending on location). These non-stormwater discharges could include: groundwater infiltration into the storm sewer system, irrigation return flow, foundation drain discharges, and normal stream base flow for conduit enclosed streams (such as dry weather flow within the Molly Grub). Using the assumption that dry weather flows may not always be good indicators of possible illicit discharges in the MS4, outfall inspections will be conducted focusing on visually conspicuous evidence of possible illicit discharges to the MS4.

c. **INSPECTION FREQUENCY**. The current MS4 Permit requires the Borough to conduct dry weather screenings of MS4 outfalls to evaluate the presence of illicit discharges at least 40% of the total number of outfalls each year. Based on the table included in Attachment 3, there are currently 24 outfalls within the Borough's MS4. Therefore, the Borough should conduct at least 9 dry weather outfall inspections each year. Borough Public Works staff should also respond to reports received from the public or governmental agencies of suspected or confirmed illicit discharges associated with the storm sewer system, as well as take enforcement action as necessary. If time permits, field staff should also attempt to view outfalls during normal precipitation events for signs of any unusual conditions. These unusual conditions should be reported to the Public Works Field Operations Manager.

d. **OUTFALL SCREENING PROCEDURES.** The standard DEP MS4 Outfall Field Screening Report should be used for recording each outfall visit. A copy of the form is provided in Attachment 4. The form should be filled out in the field by the inspector and provided to the Public Works Director, along with any photographs or other notes taken during the inspection. If a site cannot be inspected, field staff should record an explanation of the circumstances on the form. The WWTP maintains a rain gauge and records daily precipitation values. Use the WWTP rain gauge data for determining days since the last rainfall and the inches of the last precipitation event. Field staff is also asked to note any unique information observed during the inspection on the back of the form if not covered by the standard inspection form. Field staff should inspect

all dry-weather flows for the presence of odor, color, turbidity, and floatable matter. Unusual flows, pungent odors and discoloration or oil substances in the water, stains or waste residues in ditches, channels, or drain boxes are indicators of an illicit discharge. Staff should also observe outfalls for deposits and stains, vegetation, and damage to outfall structures. Field staff should record whether water is flowing from the end-of-pipe, the appearance of the water including color, turbidity (muddiness), the presence of petroleum product, and sediment or debris accumulation in the end-of-pipe or ditch. If debris has accumulated in the end-of-pipe, field crews are asked to estimate the amount and describe the type of debris. Field staff should bring inspection forms to a Public Works Field Operations Manager's attention if a pipe or ditch is more than one-half filled with debris or sediment.

If dry weather flow is observed and the flow contains a color or odor or has floating solids, scum, sheen or substances that result in deposits, the inspector should collect a sample of the dry weather flow. Collected samples should be delivered to the WWTP laboratory for processing. Collected samples should be analyzed for ammonia-nitrogen, BOD5, Total Suspended Solids, Total Dissolved Solids, and Fecal Coliform Bacteria. If a sample is collected, measurements for pH, total residual chlorine, and conductivity should be made in the field. Dry weather flows that have a visible sheen should also be analyzed for Oil and Grease. The Carlisle WWTP is a DEP accredited laboratory for Ammonia Nitrogen, BOD5, Total Suspended Solids, Fecal Coliform and accredited by "rule" for pH and total residual chlorine. Analyses for other parameters should be sent to a DEP accredited laboratory for the desired substances. ALS Environmental Laboratory in Middletown, PA is typically used by the WWTP staff for other needed analyses. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples. If an outfall does not have any dry weather flow, then sampling and testing are not needed.

e. **IDENTIFYING ILLICIT DISCHARGE SOURCE**. If any illicit discharge is detected, Public Works staff should take steps to identify the source or sources and take appropriate actions to remove or minimize the impacts of the illicit discharges. Borough staff should immediately begin to trace the source of water using the Borough's comprehensive utility maps. Field staff should contact the Borough GIS coordinator for assistance at 240-6935, if needed. Methods used to remove/correct the illicit connections will be site specific. Any employee who observes an illicit discharge should fill out an Illicit Discharge Form, a copy of which is included as Attachment 4. If the source of the illicit discharge is located, the observer should record, as applicable, the location, time, date, individuals present, causal activity, license plate number, and take photos. This information should be turned over to the Borough Public Works Director. If the potential violator appears threatening, the Public Works employee should call for Borough Police and Borough Codes Enforcement staff assistance. The Codes Enforcement Officer will conduct a follow-up inspection of the site. However, if the violator is non-threatening, information for Part 3 of the Illicit Discharge Observation Form should be collected by the lead Public Works employee present at the site. Public Works field staff and Borough Codes Enforcement employees should also be observant in their daily routines to watch for evidence of illicit discharges or unusual flows from the storm drain systems. Should a suspected discharge be discovered, it should be reported to the immediate supervisor. The supervisor will in turn relay the information to the Public Works Director at 240-6932.

f. **PROCEDURES FOR GRAINING ACCESS**. All of the Borough's MS4 outfalls are located on public property except for outfall No.1. Borough staff will need to contact the US Army Carlisle Barracks to gain access to outfall No.1. Outfalls 20 through 24 are located on land owned by the Letort Regional Authority and are readily accessible via the Letort Regional Authority Nature Trail. Authority authorization to access the trail is not needed as the trail is open for public access. In the event that access to private property is needed and the property owner is unwilling to allow access to Public Works staff, staff should contact one of the Borough Codes Enforcement Officers to secure a search warrant.

g. **PROCEDURES FOR ASSESSING SEWAGE INTERACTIONS -** The potential for illicit discharges caused by the interaction of sewage disposal systems (e.g., on-lot septic systems, sanitary piping) with storm drain systems has been reviewed by the Borough. All developed properties in the Borough are currently connected to the public sanitary sewer system. Also, the Borough undertook a comprehensive evaluation of its sanitary sewer system during 2014. There are currently no known locations in the sanitary sewer system that experience overflows. Therefore, there is a minimal likelihood of sanitary sewer system malfunctions and interaction with the Borough's MS4.

h. **PROGRAM DOCUMENTATION**. All actions taken under this plan shall be documented by Public Works staff. Records shall be kept of all outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program in the Borough's "S" Shared Drive under "S:\MS4 Program\MCM3 IDDE\(Permit Year)". The Borough Public Works Director will be responsible for maintaining the MS4 files and conducting annual reviews on potential changes to the program.

i. **TRAINING**. The above IDD&E Program will be included in training sessions for appropriate field staff. In addition, new Public Works Department staff will be trained as part of their initial employee training program. Refresher/update trainings will also be scheduled with field staff to address any changes to and/or concerns. At a minimum, training shall consist of personnel reviewing the inspection forms presented in Attachment 4.

ATTACHMENT 1: EXAMPLES OF PROHIBITED MS4 DISCHARGES

Illicit discharges can be accidental or intentional. The following are examples of illicit (illegal) discharges to the Borough's MS4 (this list is provided for guidance only and is not considered all inclusive):

Sanitary wastewater from improper sewage connections, exfiltration or leakage

Overflows of sanitary sewer systems

Leakage or drainage from sanitary sewer flushing and cleaning operations

Untreated (e.g., through a well maintained oil/water separator) commercial car wash wastewaters

Untreated radiator flushing wastewaters

Untreated engine degreasing wastes

Improper oil, gasoline, and other automotive fluids disposal

Leaky underground storage tanks

Untreated leaking of oils, gasoline and other automotive fluids for automobiles

Direct spraying of fertilizers, pesticides or herbicides onto impervious surfaces

Over-application of fertilizers, pesticides or herbicides onto landscaping resulting in runoff

Laundry wastes

Non-contact cooling waters

Dewatering of construction sites

Washing of concrete ready-mix trucks

Contaminated sump pump discharges

Improper disposal of household toxic wastes

Spills from roadway and other accidents

Chemicals, hazardous materials, garbage, and sanitary sludge landfills and disposal sites

Commercial use of soaps and detergents in cleaning pavement, vehicles and equipment

Sediment from lack of or improper maintenance of erosion and sedimentation controls

Latex/oil-based paints & solvents

Trash and debris: littering and dumping, household or construction waste; and restaurant grease

Chlorinated swimming pool drainage

Dumping motor vehicle fluids, household hazardous waste, restaurant wastes, or any other non-stormwater waste into the MS4.

ATTACHMENT 2: EXAMPLES OF EXEMPT DISCHARGES

An IDD&E Program does not need to address the certain categories of non-stormwater discharges or flows unless the operator of the regulated small MS4 (the Borough) identifies them as significant contributors of pollutants to its MS4. An Illicit Discharge does not refer to discharges authorized under an NPDES Permit. Certain allowable non-stormwater discharges are described in the EPA regulations, the Borough's NPDES MS4 permit or the Borough's Stormwater Management Ordinance. Examples of exempt discharges include the following:

- Discharges from firefighting activities,
- Potable water sources including de-chlorinated water line and fire hydrant flushing,
- Irrigation drainage,
- Routine external building wash-down (which does not use detergents or other compounds),
- Air conditioning condensate,
- Water from individual residential car washing,
- Springs,
- Water from crawl space pumps,
- Uncontaminated water from foundation or from footing drains,
- Flows from riparian habitats and wetlands,
- Lawn watering,
- 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 have not been used,
- De-chlorinated swimming pool discharges,
- Uncontaminated groundwater.

ATTACHMENT 3: STORMSEWER MAP AND OUTFALL TABLE

ATTACHMENT 4: IDD&E FORMS

CITIZEN COMPLAINT
ILLICIT DISCHARGE REPORTING FORM

Name: _____ **Contact Phone Number:** _____

Date: _____ **Time Discharge Discovered:** _____

Date of Last Rain Event: _____ **Estimated Quantity of Rain**:_____ **in.**

LOCATION OF DISCHARGE (indicate nearby street intersections, addresses, and/or landmarks for reference): _____

_____

_____

WHERE WAS DISCHARGE FOUND? OPEN DITCH STREAM PIPE OUTFALL OTHER: _____

WAS WATER FLOW OBSERVED? NO YES .

WAS FLOW SOLID OR PULSING? SOLID PULSING

WAS A PHOTO TAKEN? NO YES (Please attach a copy to form)

ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

CLARITY: CLEAR CLOUDY OPAQUE

WAS THERE AN:
OILY SHEEN YES NO
GARBAGE/SEWAGE YES NO
OTHER: _____

ADDITIONAL INFORMATION TO ASSIST IN THE INVESTIGATION: _____

_____

_____

Follow up Investigation (to be completed by CCD staff)
OUTFALL NO: _____ **INSPECTOR NAME** _____ **PHONE** _____

FIELD ANALYSIS:

WATER TEMP:	_____ °F / °C	CHLORINE (Total):	_____ mg/l
pH:	_____	BOD5:	_____ mg/l
Oil and Grease:	_____ mg/l	TSS:	_____ mg/l

WAS A SAMPLE COLLECTED? NO YES (if yes attach copy of chain-of-custody record)
COMMENTS: _____

_____

_____

DATA SHEET FILLED OUT BY: (signature): _____ DATE: _____

Additional notes to file: _____

_____

_____

Follow-up with Complainant: _____

_____

_____

_____

Date	Time	Name	Address	Form of Contact	Phone	Email	Location of Concern	Concern Details	Resolution Details	Status	Date of Resolution
3/5/2024	2:31PM	WEIS MARKETS	351 EAST HIGH STREET, CARLISLE	STORE MANAGER	(717) 243-8535	UNKNOWN	351 EAST HIGH STREET, CARLISLE PA, NEARBY WATERWAY	CARLISLE BOROUGH CODES OFFICER DISCOVERED A LARGE AMOUNT OF SALT DISPOSED OF IN LOCAL WATERWAY THAT ADJOINS THE PROPERTY OF WEIS MARKETS.	CARLISLE BOROUGH CODES OFFICER DISCUSSED INCIDENT WITH A REPRESENTATIVE OF WEIS MARKETS. WEIS MARKETS WAS INFORMED OF THE ILLICIT DISCHARGE AND EDUCATED TO PREVENT FURTHER ISSUES.	RESOLVED.	3/5/2024

BOROUGH OF CARLISLE

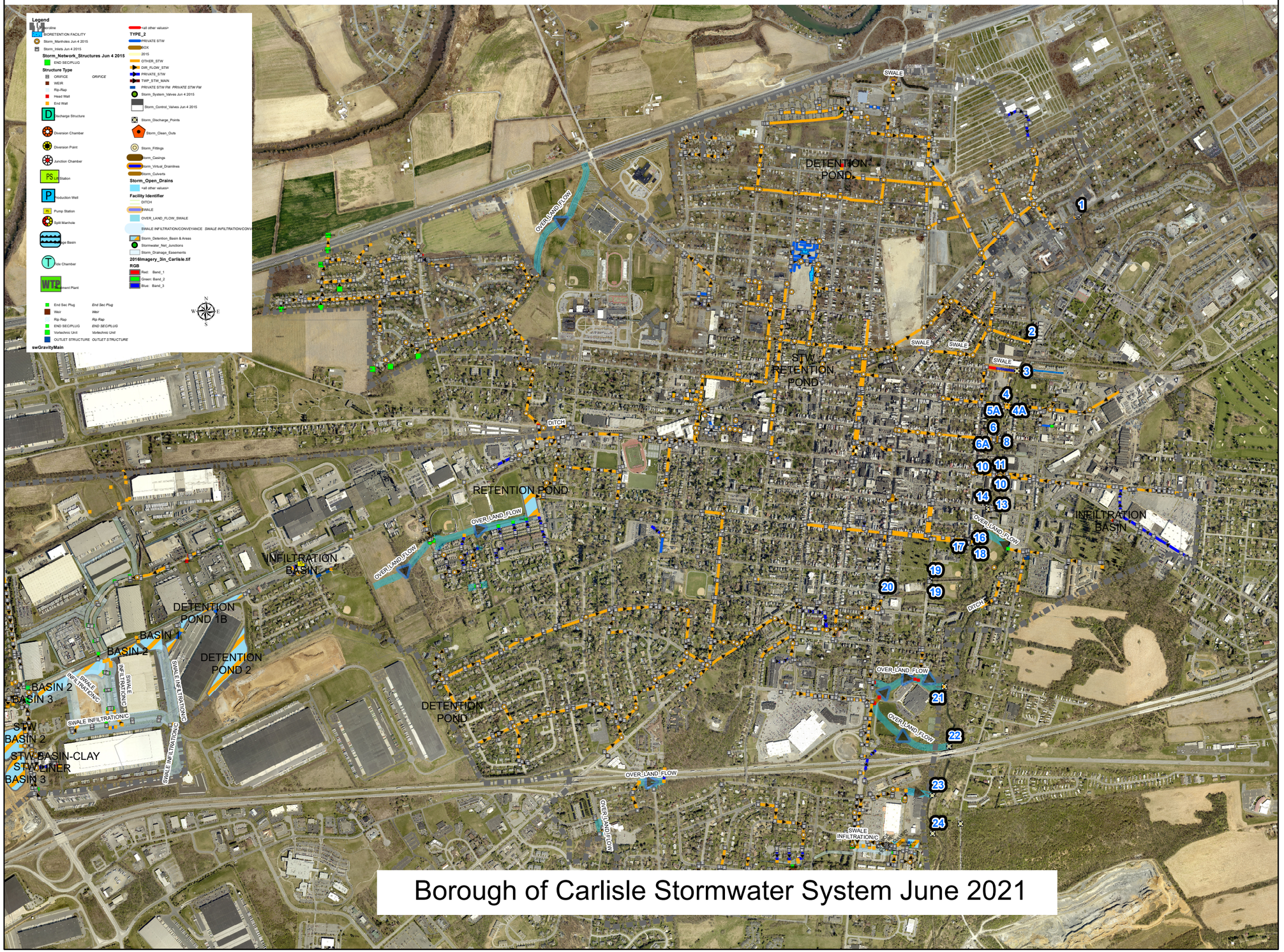
"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 5

Carlisle Borough's Stormwater System Map

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422


Legend
Streamline
BIORETENTION FACILITY
Storm_Manholes Jun 4 2015
Storm_Inlets Jun 4 2015
Storm_Network_Structures Jun 4 2015
END SEC/PLUG
Structure Type
ORIFICE
WEIR
Rip-Rap
Head Wall
End Wall
Discharge Structure
Diversion Chamber
Diversion Point
Junction Chamber
Lift Station
Production Well
Pump Station
Split Manhole
Wet Pond
Vortechnic Chamber
Wastewater Treatment Plant
End Sec Plug
Weir
Rip Rap
END SEC/PLUG
Vortechnic Unit
OUTLET STRUCTURE
swGravityMain
<all other values>
TYPE_2
PRIVATE STW
BOX
2015
OTHER_STW
DIR_FLOW_STW
PRIVATE_STW
TWP_STW_MAIN
PRIVATE STW FM
Storm_System_Valves Jun 4 2015
Storm_Control_Valves Jun 4 2015
Storm_Discharge_Points
Storm_Clean_Outs
Storm_Fittings
Storm_Casings
Storm_Virtual_Drainlines
Storm_Culverts
Storm_Open_Drains
Facility Identifier
DITCH
SWALE
OVER_LAND_FLOW_SWALE
Storm_Detention_Basin & Areas
Stormwater_Net_Junctions
Storm_Drainage_Easements
2016Imagery_3in_Carlisle.tif
RGB
Red: Band_1
Green: Band_2
Blue: Band_3
N
W
E
S
DETENTION POND
OVERLAND FLOW
SWALE
STW RETENTION POND
DITCH
RETENTION POND
OVER LAND FLOW
INFILTRATION BASIN
DETENTION POND 1B
BASIN 1
BASIN 2
DETENTION POND 2
SWALE INFILTRATION/C
BASIN 3
STW BASIN 2
STW BASIN-CLAY STW LINER
1
2
3
4
5A
4A
6
6A
8
10
11
10
14
13
16
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18
19
20
19
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22
23
24
Borough of Carlisle Stormwater System June 2021

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 6

Carlisle Borough's Stormwater System Outfall Map and Completed Dry Weather Inspection Forms

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

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Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 6A

Carlisle Borough's Stormwater System Outfall Map

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422


CHURCH
LIBERTY
HIGH
POMFRET
CHAPEL
SOUTH
CHESTNUT
WALNUT
PINE
BALTIMORE
WILLOW
GOODYEAR
MOTTS
RIDGE
ROBBINS
ALLIANCE
NOBLE
FOXCREST
CAMELOT
GARDEN
SPRING GARDEN
ROBIN
TERRI
GARLAND
WILLIAM
LINN
LIMESTONE CREEK
HEATHERFIELD
MILL
BEDFORD
HANOVER
HIGHLAND
SCHOOL
POPLAR
CEMETERY
ARCH
BITT
FALLER
VETERANS
ASHLAND
YORK
RUSH
BUCHANNON
SAMUELS
GIANT
MEALS
san mh
Unknown
M40018
M40019
M40016
I 81 S ONRAMP EXIT 47
I 81 S OFFRAMP EXIT 47A
I 81 S OFFRAMP EXIT 47B
I 81
I 81 N OFFRAMP EXIT 47
I 81 N ONRAMP EXIT 47
9
13
14
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17
18
19
21
22
23
24


M10004
M10010
M10006
M10029
M10027
M10022
M10026
M10024
M10023
M10021
M20064
M20065
M20066
M20067
M20063
1
2
3
4A
5
5A
6
6A
7
9
12
13
14A
14B
15
16
MARSHALL
ASHBURN
BROOKE
BARRY
FORBES
LETORT
PRATT
HANOVER
HENDERSON
WEBSTER
MCKNIGHT
GARDNERS
ENGINEER
INDIAN GARDEN
LOVELL
GUARDHOUSE
GARRISON
FLETCHER
GIBNER
BOUQUET
FLOWER
PARKVIEW
NORTH
LOUTHER
HIGH
SPRING GARDEN
ASHLAND
YORK
POINT AT CARLISLE PLAZA
BUCHANNON
VETERANS
GIANT
SPRUCE
LIBERTY
POMFRET
CHAPEL
MULBERRY
DICKINSON
COURTHOUSE
IRVINE
ALEXANDER
MORRIS
LOCUST
BEDFORD
MOBILE
PENN
ELM
FAIRGROUND
CARLISLE SPRINGS
STANWIX
HAMILTON
OLSON
GOBIN
FAIRVIEW
CHARLES
HARRISBURG
MEDIA
CARLWYNNE
ASHBURN
PITT
MCBRIDE
SPECK
WOZARD
Unknown

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 6B

Carlisle Borough's Stormwater System Outfall
Completed Dry Weather Inspection Forms

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JULY 28TH, 2023**	Outfall ID No.: **No. 1 N. Hanover Street (250 Feet North of Ashburn Drive)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 44"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 41"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **JULY 26TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **48** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width:	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other:			Oil and Grease		mg/L
Other:			Other:		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Water Depth at time of inspection = 20 Inches.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	JULY 28TH, 2023
Telephone No.	Date

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JULY 28TH, 2023**	Outfall ID No.: **No. 2 McKnight Street and Letort Spring Road**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 24"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 51"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **JULY 26TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **55.5** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☒ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☒ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Water Depth at time of inspection = 21 Inches.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	July 28th,2023
Telephone No.	Date

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **July 28th, 2023**	Outfall ID No.: **No. 3 Elm Street and North East Street**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 20"
	Longitude: 77° 10' 54"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **July 26th, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **15** in	☐ In Water ☐ With Sediment
☒ Open Channel	☐ Concrete ☒ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☒ Parabolic ☐ Other	Depth: **12** in Top Width: **96** in Bottom Width: **48**	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **July 28th, 2023**	Outfall ID No.: **No. 4 East North Street (North West Side)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 14"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 56"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **July 26th, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **12** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

The water depth at the location of this Outfall was 7.5 inches.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	July 28th , 2023
Telephone No.	Date

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **July 28th , 2023**	Outfall ID No.: **No. 4A East North Street (North East Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 14"
	Longitude: 77° 10' 56"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **July 26th, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **12** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

The water depth at the location of this Outfall was 4.5 inches.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	July 28th, 2023
Telephone No.	Date

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JULY 28TH, 2023**	Outfall ID No.: **No. 5 East North Street (East Side)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 14"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 56"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **JULY 26TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☒ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☒ Other	Diameter: **4** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

10 Outfalls on East Side of the bridge in this location.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	JULY 28TH, 2023
Telephone No.	Date

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 5A East North Street (West Side)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 14"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 56"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **AUGUST 9TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☒ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☒ Other	Diameter: **4** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

A total of ten (10) Outfalls are located on the West Side of the Bridge.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	August 11th, 2023
Telephone No.	Date

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JULY 28TH, 2023**	Outfall ID No.: **No. 6 East Louther Street (North West Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 09"
	Longitude: 77° 10' 59"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **JULY 26TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☐ Yes ☒ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☐ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☐ Circular ☒ Single ☐ Elliptical ☐ Double ☒ Box ☐ Triple ☐ Other ☒ Other	Diameter: **40 inch x 24** in	☐ In Water ☒ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No

If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	JULY 28TH, 2023
Telephone No.	Date

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JULY 28TH, 2023**	Outfall ID No.: **No. 6 A East Louther Street (South West Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 09"
	Longitude: 77° 10' 59"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **JULY 26TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☐ Circular ☒ Single ☐ Elliptical ☐ Double ☒ Box ☐ Triple ☐ Other ☐ Other	Diameter: **40 inch x 24** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☒ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No

If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

The Water Depth within this location equated to 2 inches.
Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	JULY 28TH, 2023
Telephone No.	Date

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 7 East Louther Street (South East Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 09"
	Longitude: 77° 10' 58"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **18** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

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BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 8 East Louther Street (South West Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 09"
	Longitude: 77° 10' 59"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **18** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

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MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 9 E. High Street (North of Bridge)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 04"
	Longitude: 77° 10' 58"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **18** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Water Depth is 6.0 Inches.
Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	AUGUST 11TH, 2023
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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 10 E. High Street (North West of Bridge)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 03"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 59"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☒ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **18** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 10AE. High Street at Bridge (South West Side Abutment)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 12' 03"
☒ Industrial ☒ Urban Residential	Longitude: 77° 10' 59"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☒ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **18** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

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BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 11 East High Street (South West of Bridge)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 03"
	Longitude: 77° 10' 58"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **24** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	AUGUST 11TH, 2023
Telephone No.	Date

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 12 East High Street (South of Bridge)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☐ Open Space ☐ Other:	Latitude: 40° 12' 03"
	Longitude: 77° 10' 59"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **36** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

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MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name:	**Borough of Carlisle**	NPDES Permit No.:	PA**I133517**
Date of Inspection:	**AUGUST 11TH, 2023**	Outfall ID No.:	**No. 13 East Pomfret Street (North East Side)**
Land Uses in Outfall Drainage Area (Select All):		Latitude:	40° 11' 58"
☒ Industrial ☒ Urban Residential		Longitude:	77° 10' 59"
☒ Commercial ☐ Suburban Residential		Dry Weather Inspection?	☒ Yes ☐ No
☒ Open Space ☐ Other:		Date of Previous Precipitation:	**AUGUST 10TH, 2023**
		Amount of Previous Precipitation:	**0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**		Were Photographs Taken?	☒ Yes ☐ No
		Are Photographs Attached?	☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **16** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

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MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 14A East Pomfret Street (West Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☒ Open Space ☐ Other:	Latitude: 40° 11' 57"
	Longitude: 77° 11' 00"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☒ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☒ Other	Diameter: **4** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Four (4) Outfalls on the West Side
Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

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MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No. 15 East Pomfret Street (South East Side)**
Land Uses in Outfall Drainage Area (Select All): ☒ Industrial ☒ Urban Residential ☒ Commercial ☐ Suburban Residential ☒ Open Space ☐ Other:	Latitude: 40° 11' 57"
	Longitude: 77° 11' 00"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☒ Other	Diameter: **12** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Four (4) Outfalls on the West Side
Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUGUST 11TH, 2023**	Outfall ID No.: **No.16 N. of South Street (Letort Park)**
Land Uses in Outfall Drainage Area (Select All): ☐ Industrial ☐ Urban Residential ☐ Commercial ☐ Suburban Residential ☒ Open Space ☐ Other:	Latitude: 40° 11' 55"
	Longitude: 77° 11' 01"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☒ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **12** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **AUSUST 11TH, 2023**	Outfall ID No.: **No.16 N. of South Street (Letort Park)**
Land Uses in Outfall Drainage Area (Select All): ☐ Industrial ☐ Urban Residential ☐ Commercial ☐ Suburban Residential ☒ Open Space ☐ Other:	Latitude: 40° 11' 55"
	Longitude: 77° 11' 01"
	Dry Weather Inspection? ☒ Yes ☐ No
	Date of Previous Precipitation: **AUGUST 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☒ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **12** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

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Telephone No.	Date

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MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JUNE 10TH, 2023**	Outfall ID No.: **No. 18 E. South Street (N. Side)**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 11' 52"
☒ Industrial ☒ Urban Residential	Longitude: 77° 11' 03"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **JUNE 12TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☐ Circular ☒ Single ☐ Elliptical ☐ Double ☒ Box ☐ Triple ☐ Other ☐ Other	Diameter: **42"x20.5"** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Tiffany Strine	
Responsible Official Name	Signature
(717)240-6918	JUNE 12TH, 2023
Telephone No.	Date

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JUNE 12TH, 2023**	Outfall ID No.: **No. 19 South Bedford Street**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 11' 46"
☒ Industrial ☒ Urban Residential	Longitude: 77° 11' 13"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **JUNE 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☒ Other	☒ Circular ☒ Single ☐ Elliptical ☒ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **2.6** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☒ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

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BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JUNE 12TH, 2023**	Outfall ID No.: **No.20 S. Hanover Street**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 11' 43"
☒ Industrial ☒ Urban Residential	Longitude: 77° 11' 23"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☐ Open Space ☐ Other:	Date of Previous Precipitation: **JUNE 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **12** in	☒ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☒ Yes ☐ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☒ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☒ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☒ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☒ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☒ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☒ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☒ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JUNE 12TH, 2023**	Outfall ID No.: **No.21 Letort Nature Trail**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 11' 29"
☐ Industrial ☒ Urban Residential	Longitude: 77° 11' 10"
☐ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☒ Open Space ☐ Other:	Date of Previous Precipitation: **JUNE 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☒ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **24** in	☐ In Water ☐ With Sediment
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

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BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JUNE 12TH, 2023**	Outfall ID No.: **No.22 Letort Nature Trail**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 11' 20"
☐ Industrial ☒ Urban Residential	Longitude: 77° 11' 09"
☐ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☒ Open Space ☐ Other:	Date of Previous Precipitation: **JUNE 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: **32** in	☐ In Water ☐ With Sediment
☒ Open Channel	☐ Concrete ☒ Earthen ☐ Rip-Rap ☐ Other	☐ Trapezoid ☒ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

Inspector Comments:

Photographs have been taken of the site inspection and are available upon request.

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT

BACKGROUND INFORMATION

Permittee Name: **Borough of Carlisle**	NPDES Permit No.: PA**I133517**
Date of Inspection: **JUNE 12TH, 2023**	Outfall ID No.: **No.23 Letort Nature Trail**
Land Uses in Outfall Drainage Area (Select All):	Latitude: 40° 11' 11"
☒ Industrial ☐ Urban Residential	Longitude: 77° 11' 12"
☒ Commercial ☐ Suburban Residential	Dry Weather Inspection? ☒ Yes ☐ No
☒ Open Space ☐ Other:	Date of Previous Precipitation: **JUNE 10TH, 2023**
	Amount of Previous Precipitation: **0.03** in
Inspector Name(s): **Tiffany Strine (Carlisle Borough MS4 Coordinator)**	Were Photographs Taken? ☒ Yes ☐ No
	Are Photographs Attached? ☒ Yes ☐ No

OUTFALL DESCRIPTION

TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other	☐ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other ☐ Other	Diameter: _____ in	☐ In Water ☐ With Sediment
☒ Open Channel	☐ Concrete ☒ Earthen ☐ Rip-Rap ☐ Other	☒ Trapezoid ☐ Parabolic ☐ Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	

Dry Weather Flow Present at Outfall During Inspection? ☐ Yes ☒ No *(If No, skip to Certification Section)*

Description of Flow Rate: ☐ Trickle ☐ Moderate ☐ Significant ☐ N/A

DRY WEATHER FLOW EVALUATION

Does the dry weather flow contain color? ☐ Yes ☐ No If Yes, provide a description below.

Does the dry weather flow contain an odor? ☐ Yes ☐ No If Yes, provide a description below.

Is there an observed change in the receiving waters as a result of the discharge? ☐ Yes ☐ No
If Yes, provide a description below.

Does the dry weather flow contain floating solids, scum, sheen or substances that result in deposits? ☐ Yes ☐ No
If Yes, provide a description below.

Were sample(s) collected of the dry weather flow? ☐ Yes ☐ No (If Yes, No. Samples: _____)

FIELD / LABORATORY ANALYSIS

PARAMETER	RESULTS	UNITS	PARAMETER	RESULTS	UNITS
Flow Rate		GPM	Fecal Coliform		No./100 mL
pH		S.U.	COD		mg/L
Total Residual Chlorine (TRC)		mg/L	BOD5		mg/L
Conductivity		µmhos/cm	TSS		mg/L
Ammonia-Nitrogen		mg/L	TDS		mg/L
Other: _____			Oil and Grease		mg/L
Other: _____			Other: _____		

Indicate the parameters above that were analyzed by a DEP-certified laboratory:

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? ☐ Yes ☐ No

If Yes, describe efforts made to determine the source(s) of the illicit discharge.

Describe corrective actions taken by the permittee in response to the finding of an illicit discharge.

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BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 7

Carlisle Borough's Stormwater Management Ordinance

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

Chapter 217

STORMWATER MANAGEMENT

[HISTORY: Adopted by the Borough Council of the Borough of Carlisle 8-11-1983 by Ord. No. 1431, approved 8-11-1983; amended in its entirety 3-10-2011 by Ord. No. 2147, approved 3-11-2011. Subsequent amendments noted where applicable.]

GENERAL REFERENCES

Fees — See Ch. 120.

Floodplain management — See Ch. 135.

Sewers — See Ch. 197.

Street openings for utility installations — See Ch. 223, Art. IV.

Subdivision and land development — See Ch. 226.

ARTICLE I
General Provisions

§ 217-1. Short title.

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

§ 217-2. Statement of findings.

The Borough Council finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases runoff volumes, 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 non-point source pollution of water resources. **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

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).

E. The use of green infrastructure and low impact development (LID) are intended to address the root cause of water quality impairment by using systems and practices which use or mimic natural processes to infiltrate and recharge, evapotranspire, and/or harvest and use precipitation near where it falls to earth. Green infrastructure practices and LID contribute to the restoration or maintenance of predevelopment hydrology. **[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

F. 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) program. **[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

§ 217-3. Purpose.

The purpose of this chapter is to promote health, safety, and welfare within the Borough and its watershed by minimizing the harms and maximizing the benefits described in

§ 217-2 of this chapter through provisions designed to:

A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 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, reduce runoff volumes and mimic predevelopment hydrology. **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

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

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

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

G. Provide proper operation and maintenance of all permanent stormwater management (SWM) best management practices (BMPs) that are implemented within the Borough.

H. Provide standards to meet NPDES permit requirements.

I. Meet general water quality and soil disturbance goals by implementing measures to:

(1) Minimize disturbance to floodplains, wetlands, natural slopes over 15%, and existing native vegetation.

(2) Preserve and maintain trees and woodlands. Maintain or extend riparian buffers and protect existing forested buffer. Provide trees and woodlands adjacent to impervious areas whenever feasible.

(3) Establish and maintain nonerosive flow conditions in natural flow pathways.

(4) Minimize soil disturbance and soil compaction. Over disturbed areas, replace topsoil to a minimum depth equal to the original depth or four inches, whichever is greater. Use tracked equipment for grading when feasible.

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

(6) Incorporate the techniques for low-impact development practices described in the most current version of "The Pennsylvania Stormwater Best Management Practices Manual" (SWM Manual). [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]

(7) Minimize thermal impacts to waters of the commonwealth.

§ 217-4. Statutory authority.

A. Primary authority.

(1) The Borough is empowered to regulate these activities by the authority of the Stormwater Management Act, Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1 et seq., as amended, Article XXII and Section 1202(74) of the Pennsylvania Borough Code, 53 P.S. § 47201 et seq., and 53 P.S. § 46202(74).

(2) Hereafter, all earth disturbance activities and land development within this Borough, including, without limitation, the location, design and construction within the watershed of stormwater management systems, obstructions, flood control projects, subdivisions and major land developments, highways and transportation facilities, facilities for the provision of public utility services and facilities owned or financed in whole or in part by funds from the commonwealth, shall be in full compliance with the requirements of the Cumberland County Stormwater Management Plan and shall be conducted in a manner consistent therewith. Any violation of the Cumberland County Stormwater Management Plan shall be considered a violation of this chapter.

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, and/or the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1, et seq., as amended, The Stormwater Management Act. **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

§ 217-5. Applicability; minimum requirements.

A. 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 as is reasonably necessary to prevent injury to health, safety or other property. The following activities are encompassed by the definition of regulated activities (see § 217-11) and shall be subject to the provisions of this chapter unless otherwise exempted by § 217-13:

(1) Land development and/or redevelopment.

(2) Subdivision.

(3) Construction of new or additional impervious or semi-pervious surfaces (streets, driveways, parking lots, etc.).

(4) Construction of structures or additions to existing structures, as determined by the Borough.

(5) Diversion or piping of any natural or man-made stream channel.

(6) Installation of stormwater management facilities or appurtenances thereto.

(7) Forest management/timber operations that include logging road construction and timber harvesting.

B. In interpreting and applying the provisions of this chapter, they shall be held to be the minimum requirements for the promotion of public health, safety, comfort, convenience and general welfare. Where provisions of this chapter impose greater restrictions than those of Chapter 135, Floodplain Management, of this Code, Chapter 226, Subdivision and Land Development, of this Code, or of any statute, other ordinance, restriction or regulation, the provisions of this chapter shall be controlling. Where the provisions of Chapter 135, Chapter 226 or of any statute, other ordinance, resolution or regulation impose greater restrictions than this chapter, the provisions of such statute, resolution, ordinance or regulation shall be controlling. This chapter shall be interpreted whenever possible to achieve a result consistent with the provisions of Chapter 135 and Chapter 226, as applicable.

§ 217-6. Repealer.

Any other Chapter or ordinance provision(s) or regulations of the Borough inconsistent with any of the provisions of this chapter are hereby repealed to the extent of the inconsistency only.

§ 217-7. Severability.

In the event that a court of competent jurisdiction declares any section or provision of this chapter invalid, such decision shall not affect the validity of any of the remaining provisions of this chapter.

§ 217-8. Compatibility with other requirements.

Approvals issued and actions taken under this chapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation, chapter or ordinance.

§ 217-9. Waiver procedure. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. If the Borough of Carlisle determines that any requirement under this chapter cannot be achieved for a particular regulated activity, the municipality may, after an evaluation of alternatives, approve measures other than those in this chapter, subject to § 217-9B and C.

B. Waivers or modifications of the requirements of this chapter may be approved by the Borough of Carlisle if enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that the modifications will not be contrary to the public interest and that the purpose of the chapter is preserved. Cost or financial burden shall not be considered a hardship. Modification may be considered if an alternative standard or approach will provide equal or better achievement of the purpose of the chapter. A request for modifications shall be in writing and accompany the stormwater management site plan submission. The request shall provide the facts on which the request is based, the provision(s) of the chapter involved and the proposed modification.

C. No waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre may be granted by the Borough of

Carlisle unless that action is approved in advance by the Department of Environmental Protection (DEP) or the Cumberland County Conservation District.

ARTICLE II
Definitions

§ 217-10. Word usage.

For the purposes of this chapter, certain terms and words used herein shall be interpreted as follows:

A. Words used in the present tense include the future tense; the singular number includes the plural; and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

§ 217-11. Definitions. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

AGRICULTURAL ACTIVITY — Activities associated with agriculture, such as agricultural cultivation, agricultural operation, 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 municipality for approval to engage in any regulated activity at a project site in the municipality.

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.

BOROUGH — The Borough of Carlisle, Cumberland County, Pennsylvania; Carlisle Borough.

BOROUGH COUNCIL — The governing body of the Borough of Carlisle, Cumberland County, Pennsylvania.

CODE — The Code of the Borough of Carlisle.

CONSERVATION DISTRICT — A conservation district, as defined in § 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.

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 VOLUME — The volume of runoff that is captured and released into the waters of the commonwealth at a controlled rate.

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

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

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 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.

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 or delineated by applicable FEMA maps and studies as being a special flood hazard area. Also includes areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania DEP Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by DEP).

FLOODWAY — The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the 100-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 100-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 forestland. 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.

GREEN INFRASTRUCTURE — Systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater on the site where it is generated.

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).

IMPERVIOUS SURFACE (IMPERVIOUS AREA) — A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to: roofs; additional indoor living spaces, patios, garages, storage sheds and similar structures; and any new streets or sidewalks. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration.

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

LAND DEVELOPMENT (DEVELOPMENT) — Inclusive of any or all of the following meanings:

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 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. Any subdivision of land as defined in the Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247, 53 P.S. § 10107.

C. Development in accordance with § 503(1.1) of the PA Municipalities Planning Code.[1]

LOW IMPACT DEVELOPMENT (LID) — Site design approaches and small-scale stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater. LID can be applied to new development, urban retrofits, and revitalization projects. LID utilizes design techniques that infiltrate, filter, evaporate, and store runoff close to its source. Rather than rely on costly large-scale conveyance and treatment systems, LID addresses stormwater through a variety of small, cost-effective landscape features located on-site.

MUNICIPALITY — Carlisle Borough, Cumberland County, Pennsylvania.

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

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

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

PERSON — Any individual, group of individuals, unincorporated association, partnership, corporation, limited liability partnership, limited liability company and any other form of entity.

PERVIOUS AREA — Any area not defined as impervious.

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

QUALIFIED PROFESSIONAL — Any person licensed by the Pennsylvania Department of State 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 as specified in § 217-5.

REGULATED EARTH DISTURBANCE ACTIVITY — Activity involving earth disturbance subject to regulation under 25 Pa. Code 92, 25 Pa. Code 102, or the Clean Streams Law.[2]

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 4% chance).

RIPARIAN BUFFER — A permanent area of trees and shrubs located adjacent to streams, lakes, ponds and wetlands.

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

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

STATE WATER QUALITY REQUIREMENTS — The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code and the Clean Streams Law.[3]

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

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

2. **Editor's Note: See 35 P.S. § 691.1 et seq.**

3. **Editor's Note: See 35 P.S. § 691.1 et seq.**

to: detention and retention basins; open channels; storm sewers; pipes; and infiltration facilities.

STORMWATER MANAGEMENT PLAN — The Cumberland County Stormwater Management Plan for managing stormwater runoff adopted by the County of Cumberland as required by the Stormwater Management Act, the Act of October 4, 1978, P.L. 864, (Act 167),[4] as amended.

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.

SUBDIVISION — As defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247.[5]

USDA — United States Department of Agriculture.

WATERS OF THIS 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.

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.

4. **Editor's Note: See 32 P.S. § 680.1 et seq.**

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

ARTICLE III
Stormwater Management Standards

§ 217-12. General requirements. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. For all regulated activities, unless preparation of a SWM site plan is specifically exempted in § 217-13:

(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 a SWM site plan, which demonstrates compliance with the requirements of this chapter.

B. SWM site plans approved by the Borough, in accordance with § 217-22, shall be on site throughout the duration of the regulated activity.

C. The Borough, after consultation with DEP, may 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.[6]

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 (e.g., during construction) to meet the purposes and requirements of this chapter and to meet all requirements under the Pennsylvania Code Title 25 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) [The Pennsylvania Department of Environmental Protection (DEP). 363-2134-008 (2000), as amended and updated. Erosion and Sediment Pollution Control Program Manual. Harrisburg, PA.], commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008 (2000), as amended and updated.

E. 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 stages.

(2) For development taking place in stages, 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 § 217-14 and the peak rate controls of § 217-15 do not need to be retrofitted to existing impervious areas that are not being altered by the proposed regulated activity.

F. Stormwater flows onto adjacent property shall not be created, increased, decreased,

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6. Editor's Note: See 53 P.S. 691.1 et seq.

relocated, or otherwise altered without written notification to the adjacent property owner(s). Such stormwater flows shall be subject to the requirements of this chapter.

G. For all regulated activities not exempted by § 217-13, implementation of the volume controls in § 217-14 is required.

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 by implementing measures to:

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

(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.

(3) Incorporate methods described in the Pennsylvania Stormwater Best Management Practices Manual (BMP Manual). If methods other than green infrastructure and LID methods are proposed to achieve the volume and rate controls required under this chapter, the SWM site plan must include a detailed justification demonstrating that the use of LID and green infrastructure is not practicable.

I. For all new development projects, 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 stages. Similarly, for new development projects taking place in stages, the entire proposed new development plan must be used in determining conformance with this chapter.

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

K. The design of all facilities over karst topography shall include an evaluation of measures to minimize adverse effects in accordance with the procedures outlined in Section 7.4 (Special Management Areas – Karst Areas) of the most current version of the SWM Manual. [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]

L. 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.

M. Normally dry, open top, storage facilities should completely drain both the volume

control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm.

N. The design storm volumes to be used in the analysis of peak rates of discharge should be obtained from the latest version of the Precipitation-Frequency Atlas of the United States, 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,[7] and the Stormwater Management Act.[8]

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

§ 217-13. Exemptions.

A. Regulated activities resulting in less than or equal to 1,000 square feet of new impervious surface are exempt from Article IV Stormwater Management (SWM) Site Plan Preparation Requirements, including §§ 217-14 and 217-15 of this chapter. Regulated activities greater than 1,000 square feet and less than or equal to 5,000 square feet of new impervious area may be exempt from the SWM site plan preparation requirements, including §§ 217-14 and 217-15 of this chapter when justification is provided that stormwater impact is minimal.*

B. Regulated activities that create new disconnected impervious areas greater than 1,000 square feet and less than or equal to 5,000 square feet that are proven to meet the seventy-five-foot minimum pervious flow path requirement outlined in Appendix B[9] are exempt from the SWM site plan preparation requirements, including §§ 217-14 and 217-15 of this chapter.*

C. Regulated activities meeting the following parcel size and square footage requirements are exempt from the peak rate control requirements, but not the volume control or SWM site plan preparation requirements of this chapter. These criteria shall apply to the total proposed development even if development is to take place in phases. The effective date of this chapter shall be the starting point from which to consider tracts as "parent tracts" in which future subdivisions and respective impervious area computations shall be cumulatively considered.*

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7. **Editor's Note: See 53 P.S. 691.1 et seq.**
8. **Editor's Note: See 32 P.S. § 680.1 et seq.**
9. **Editor's Note: Appendix B is on file in the office of the Borough Secretary.**

New Impervious Area Exemption Criteria for Peak Rate Control

Total Parcel Size (acres)	Total Parcel Size (square feet)	New Impervious Area Exemption (square feet)
Less than 0.25	Less than 10,890	1,500
0.25 to 0.5	10,890 to 21,780	2,500
Greater than 0.5	Greater than 21,780	5,000

D. Agricultural plowing and tilling are exempt from the SWM site plan requirements, including §§ 217-14 and 217-15 of this chapter, provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

E. 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 Chapter 102.

* NOTE: The Borough has, at its discretion, the ability to deny exemption from any requirements of this chapter. Exemption from any requirements of this chapter does not convey exemption from any requirements of any other applicable local codes or ordinances (i.e., local building permit requirements).

§ 217-14. Volume controls. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

The green infrastructure and low impact development practices provided in the BMP Manual shall be utilized for all regulated activities wherever possible. Water volume controls shall be implemented using the Design Storm Method in Subsection A or the Simplified Method in Subsection B below for all regulated activities not otherwise exempted by § 217-13. 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 [see Section 8.7 of the most current version of the SWM Manual (Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.)] 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 or its equivalent.

(b) Twenty percent of existing impervious area, when present, shall be

considered meadow in the model for existing conditions.

B. The Simplified Method [see Section 8.7 of the most current version of the SWM Manual (Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.)] 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 detention or rate control facilities. For new impervious surfaces:

(1) Stormwater facilities shall be sized to 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 include reuse, evaporation, transpiration, and infiltration.

(3) Infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first 1/2 inch of the permanently removed runoff should be infiltrated.

(4) The second one inch of runoff from new impervious surfaces should be detained using structural and nonstructural BMPs (as outlined in the most current version of the SWM Manual) and released at a controlled rate.

(5) Regulated activities eligible under this method are exempt from the requirements of § 217-15, Rate controls.

(6) This method is exempt from the requirements of § 217-15, Rate controls.

§ 217-15. Rate controls.

See Section 8.3 of the most current version of the SWM Manual. [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.]

A. Areas not covered by a release rate map from an approved Act 167 stormwater management plan. Post-development discharge rates shall not exceed the predevelopment discharge rates for the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year 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.

B. Areas covered by a release rate map from an approved Act 167 stormwater management plan (see Appendix C[10]). For the one-, two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year storms, the post-development peak discharge rates will

follow the applicable approved release rate maps (see Appendix C). For any areas not shown on the release rate maps, the post-development discharge rates shall not exceed the predevelopment discharge rates.

§ 217-16. Additional SWM and drainage requirements.

A. Subbasin requirements. Special requirements shall apply to activity within a geographical area which supplies stormwater runoff to a point directly west of the intersection of the terminus of West South Street and Orange Street [A map of this area is on file in the Borough Engineer's Office and is incorporated into this paragraph.]:

(1) Use of stormwater pond facility. Fully on-site stormwater management shall not be required in this area, but development in the area shall make use of a Borough-constructed jointly used stormwater pond facility for purposes of stormwater handling, control and management.

(2) Additional responsibilities of applicant, developer or party seeking subdivision, earth disturbance or land development approval. Payment of a fee for the use of this stormwater pond facility shall be a requisite to any area development, earth disturbance, subdivision or land development within the scope of this chapter, which fee shall be determined by Borough Council from time to time and set forth in Chapter 120, Fees. It shall also be the responsibility of the applicant, developer or other party to construct and maintain any and all drainage structures necessary to direct flow off the site in question and into the jointly used drainage swales and facilities in such manner as not to erode or otherwise compromise the integrity of existing or future facilities; the method used to bring flow to the jointly used facilities shall be subject to approval of the Borough Engineer. This responsibility shall also include the acquisition of any easements or other interests necessary to the delivery of flow to the jointly used facilities.

(3) Limitation on meaning of "jointly used facility or facilities." The jointly used facility or facilities shall include only those facilities owned by the Borough and maintained by it. The term shall not include any common ditches, swales or other facilities used by two or more landowners or any other private arrangement or agreement for the use and/or conveyance of stormwater.

(4) Use of jointly used facility. Nothing herein is intended to preclude Borough Council from authorizing use of the jointly used facility by parties outside of the area upon such terms and conditions as it deems proper and in a manner not inconsistent with its purpose as described herein.

§ 217-16.1. Riparian buffers. [Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. In order to protect and improve water quality, a riparian buffer easement shall be created and recorded as part of any subdivision or land development that encompasses a riparian buffer.

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10. Editor's Note: Appendix C is on file in the office of the Borough Secretary.

B. Except as required by Chapter 102, the riparian buffer easement shall be measured to be the greater of the limit of the 100-year floodplain or a minimum of 35 feet from the top of the streambank (on each side).

C. Minimum management requirements for riparian buffers.

(1) Existing native vegetation shall be protected and maintained within the riparian buffer easement.

(2) Whenever practicable invasive vegetation shall be actively removed and the riparian buffer easement shall be planted with native trees, shrubs and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.

D. The riparian buffer easement shall be enforceable by the municipality and shall be recorded in the appropriate County Recorder of Deeds Office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for the continued private ownership and shall count toward the minimum lot area a required by zoning, unless otherwise specified in the municipal Zoning Ordinance.

E. Any permitted use within the riparian buffer easement shall be conducted in a manner that will maintain the extent of the existing 100-year floodplain, improve or maintain the stream stability, and preserve and protect the ecological function of the floodplain.

F. The following conditions shall apply when public and/or private recreation trails are permitted within riparian buffers:

(1) Trails shall be for nonmotorized use only.

(2) Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.

G. Septic drainfields and sewage disposal systems shall not be permitted within the riparian buffer easement and shall comply with setback requirements established under 25 Pa. Code Chapter 73.

§ 217-16.2. Erroneous permit. [Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

A. 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 a board, agency or employee of the Carlisle Borough purporting to validate such a violation.

ARTICLE IV
Stormwater Management (SWM) Site Plan Requirements

§ 217-17. Plan requirements.

The following items shall be included in the SWM site plan:

A. Appropriate sections from the Carlisle Borough Subdivision and Land Development Ordinance (see Chapter 226), and other applicable Code provisions, ordinances, and regulations, shall be followed in preparing the SWM site plans.

B. The Borough Engineer 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 Engineer may either disapprove the submission and require a resubmission, or in the case of minor deficiencies, the Borough Engineer may accept submission of modifications.

C. Provisions for permanent access or maintenance easements as determined necessary by the Borough Engineer for all physical SWM BMPs, such as ponds and infiltration structures, to implement the operation and maintenance plan discussed in Subsection E(15) below.

D. Include the following signature block:

> Borough Engineer or his designee, on this date (_____), has reviewed and hereby certifies that the SWM site plan meets all design standards and criteria of Chapter 217 of the Code of the Borough of Carlisle governing Stormwater Management.

E. The SWM site plan shall provide the following information with plan(s) drawn to a scale of one inch equals 50 feet:

(1) A written description of the overall stormwater management concept for the project.

(2) Name, address and telephone number of the SWM plan preparer and of the landowner or developer submitting the plan.

(3) Names of adjacent or surrounding landowners.

(4) Site boundaries with bearings and distances.

(5) Existing topography and proposed finished grades illustrating all natural features of the area.

(6) The location and dimensions of all existing and proposed buildings and other impervious areas such as existing and proposed street and parking areas, sidewalks and other structures.

(7) The Location and dimensions of existing and proposed lots, tracts or parcels.

(8) 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, and other environmentally sensitive areas, such as brownfields. [Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.] **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

(9) Stormwater runoff design computations and documentation as specified in this chapter, or as otherwise necessary to demonstrate that measures have been taken to meet the requirements of this chapter, including the recommendations and general requirements in § 217-12.

(10) Expected project time schedule.

(11) A soil erosion and sediment control plan, where applicable, as prepared for and submitted to the approval authority.

(12) The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and adjacent aquatic features and on any existing stormwater conveyance system that may be affected by the project. The plan shall show how the proposed SWM facilities relate to or tie into existing facilities, both on site and off site.

(13) Plan and profile drawings of all SWM BMPs, including drainage structures, pipes, open channels, and swales.

(14) The SWM site plan shall show the locations of existing on-lot wastewater facilities and water supply wells.

(15) The SWM site plan shall include an operation and maintenance (O&M) plan for all proposed physical stormwater management facilities (see Appendix A[11]). This plan shall address long-term ownership and responsibilities for operation and maintenance as well as schedules for O&M activities.

(16) Such other information as may be required by the Borough Engineer.

(17) The identity and location of all stormwater facilities, streets and other features identified for future public use as depicted on the Official Map. **[Added 12-11-2014 by Ord. No. 2212, approved 12-11-2014]**

(18) A justification must be included in the SWM site plan if BMPs other than green infrastructure methods and LID practices are proposed to achieve the volume, rate and water quality controls under this chapter. **[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

§ 217-18. Plan submission.

A. Five copies of the SWM site plan shall be submitted as follows: **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

(1) Two copies to the Borough.

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11. Editor's Note: Appendix A is on file in the office of the Borough Secretary.

(2) One copy to the Borough Engineer.

(3) One copy to the County Conservation District.

(4) One copy to the County Planning/Commission Office.

B. Additional copies shall be submitted as requested by the Borough Engineer.

C. For any SWM site plan that proposes to use any BMPs other than green infrastructure and LID practices to achieve the volume and rate controls required under this chapter, the municipality will not approve the SWM site plan unless it determines that green infrastructure and LID practices are not practicable. **[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

D. If the municipality disapproves the SWM site plan, the municipality will state the reasons for the disapproval in writing. The municipality also may approve the SWM site plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. **[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

§ 217-19. Plan review.

A. The SWM site plan shall be reviewed by the Borough Engineer for the Borough for consistency with the provisions of this chapter. After review, the Borough Engineer shall approve or disapprove the SWM site plan. If it is recommended to disapprove the SWM site plan, the Borough Engineer shall state the reasons for the disapproval in writing. The Borough Engineer also may approve the SWM site plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. The SWM site plan review shall be completed within the time allowed by the Municipalities Planning Code[12] for reviewing subdivision plans.

B. For SWM site plans that do not require subdivision and land development approval, the Borough Engineer shall notify the applicant in writing within 60 calendar days whether the SWM site plan is approved or disapproved. If the SWM site plan involves a subdivision and land development plan, the notification period is 90 days. If a longer notification period is provided by other statute, regulation, or ordinance, the applicant will be so notified by the Borough Engineer. If the Borough Engineer disapproves the SWM site plan, the Borough shall cite the reasons for disapproval in writing.

§ 217-20. Modification of plans.

A modification to a submitted SWM site plan that involves a change in SWM BMPs or 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 modified SWM site plan in accordance with this article.

§ 217-21. Resubmission of disapproved stormwater management site plans.

A disapproved SWM site plan may be resubmitted, with the revisions addressing the

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

Borough Engineer's concerns, in accordance with this article. The applicable review fee must accompany a resubmission of a disapproved SWM site plan.

§ 217-22. Authorization to construct and term of validity. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

In circumstances where no subdivision or land development plan is required, the Borough Engineer's approval of an SWM site plan authorizes completion of the regulated activities contained in the SWM site plan for a maximum term of validity of five years following the date of approval. The Carlisle Borough may specify a term of validity shorter than five years in the approval of any SWM site plan. Terms of validity shall commence on the date the Borough Engineer signs the approval for an SWM site plan. In the case of a required subdivision or land development plan, the maximum term of validity shall be five years following the date of preliminary plan approval by the Borough Council. If an approved SWM site plan is not completed according to § 217-23 within the term of validity, then the Borough may consider the SWM site plan disapproved and may revoke any and all permits issued by the Borough. SWM site plans that are considered disapproved by the Borough shall be resubmitted in accordance with § 217-21 of this chapter.

§ 217-23. As-built plans, completion certificate and final inspection.

A. The applicant 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 within 30 calendar days of project completion or, in the case of dedicated public improvements, prior to acceptance of the improvements by the Borough Council.

B. The as-built submission shall include a certification of completion signed by a qualified professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. The latitude and longitude coordinates for all permanent SWM BMPs must also be submitted, at the central location of the BMPs. If any licensed qualified professionals contributed to the construction plans, then a licensed qualified professional must sign the completion certificate. **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

C. After receipt of the as-built plan, the Borough may conduct a final inspection.

§ 217-24. Municipal liability.

The granting of a permit or approval of a stormwater plan or facility shall not constitute a representation, guaranty or warranty of any kind by the Borough of Carlisle or by any official or employee thereof and shall create no liability upon the Borough, its officials or employees.

ARTICLE V
Operation and Maintenance

§ 217-25. Responsibilities of developers and landowners.

A. The Borough Engineer shall make the final determination on the continuing maintenance and inspection responsibilities prior to final approval of the SWM site plan. The Borough Engineer may require a 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 and operating responsibility for any portion of the stormwater management controls. Prior to acceptance by the Borough, all newly installed storm sewer mains and lines shall be inspected by the Borough Engineer, and the person offering dedication shall pay the fee established in the amount and according to the formula set forth in Chapter 120, Fees.

B. Facilities, areas, or structures used as stormwater management BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.

C. The operation and maintenance 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.

§ 217-26. Operation and maintenance agreements. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

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)[13] 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 agreement.

   (2) The owner shall convey to the municipality conservation easements to assure access for periodic inspections by the municipality and maintenance, as necessary.

   (3) The owner shall keep on file with the municipality 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 municipality within 10 working days of the change.

B. The owner is responsible for operation and maintenance of the SWM BMPs. If the owner fails to adhere to the operation and maintenance agreement (see the sample Operations and Maintenance Agreement in Appendix A[14]), the Borough may perform the services required and charge the owner appropriate fees. Nothing

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13. **Editor's Note: Said appendix is on file in the Borough offices.**

14. **Editor's Note: Appendix A is on file in the office of the Borough Secretary.**

herein shall be construed to place a duty or obligation upon the Borough to perform any services or repairs. Nonpayment of fees may result in a lien against the property or other judicial action.

§ 217-26.1. Performance guarantee. [Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

For SWM site plans that involve subdivision and land development, the applicant shall provide a financial guarantee to the municipality 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.

ARTICLE VI
Fees and Expenses

§ 217-27. General.

The Borough may include all costs incurred in the review fee charged to an applicant. Any person who has filed a SWM plan pursuant to this chapter shall pay a fee in an amount and according to a formula as set forth in Chapter 120, Fees, as enacted and ordained by the Borough Council from time to time, for review of said plan by the Borough Engineer. No plan shall be approved until said fee has been paid. The review fee may include but not be limited to costs for the following:

A. Administrative/clerical processing.

B. Review of the SWM site plan.

C. Attendance at meetings.

D. Inspections.

ARTICLE VII
Prohibitions

§ 217-28. Prohibited discharges and connections.

A. Any drain or conveyance, whether on the surface or subsurface, which allows any nonstormwater discharge, including, but not limited to, sewage, process wastewater, wash water, ammonia, chlorine, petroleum products (gasoline, fuel oil, etc.) pesticides, pollutants and other hazardous materials to enter the waters of the commonwealth is prohibited.

Handling and disposal of all materials and wastes shall comply with all federal and state requirements. Structural and nonstructural BMPs, in accordance with Chapters 5 and 6 of the most current version of the SWM Manual, shall be implemented where necessary to preserve the quality of stormwater runoff.

B. Discharges to waters of the commonwealth which are not composed entirely of stormwater shall be prohibited, except as provided in Subsection C below, and discharges allowed under a state or federal permit.

C. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this commonwealth: **[Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

(1) Discharges or flows from firefighting activities;

(2) Discharges from potable water sources, including waterline flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of total residual chlorine (TRC).

(3) Noncontaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.

(4) Noncontaminated HVAC condensation and water from geothermal systems.

(5) Diverted stream flows and springs.

(6) 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.

(7) Flows from riparian habitats and wetlands.

(8) Noncontaminated pumped groundwater and water from foundation and footing drains and crawl space pumps.

(9) Dechlorinated swimming pool discharges.

(10) Uncontaminated groundwater.

(11) Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.

(12) Routine external building wash down (which does not use detergents or other

compounds).

(13) Noncontaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

D. In the event that the Borough Engineer or DEP determines that any of the discharges identified in Subsection C significantly contribute to pollution of the waters of this commonwealth, the Borough or DEP will notify the responsible person(s) to cease the discharge.

§ 217-29. Roof drains and sump pumps. [Amended 10-10-2019 by Ord. No. 2348, approved 10-10-2019]

Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs wherever feasible.

§ 217-30. Alteration of SWM BMPs.

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures, without the written approval of the Borough.

ARTICLE VIII
Enforcement and Penalties

§ 217-31. Right of entry.

Upon presentation of proper credentials and in accordance with applicable law, the Borough Engineer may enter at reasonable times upon any property within the Borough to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this chapter.

§ 217-32. Inspection.

SWM BMPs must be inspected by the landowner, or the owner's designee (including the Borough Engineer for dedicated and owned facilities) according to the following list of minimum frequencies or as otherwise specified by the Borough. All inspection reports shall be submitted to the Borough Engineer within 30 days of the inspection.

A. Annually for the first five years.

B. Once every three years thereafter.

C. During or immediately after the cessation of a ten-year or greater storm. Inspections should be conducted during or immediately following precipitation events. A written inspection report shall be created to document each inspection. The inspection report shall contain the date and time of the inspection, the individual(s) who completed the inspection, the location of the BMP, facility or structure inspected, observations on performance, and recommendations for improving performance, if applicable. Inspection reports shall be submitted to the municipality within 30 days following completion of the inspection. **[Added 10-10-2019 by Ord. No. 2348, approved 10-10-2019]**

§ 217-33. Enforcement.

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 § 217-13.

B. Inspections regarding compliance with the SWM site plan during project construction are a responsibility of the Borough.

§ 217-34. Suspension and revocation.

A. Any approval or permit issued by the Borough Engineer may be suspended or revoked for:

   (1) Noncompliance with or failure to implement any provision of the approved SWM site plan or operation and maintenance agreement.

   (2) A violation of any provision of this chapter or any other applicable law, Code chapter, 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 or nuisance, pollution, or which endangers the life or property of others.

B. A suspended approval may be reinstated by the Borough Engineer when:

(1) The Borough Engineer has inspected and approved the corrections to the violations that caused the suspension.

(2) The Borough Engineer is satisfied that the violation has been corrected.

C. An approval that has been revoked by the Borough Engineer 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 Engineer may provide a limited time period for the owner to correct the violation. In these cases, the Borough Engineer 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 Engineer may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this chapter.

§ 217-35. Violations and Penalties.

A. Any person violating the provisions of this chapter shall be guilty of a summary offense and, upon conviction, shall be subject to a fine of not more than $1,000 for each violation, recoverable with costs, and/or imprisonment for a period not exceeding 30 days for each violation. Each day that the violation continues shall be a separate offense, and penalties shall be cumulative.

B. In addition, the Borough may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this chapter. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

§ 217-36. Appeals.

A. Any person aggrieved by any action of the Borough Engineer or his designee, relevant to the provisions of this chapter, may appeal to the Borough Council which shall hold a hearing pursuant to the Local Agency Law, 2 Pa.C.S.A. § 551 et seq., within 30 days of that action.

B. Any person aggrieved by any decision of the Borough Council, relevant to the above appeal of this chapter, may appeal to the Cumberland County Court of Common Pleas within 30 days of the Borough Council's decision.

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 8

Carlisle Borough's BMP Inspection Program and
BMP Installation Log and
Completed Annual BMP Inspections

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4) Annual Report July 1, 2023 – June 30, 2024

Attachment 8A

Carlisle Borough's BMP Inspection Program

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE, CUMBERLAND COUNTY, PA POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) IN NEW AND REDEVELOPMENT ACTIVITES

BEST MANAGEMENT PRACTICE INSPECTION PROGRAM

I. PURPOSE

The Borough of Carlisle (Borough) owns and operates a Municipal Separate Storm Sewer System (MS4) that is used for collecting and conveying storm water from developed portions of the Borough to area streams to minimize surface flooding. Stormwater is defined as drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

The Borough received a National Pollutant Discharge Elimination System (NPDES) Permit from the Pennsylvania Department of Environmental Protection (DEP) in 2015 for the Borough's MS4. The Borough's MS4 collects runoff and conveys it through a system of street gutters, pipes and swales, before discharging the runoff to surface waters located in the Borough or downstream from the Borough. The MS4 Permit places certain requirements on the Borough. Specifically, the MS4 Permit outlines a series of six Minimum Control Measures, or MCMs. Each of these contains multiple Best Management Practices (BMPs) and Measurable Goals that must be met. MCM#5 covers post-construction stormwater management for new and re-development activities.

MCM#5 includes six BMPs. The Borough is relying on DEP's statewide process for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy BMPs 1 thru 3. BMP#4 addresses the need to enact, implement, and enforce a stormwater management ordinance. BMP #5 covers measures to encourage and expand the use of low impact development. BMP#6 addresses operation and maintenance of all post-construction stormwater management BMPs. This document describes the Borough's written inspection program to ensure stormwater BMPs are properly operated and maintained.

II. PERMIT REQUIREMENTS

The requirements for MCM #5, BMP#6 as provided in the Borough's MS4 Permit are as follows:

BMP#6: Ensure adequate operation and maintenance (O&M) of all post-construction stormwater management BMPs installed at all qualifying development or redevelopment projects (including those owned and operated by the permittee).

Measureable Goal #1: Within the first year of coverage, develop and implement a written inspection program to ensure that stormwater BMPs are properly operated and maintained. The program shall include sanctions and penalties for non-compliance. All permittees shall review and update the inspection program annually and shall continue to implement this BMP.
Measureable Goal #2: An inventory of PCSM BMPs shall be developed by the permittee and shall be continually updated during the term of coverage under this permit 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 the Borough's MS4. The inventory also should include PCSM BMPs discharging to the regulated small MS4s that may cause or contribute to violation of water quality standards. The inventory shall include:

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

III. INSPECTION PROGRAM

a. PCSWM BMP Inventory. Borough Public Works Engineering Department staff has developed an Excel based spreadsheet listing all land developments constructed in the Borough since 2003 for developments with land disturbance areas greater than one acre. The file is saved on the Borough share drive at "S:\MS4 Program\MCM5 PCSWM\BMP Installation Log.xls". The file was populated based on staff review of land development plan submissions to the Borough that have received final land development approval and have been either partially or fully constructed. Engineering staff will update the file as new land development plans are submitted and approved or as additional information is obtained through the post-construction inspection process.

   The inventory spreadsheet includes the following information:
   - Development site number corresponding to development location on Borough parcel map
   - Development name
   - Development street address
   - List of BMPs installed
   - Year BMPs were initially installed
   - Property Owner's Name, address, and phone number
   - Name, address, and phone number of entity responsible for BMP O&M
   - Brief description of BMP maintenance required
   - Date of last Borough inspection
   - Date of last owner submitted O&M report
   - Date of last enforcement action taken against property related to BMP O&M activities

- Whether a BMP O&M Agreement is in place

b. Stormwater Facility Operation and Maintenance Agreements. Borough Council adopted a new stormwater management ordinance on March 11, 2011. The ordinance has been codified as Chapter 217 of the Code of the Borough of Carlisle. Chapter 217-26 of the Code requires the owner of the Land Development that installs stormwater management facilities to enter into a Stormwater Management Operations and Maintenance Agreement with the Borough. The Agreement designates the owner of the land development as responsible for operation and maintenance of the stormwater management BMPs within his project. Every development with SWM BMPs receiving land development approval from Borough Council since 2015 has an operation and maintenance agreement executed by both Borough Council and the owner of the BMP specifying operation and maintenance responsibilities. Inspections are to be performed by the owner of the BMP. O&M reports are required to be submitted by the owner of the BMP on an annual basis to the Borough.

c. Borough Inspections. This inspection program is currently being established by the Borough and will start implemention in the 2016-2017 permit year with the goal of having all private BMPs identified and inspected within the first 5-year permit cycle. Generally, the program will include the following components to be completed by Borough Public Works staff:

- Review Stormwater BMP O&M reports submitted by land owners with Stormwater O&M Agreements to ensure reports document activities consistent with the approved Stormwater Management Plan for the development.
- Send written notifications to property owners who submitted incomplete annual Stormwater BMP O&M reports or who failed to submit annual reports providing them with a 45-day time period to submit the complete report.
- Conduct an inspection of Stormwater BMPs on the inventory list for projects which failed to submit complete reports. Use the Chesapeake Stormwater Network's BMP Visual Inspection Form as a guide during the inspection. A copy of the form is attached.
- Conduct biannual inspection of Stormwater BMPs on the inventory list for projects which were not required to submit annual Stormwater BMP O&M reports once fully implemented within first 5-year permit cycle. Use the Chesapeake Stormwater Network's BMP Visual Inspection Form as a guide during the inspection.
- Provide written notices to property owners following the inspection if the inspection showed a lack of adequate operation or maintenance of the BMPs. Give the BMP Owner a designated time period to take corrective action, if the inspection identifies deficiencies.
- After proper notification, BMP Owners who are unresponsive to needed corrections are referred to the Borough Solicitor for guidance in enforcement action against the owner. The type of enforcement action may vary dependent upon the Solicitor's guidance.

- Maintain records of the inspection process and save records collected during the inspection process on the Borough share drive at "S:\MS4 Program\MCM5 PCSWM\BMP Inspections\Permit Year".
- Provide summary of BMP inspection program as component of annual MS4 report.

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 8B

Carlisle Borough's BMP Installation Log

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE STORMWATER BMP INSTALLATION LOG

INVENTORY OF PRIVATE PCSM BMPs INSTALLED SINCE MARCH 2003 THAT DISCHARGE TO CARLISLE MS4

Site No.	Development Name	Development Address	Type of BMPs	Year Installed	Parcel Owner			Entity Responsible for BMP			Description of BMP Maintenance Required	BMP O&M Agreement (Y/N)
					Parcel Owner Name	Parcel Owner Address	Phone No.	Responsible Entity Name	Address	Phone No.		
1	Dickinson Green	College Ridge Dr.	Swales	1996-2015	DICKINSON GREEN TOWNHOME ASSOC	PO BOX 1184 CARLISLE 17013-(CONTACT:ROBERT F. BROYLES)	(717)-245-9118	HOA	PO BOX 1184 CARLISLE 17013-(CONTACT:ROBERT F. BROYLES)	(717)-245-9118	Plans have no specific requirements	Y
2	Chesterfield	Sussex Dr.	Detention basin	1997 - development not yet completed	S & A Custom Built Homes, Inc.	2121 OLD GATESBURG ROAD #200 STATE COLLEGE PA 16803	(814)-231-4780	HOA	2121 OLD GATESBURG ROAD #200 STATE COLLEGE PA 16803	(814)231-4780	See Land Developement plans for specific requirements	Y
3	Courtyards of Carlisle	Courtyard Dr.	Detention basin & swales	1998-2008	COURTYARDS OF CARLISLE UNIT OWNERS C/O DONALD CUTLIP PRESIDENT	85 COURTYARD DR. CARLISLE,PA. 17013	(717)-243-5512	HOA C/O SELECT PROPERTY & ASSOC MANAGEMENT	1000 N. PRINCE ST. LANCASTER, PA. 17603-(SAMANTHA)	(717)-735-8407	Plans have no specific requirements	Y
4	Hite Electric Co.	1550 Ritner Hwy.	Detention basin, pump & force main	2003	BT Hite LLC	200 UNION AVE. ALTOONA PA. 16602	(814)-942-3032	Owner	P.O. BOX 1754 ALTOONA PA. 16603	(717)-258-8200	Plans have no specific requirements	Y
5	Orrstown Bank	1 Giant Lane	Underground infiltration bed and detention basin	2003	Orrstown Bank	77 EAST KING ST. SHIPPENSBURG PA. 17257	(717)-530-2600	Owner	1 GIANT LANE CARLISLE,PA. 17013	(717)-377-2662	See Land Develpopement plans for specific requirements	Y
6	C.P.A.R.C.	71 Ashland Ave.	Detention basin	2004	Cumberland /Perry Association for Retarted Citizens	71 ASHLAND AVE.CARLISLE-(SUSAN AUGHINBAUGH)	(717)-249-2611	COMMERCE BANK OF HARRISBURG	C/O METRO BANK ACCTS PAYABLE PO BOX 4999 HARRISBURG,PA. 17111	(717)-240-2665	Plans no specific requirements (JOINT SW EASEMENT AGREEMENT)	Y
7	Carlisle Police Station	240 Lincoln St.	Detention basin	2004	Borough of Carlisle	53 W. South St.	(717)-249-4422	Owner	CARLISLE BOROUGH 53 WEST SOUTH STREET	(717)-249-4422	Plans have no specific requirements	Y
8	Home Depot	1013 S. Hanover St.	Vortech units, underground detention systems, wetland	2004	Home Depot USA, Inc.	PO BOX 105842 ATLANTA,GA. 30339	(770)-433-8211	Owner	2455 PACES FERRY RD. ATLANTA,GA. 30339, CORP.RISK MANGEMNT:DOUG BUSH	(770)-433-8211	Plans have no specific requirements	Y
9	Lowes	850 E. High St.	Vortech unit	2004	Lowes Home Center, Inc. CARLISLE STORE: BRIAN LIGENFELTER-258-7700 X800	BOX 5651 BISMARK,ND.58506-5651	(866)-322-4547	Owner	BOX 5651 BISMARK,ND.58506-5651	(866)-322-4547	See Land Development plans for specific requirements	Y
10	Rockfield	Wellington Ct.	Swales	2004	Each individual property owner			Each individual property owner	See Below 4,6, & 8 Wellington Ct.	See Below	Plans have no specific requirements	
	Rockfield	4 Wellington Ct.	Swales	2004	Each individual property owner-Patricial L. McEvoy & Michael J. Pasquarett	4 Wellington Ct.	(Pat)-497-0942	Owner	4 Wellington Ct.	(Pat)-497-0942	See Sub/Land Dev plans & Erosion & Sediment Pollution plans for specific requirements	Y
	Rockfield	6 Wellington Ct.	Swales	2004	Each individual property owner-JAMES D & JANE L.KINGSBOROUGH	6 Wellington Ct.	(717)-245-2745	Owner	6 Wellington Ct.	(717)-245-2745	See Sub/Land Dev plans & Erosion & Sediment Pollution plans for specific requirements	Y
	Rockfield	8 Wellington Ct.	Swales	2004	Each individual property owner-RONALD G & CAROL A.MANGAN	8 Wellington Ct.	(717)-243-8336	Owner	8 Wellington Ct.	(717)-243-8336	See Sub/Land Dev plans & Erosion & Sediment Pollution plans for specific requirements	Y
11	Carlisle Alliance Church	237 E. North St.	Underground gravel infiltration bed	2005	Carlisle Alliance Church	237 EAST NORTH STREE	(717)-249-5344	Owner	Carlisle Alliance Church	(717)-249-5344	See Land Development plans for specific requirements	N
12	Key Ritner Warehouse	1700 Ritner Hwy.	Detention basins	2006	KTR PA CENT LLC C/O KTR PROPOERTY TRUST I	300 BARR HARBOR DRIVE, SUITE 150 CONSHOHOCKEN PA	Unknown	Owner	FIVE TOWER BRIDGE 300 BARR HARBOR DRIVE, SUITE 150 CONSHOHOCKEN PA 19428	Unknown	Plans have no specific requirements	N
13	Letort Meadows	Brook Side Dr.	Detention basin	2007 - development not yet completed	Letort Meadows Associates C/O RHODES DEVELOPMENT GROUP	1300 MARKET STREET SUITE 307 PO BOX 622 LEMOYNE,PA. 17043	(717)-730-7055	HOA	Letort Meadows Associates C/O RHODES DEVELOPMENT GROUP	(717)-730-7055	See Land Development plans for specific requirements	Y
14	Parkview	Parkview Dr.	Bioretention/Infiltration area	2008	Letterman Inc.	716 NORTH WEST STREET CARLISLE PA 17013	(717)-245-0082	HOA-LETTERMEN INC LISTED AS OWNER OF LOT 36	716 NORTH WEST STREET CARLISLE PA 17013	(717)-245-0082	See Land Development plans for specific requirements	Y
15	AMB Warehouse	219 Allen Rd.	Detention basin	2008	Headlands Realty Corp. C/O AMB PROPERTY CORP	One Meadowlands Plaza, Ste. 100 East Rutherford, NJ, 07073	(201)-635-6026	Owner	ONE MEADOWLANDS PLAZA,STE. 100 EAST RUTHERFORD,NJ. 07073	(201)-635-6026	Plans have no specific requirements (See Land Dev. Plan for specific requirements)	Y
16	Bruster's Ice Cream	220 Penrose Place	Detention basin	2008	United Refining Company of Pennsylvania	15 Bradley Street, Warner,PA. 16365	(814)-723-1500	Owner	15 BRADLEY STREET WARREN,PA. 1	(814)-723-1500	Plans have no specific requirements	Y

BOROUGH OF CARLISLE STORMWATER BMP INSTALLATION LOG

INVENTORY OF PRIVATE PCSM BMPs INSTALLED SINCE MARCH 2003 THAT DISCHARGE TO CARLISLE MS4

Site No.	Development Name	Development Address	Type of BMPs	Year Installed	Parcel Owner			Entity Responsible for BMP			Description of BMP Maintenance Required	BMP O&M Agreement (Y/N)
					Parcel Owner Name	Parcel Owner Address	Phone No.	Responsible Entity Name	Address	Phone No.		
17	Meeting House Heights Plan 10 Phase 1	Meeting House Spring Rd.	Detention basin,SW facilities-lot 7	2009 - development not yet completed	Lot 7			Lot 7			Plans have no specific requirements	
18	Seven Gables	1 Rush Drive	Underground retention piping	2010	Patriarch Seven Gables LP			Owner			Plans have no specific requirements	
19	Royer's Flowers and Gifts	100 York Rd.	Detention basin	2010	TGM Real Estate LP			Owner			See Land Development plans for specific requirements	
20	Giant Foods,LLC.-Perishable	1621/1621RR Industrial Dr.	Bioretention/Forebay/Swales	2011	Giant Food Stores,LLC. C/O Ahold Financial			Owner			See Land Development plans for specific requirements	
21	Sheetz	1900 Ritner Hwy.	Detention basins	2011	Sepco R J, Inc.			Owner			See Stormwater Management Plans for specific requirements	
22	Dickinson College - Rector Science Complex	301 W. Louther St.	Bio-retention area	2012	Dickinson College			Owner			See Land Development plans for specific requirements	
23	Dickinson College - Kline Center Addition	40 Cherry St.	Underground detention & rain gardens	2014	Dickinson College			Owner			See Land Development plans for specific requirements	
24	Burger King/Sunoco	370 Allen Rd.	Detention basin	2015	Penn Holding Group, LLC			Owner			See Stormwater Management Plans for specific requirements	Y
25	Carlisle Constuction Materials	1295 & 1501 Ritner Hwy.	Detention basins	2015	Carlisle Corporation			Owner			See Land Development plans for specific requirements	
26	Dawn Ridge	Dawn Ridge Loop	Detention basins	2015	Dawn Ridge L.P.			Owner			See Stormwater Management Plans for specific requirements	
27	Project Share	123 Lincoln St.	Underground infiltration bed	2015	Project SHARE	5 N. Orange St. Suite 4 Carlisle, PA 17013	(717)-249-7773	Owner			See Land Development plans for specific requirements	
28	Giant PDC Truck Parking Lot Expansion	1621RR Industrial Dr.	Detention/Forebay/Swales	Plan Recorded-12/14/15	Giant Food Stores INC. C/O Ahold Financial Services	PO BOX 8000,CARLISLE,PA.17013	(717)-960-1700	Owner	GIANT FOOD STORES INC. 1149 HARRISBURG PIKE CARLISLE,PA.17013	(717)-249-4000	SEE POST CONSTRUCTION SWM PLAN	Y
29	Goodman-N-Logistics Center	100 & 200 Goodman Dr.	Detention basin & swales	Plan Recorded-12/16/15	Goodman Carlisle LLC.	18201 Von Karman Ave.STE.1170 Irvine,CA. 92612	(484)-224-2975	Owner	Goodman Carlisle LLC. Attn: Troy Briggs-Regional Manager	(484)-224-2975	See Land Developement plans for specific requirements -(pg.9)	Y
30	5 Logistics Dr.-(Exel -Lot # 2)	5 Logistics Dr.	Stilling Basins & swales-except Detention basins 2 & 3	Plan Recorded-12/30/15	IPT 5 LOGISTICS DC LLC. C/O MRP INDUSTRIAL	729 EAST PRATT ST.STE.401 BALTIMORE,MD 21202	(410)-685-0000	OWNER / (EXEL INC-ONLY-Detention basins 2 & 3)	MRP INDUSTRIAL-SAME ,EXEL INC-570 POLARIS PARKWAY WESTERVILLE ,OH.-EXEL-	(614)-865-8646	See Land Development plans for specific requirements	Y
31	Carlisle Area School Dist-(Hamilton Addition)	735 Clay St	Infiltration BasinA,Storm Inlets,swale,easement	Plan Recorded-6/10/16	CARLISLE AREA SCHOOL DISTRICT	623 WEST PENN STREET	(717)-240-6800	Owner	CARLISLE AREA SCHOOL DISTRICT-ATTN:Tom Horton-540 W. North St.-Ext-(16811)	(717)-240-6800	See Operation & Maintenance Agreement-Inst.#201614031	Y
32	Carlisle Const. -Training Ctr/Expand Tech. Ctr	1285 Ritner Hwy.	Chamber system/Detention basin 3/swales,Inlets	Plan Recorded-9/1/16	Carlisle Corporation Inc.	11605 N. Community House Rd. Charlotte,NC. 28277	(704)-501-1100	Owner	Carlisle Corporation Inc.-1285 Ritner Hwy-Pete Franzosa	(717)-245-7000	See Land Developement plans for specific requirements -(pg.C11)Inst#201622427	Y
33	650 N. College St.-Subdivison/Land Dev. (Townhomes Development)	650 N. College St.	1-57'x22',8-14'x 7'-Infiltration beds,2-inlets,6"perf hdpe	Plan Recorded-2/27/17. Development construction started May 2017	Galbraith Development Group, LLC	P.O. Box 520 Boiling Springs,PA.17007	(717)-226-5203	Each individual property owner	Land Owner/Each individual property owner	(717)-226-5203	See Land Dev. plans for specific requirements -(pg.ES 3 of 3)Inst#201705083,BMP,#05082	Y
34	Dickinson College - High St.Residence Hall	448/450 W. High St.	Storm sewer system/under ground tank,rain gardens	2017/2018-proposed installation	Dickinson College	5 N. Orange St. Po Box 1773,Carlisle,PA.17013	(717)-245-1212	Owner	Owner- after-hours emergency service-Department of Public Safety at x 1349.	(717)-245-1212	See Operation & Maintenance Agreement-Inst.#2017-13216 See PCSM dwg.	Y
35	Carlisle Area School Dist-(Hamilton Parking)	735 Clay St	dry well Infiltration pit/ basin/Inlets,manholes	Plan Recorded-5/31/17	CARLISLE AREA SCHOOL DISTRICT	623 WEST PENN STREET	(717)-240-6800	Owner	CARLISLE AREA SCHOOL DISTRICT-ATTN:Tom Horton-540 W. North St.-Ext-(16811)	(717)-240-6800	See Operation & Maintenance Agreement-Inst.#201713219-See attached dwg's	Y
36	Carlisle Const. - Tech. Ctr-**1557 Ritner Hwy.**	1285 Ritner Hwy.	2-subsurface detention facility/rain garden	Plan Recorded-6/2/17	Carlisle Corporation Inc.	11605 N. Community House Rd. Charlotte,NC. 28277	(704)-501-1100	Owner	Carlisle Corporation Inc.-1285 Ritner Hwy-Pete Franzosa	(717)-245-7000	See Operation & Maintenance Agreement-Inst.#201713599-See attached dwg's	Y
37	IAC Site-(50 CarlSpgs Rd)	50 CarlSpgs Rd	Filter basin-B,C,E-StormwaterFacilities	Plan Recorded-12/4/17	CARLISLE AUTO INDUSTRIES INC	1000 Bryn Mawr Rd. Carlisle	(717)-877-2457	BOC/Owner	53 W. South St/1000 Bryn Mawr Rd	BOC-240-6932	See Operation & Maintenance Agreement-Inst.#201731434-See plan sheets-20,21,22 & 23-on Subdivision plan	Y

BOROUGH OF CARLISLE STORMWATER BMP INSTALLATION LOG

INVENTORY OF PRIVATE PCSM BMPs INSTALLED SINCE MARCH 2003 THAT DISCHARGE TO CARLISLE MS4

Site No.	Development Name	Development Address	Type of BMPs	Year Installed	Parcel Owner			Entity Responsible for BMP			Description of BMP Maintenance Required	BMP O&M Agreement (Y/N)
					Parcel Owner Name	Parcel Owner Address	Phone No.	Responsible Entity Name	Address	Phone No.		
38	Chapel Pointe at Carlisle-(Pointe Place)	1026 Ritner Hwy	Subsurface Infiltration bed/rain garden,storm drain,inlet,endwall,riprap apron	Plan Recorded-6/18/18-TP50-08-0579-007A	Chapel Pointe	770 S. Hanover St. Carlisle	(717)249-9511	Owner	770 S. Hanover St. Carlisle	(717)249-9511	See SWM BMP's plans for specific requirements	Y
39	El Rodeo	398 E. High Street	Infiltration pipe bank/drain basin grates /8"HDPE pipe, 12"pipe	Plan Recorded-7/6/18	398 E. High LLC c/o Vidal Bravo	721 Market Street Lemoyne ,PA. 17043	(717)724-7600	Owner	721 Market Street Lemoyne ,PA. 17043	(717)724-7600	See Operation & Maintenance Agreement-Inst.#201816154-See attached dwg's-page 5	Y
40	Carlisle United Methodist Church-70,000sq' bldg	333 S. Spring Garden St	Bioretention areas,Stw collection & conveyance systems out of public R/W	Plan Recorded-10/2/18	CUMC contact: Jeffrey Barnes	45 S. West St Carlisle,PA.	(717)249-1512	Owner	CUMC : Jeffrey Barnes 45 S.West St.	(717)249-1512	See Land Developement plans for specific requirements -(pg.7)Inst#201824150 Note: bldg in S. Mid. Twp.-(BMP-201819214)	y-S.MidTwp
41	Carlisle Veterans-(Phase II Lot 1)	200 blk A & B Sts	Inlets,STW piping,pipe bank manifold	Plan Recorded-4/25/19	Re Invest Tire & Wheel Renewal LLC	PO BOX 748 HAINESPORT NJ 08036		Landowner	Landowner		See Land Developement plans for specific requirements -(pg.7)Inst#201908380,STW BMP-O&M Agreement-201908677	Y
42	Dickinson College-(HighSt ResidHall-SWM BMP')	448/450 W.High St	Underground detention & rain gardens	Plan Recorded-5/25/17				Owner			See Land Dev plans -STW BMP-O&M Agreement-201713216	Y
43	Chapel Pointe at Carlisle (Pointe Place) 12Thouses	1026 Ritner Hwy	Rain Garden,subsurface Infiltration bed,level spreader,Inlets,piping,Rip-Rap,STW easement	Plan Recorded-6/18/18,P50-08-0579-007A	Chapel Pointe at Carlisle	770 S. Hanover St. Carlisle, PA. 17013	(717)249-9511	Owner	770 S. Hanover St. Carlisle, PA. 17013	(717)249-9511	See Land Dev plans -STW BMP-O&M Agreement-201814416	Y
44	Chapel Pointe Carlisle (PointePlace) Community Center	1026 Ritner Hwy	Rain Garden,subsurface Infiltration bed,level spreader,Inlets,piping,Rip-Rap,STW easement	Plan Recorded-6/18/18,P50-08-0579-007A & 04-20-1794-025	Chapel Pointe at Carlisle	770 S. Hanover St. Carlisle, PA. 17013	(717)249-9511	Owner	770 S. Hanover St. Carlisle, PA. 17013	(717)249-9511	See Land Dev plans -STW BMP-O&M Agreement-201814416	Y
45	AMB Warehouse	311 S.West St	Subsurface storage/Bioretention areas, vegetated channel,catch basins,inlets,12" & 18" pipe,easements	Plan Recorded-9/26/19	YOUNG MENS CHRISTIAN ASSOCIATION	311 S. West St. Carlisle, PA. 17013	(717)243-2525	Owner	311 S. West St. Carlisle, PA. 17013	(717)243-2525	See Land Dev plans -STW BMP-O&M Agreement-201922588	Y
46	Homewood Suites Hotel	1 "A" Street	MH,Inlets,STWpiping,2-20'drainageEasemt	Plan Recorded-10/23/19	Aryas Hospitality LLC	265 N.Hershey Rd.Harrisburg,PA 17112	(717)471-5000	Owner	265 N.Hershey Rd.Harrisburg,PA.17112	(717)471-5000	See Land Dev plans -STW BMP-O&M Agreement-201925201	Y
47	Ketner-515 Biddle Dr-P04-23-0602-012,-lot19&20	515 Biddle Dr-lot 20	15'x28' Infiltration bed,2-4"roof drains tie into Infiltration bed@rear-511BiddleDr-lot 19	Plan Recorded-11/26/19	KETNER, DAVID W & MONA S	2123 Ritner Hwy. Carlisle, PA. 17015	(717)440-4374	Owner	2123 Ritner Hwy. Carlisle, PA. 17015	(717)440-4374	See Subdivison plans -STW BMP-O&M Agreement-201928804	Y
48	Goodman Bircher Land Development	Allen Road	Development's Private Stormwater Facilities, Stormwater Piping Along Ritner Highway just north of the Sheetz Convenience Store	Plans Recorded March 3rd, 2022	Goodman Carlisle LLC, Mr. Troy Briggs, Regional Director	18201 Von Karman Avenue, Suite 1170, Irvine CA 92612	(484) 224-2975	Owner	7660 Imperial Way STE 120, Allentown PA 18195		Development's Private Stormwater Facilities, Stormwater Piping Along Ritner Highway just north of the Sheetz Convenience Store	

BOROUGH OF CARLISLE STORMWATER BMP INSTALLATION LOG

INVENTORY OF PRIVATE PCSM BMPs INSTALLED SINCE MARCH 2003 THAT DISCHARGE TO CARLISLE MS4

Site No.	Development Name	Development Address	Type of BMPs	Year Installed	Parcel Owner			Entity Responsible for BMP			Description of BMP Maintenance Required	BMP O&M Agreement (Y/N)
					Parcel Owner Name	Parcel Owner Address	Phone No.	Responsible Entity Name	Address	Phone No.		
49	Seven Eleven Convenience	1003 South Hanover Street	2 Stormwater Inlets with Hoods and sumps for oil separation and Sediment Capture	Plans Recorded 08-27-2020	Kurt A. Mullen	1003 South Hanover Street, Carlisle, PA 17013	(917)806-8000	Owner	1003 South Hanover Street, Carlisle, PA 17013	(917)806-8000	See Land Development plans for specific requirements	Y
50	TIGER PROJECT STREETSCAPE IMPROVEMENTS	Fairground Avenue, N. College Street, B Street	Flow Thru Planters and Permeable Walkways	October 2022	The Borough of Carlise	53 W. South Street, Carlisle	(717)249-4422	Owner	53 W. South Street, Carlisle	(717)249-4422	See Land Development plans for specific requirements	
51	W. WILLOW STREET VEGETATIVE SWALE	W. Wilson Street	Vegetative Swale	August 2023	The Borough of Carlise	53 W. South Street, Carlisle	(717)249-4422	Owner	53 W. South Street, Carlisle	(717)249-4422	See Land Development plans for specific requirements	
52	WILLOW STREET VEGETATIVE SWALE	Wilson Street	Vegetative Swale	July 2023	The Borough of Carlise	53 W. South Street, Carlisle	(717)249-4422	Owner	53 W. South Street, Carlisle	(717)249-4422	See Land Development plans for specific requirements	
53	FACTORY STREET VEGETATIVE SWALE	Factory Street	2 Stormwater Inlets with Hoods and sumps for oil separation and Sediment Capture	September 2022	The Borough of Carlise	53 W. South Street, Carlisle	(717)249-4422	Owner	53 W. South Street, Carlisle	(717)249-4422	See Land Development plans for specific requirements	Y

?

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 8C

Carlisle Borough's Completed Annual BMP Inspections

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/15/2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐ N/A

Algae	■ None	☐ Slight	☐ Moderate	☐ Severe
Odor	■ None	☐ Slight	☐ Moderate	☐ Severe
Turbidity	■ None	☐ Slight	☐ Moderate	☐ Severe
Color	■ Normal	☐ Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure
10 ✔ 9 ☐ 8 ☐	7 ☐ 6 ☐	5 ☐ 4 ☐	3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
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Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure
10 ✔ 9 ☐ 8 ☐	7 ☐ 6 ☐	5 ☐ 4 ☐	3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure
10 ✔ 9 ☐	8 ☐ 7 ☐	6 ☐ 5 ☐	4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

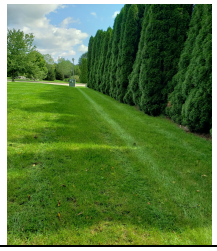
FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S:

Photographs have been taken of the site inspection and are available upon request.







POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S:

Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

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Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ✔ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure
10 ✔ 9 ☐	8 ☐ 7 ☐	6 ☐ 5 ☐	4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

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FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
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SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

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NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

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Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

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MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
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HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
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SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
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OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

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PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
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SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

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NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

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_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☑ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☑ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☑ None

INLET CONDITIONS:

Inlet Erosion	☑ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☑ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☑ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☑ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☑ None

INLET CONDITIONS:

Inlet Erosion	☑ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☑ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☑ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☑ Grass Channel
☐ Riprap Channel or Apron
☑ Grass Filter Strip
☐ Plunge Pool?
☑ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☑ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☑ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☑ Low Flow Channel
☐ Concrete ☐ Eroded ☑ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

☐ Geese
☐ Animal Burrows
☐ Mosquitoes
☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use): *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
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Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

Carlisle Borough
Best Management Practice

Annual Visual Indicator Inspection Documentation

MCM NO. 5-POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

FACILITY ID: DICKINSON GREEN	**DATE:** 07/ 15 / 2024	**ASSESSED BY:** TIFFANY STRINE

NAME: DICKINSON GREEN
ADDRESS: COLLEGE RIDGE DRIVE, CARLISLE PA
PHOTO IDS: PLEASE SEE ATTACHED.

HANDHELD/ GPS ID: N/A

SECTION 1- BACKGROUND INFORMATION (GIS)

BMP TYPE :

- ☒ Dry Detention Pond
- ☐ Extended Detention Pond
- ☐ Wet Pond
- ☐ Filter (specify: _____)
- ☐ Infiltration (specify:_____)
- ☐ Check if structure is underground
- ☒ Dry Swale
- ☐ Wet Swale
- ☐ Grass Channel
- ☐ Dry Well
- ☐ Permeable Pavement
- ☐ Bioretention
- ☐ Wetland
- ☐ Level Spreader
- ☐ WQ Inlet
- ☐ Proprietary Device
- ☐ Other _____

YEAR CONSTRUCTED: _____

OWNERSHIP
☐ Public ☒ Private ☐ Unknown

SITE CHARACTERIZATION

DRAINAGE AREA: _____(acres) **IMPERVIOUS COVER:** _____(acres) Discerned from: ☐ Plan ☐ County Data ☐ GIS ☐ Field

CONTRIBUTING DRAINAGE AREA (% land use**):** *Note – All percentages should sum up to 100%.*
_____Industrial _____Commercial _____Urban/Residential _____Suburban/Res
_____Forested _____Institutional _____Golf course _____Park
_____Crop _____Pasture _____Other: _____

WATER QUALITY VOL (FROM DESIGN PLAN): _____(ft^3)

SECTION 2- FIELD VISIT

Rain in last 48 hrs? ☐ Yes ☐ No

Evidence of high water table (e.g., excessive soil saturation)*?* ☐ Yes ☐ No

DESIGN ELEMENTS

FACILITY SIZE:
Length: _____(ft)
Width: _____(ft)
Surface Area: _____(ft^2)
Depth of WQ storage _____(ft)

OBSERVED WQ STORAGE VOL:
_____(ft^3)

HYDRAULIC CONFIGURATION
☐ On-line Facility
☐ Off-line Facility

DESIGN STORM(S):
☐ Water Quality
☐ Flood Control
☐ Channel Protection
☐ Unknown

BMP SIGNAGE: (check all that apply)
☒ None ☐ Flood Warning ☐ Stormwater Education ☐ No Trespassing ☐ Wildlife Habitat
☐ Public Property ☐ Do Not Mow ☐ Other: _____

OUTLET CHARACTERISTICS

PRIMARY OUTLET STRUCTURE:
☐ N/A – infiltration w/ no outlet ☒ Pipe ☐ Riser ☐ Weir ☐ Large Storm Overflow ☒ Open channel
☐ Large Storm By-pass ☐ Other: _____

OUTLET FEATURES:
☐ N/A ☒ Trash Rack ☐ Pond Drain ☐ Inverted outlet pipe ☐ Hooded outlet ☐ Anti-vortex device
☐ Perforated pipe ☐ Gravel Diaphragm ☐ Micropool outlet ☐ Multiple outlet levels
Outlet includes restrictor? ☐ Yes ☐ No

OUTLET STRUCTURE CONDITIONS:
Erosion at Outlet: ☒None ☐Slight ☐Moderate ☐Severe
Outlet Clogging: ☒None ☐Slight ☐Moderate ☐Severe
Structural Problems: ☒None ☐Slight ☐Moderate ☐Severe

CONDITIONS AT OUTFALL:
☐ Stream ☐ Closed storm sewer ☒ Surface channel ☐ Road ditch ☐ Other: _____
☐Unknown

Active Erosion: ☒None ☐Slight ☐Moderate ☐Severe
Trash: ☒None ☐Slight ☐Moderate ☐Severe
Sedimentation: ☒None ☐Slight ☐Moderate ☐Severe
Odor: ☒None ☐Slight ☐Moderate ☐Severe
Algae: ☒None ☐Slight ☐Moderate ☐Severe
Other WQ Problems: ☒None ☐Slight ☐Moderate ☐Severe

Emergency Spillway Type: ☒ Channel ☐ Riser Overflow ☐ Weir ☐ Other: _____

SOIL OR FILTER MEDIA

TYPE OF FILTER/INFILTRATION MEDIA: (check all that apply)
☐ Soil mix _____(in) ☐ Sand _____(in) ☐ Gravel _____(in) ☐ Large Stone _____(in)
☐ Organic material _____(in) ☐ Other_____ ☐ N/A ☐ Unknown
Avg. depth of sediment build-up on surface?_____(in)

SOIL MEDIA SAMPLE: *Note – Complete during site investigation, if applicable*
Dominant Soil Type ☐ Clay ☐ Loam ☐ Sand ☐ Sand/Loam
Is the soil homogenous? ☐ Yes ☐ No

Comments:

VEGETATION

GENERAL OBSERVATIONS:
☒ Landscaped
☐ Aquatic Bench
☐ Invasive Species
☐ Plant Diversity

TYPE OF GROUND COVER (% of Surface Area in Plan View up to low Outlet**):**
Note – All percentages should sum up to 100 %.

_____ Trees	80% Grasses/Perennials	_____ Ponded water	_____ Other: _____
20% Managed Turf	_____ Bare Soil	_____ Shrubs	_____ N/A
_____ Gravel/stone	_____ Mulch	_____ Emergent wetland	

Depth of mulch, if present: ☐ Hardwood _____(in) ☐ Pine Straw _____ (in) ☐ Other_____ (in)
Rate degree of shading of BMP Surface Area by trees: ☐ Well Shaded ☐ Some Shading ☐ No Shading ☐ N/A

INLET CHARACTERISTICS

INLET #1:
Diameter/Width: _____(in)

TYPE OF INLET: ☒ Open Channel ☐ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

INLET #2:
Diameter/Width: _____(in)

TYPE OF INLET: ☐ Open Channel ☒ Closed Pipe
☐ Sheet Flow ☐ Curb Cut ☐ Other: _____

Elevation difference between bottom of inlet and BMP surface: _____ (in)

INLET SUBMERSION:
☐ Complete
☐ Partial
☒ None

INLET CONDITIONS:

Inlet Erosion	☒ None	☐ Slight	☐ Moderate	☐ Severe
Inlet Clogging	☒ None	☐ Slight	☐ Moderate	☐ Severe
Structural Problems	☒ None	☐ Slight	☐ Moderate	☐ Severe

Comments: N/A

PRETREATMENT

TYPE OF PRETREATMENT *(check all that apply)*
☐ None
☐ Sediment Forebay (_____ ft^3)
☒ Grass Channel
☐ Riprap Channel or Apron
☒ Grass Filter Strip
☐ Plunge Pool?
☒ Stone Diaphragm
☐ Other: _____

PRETREATMENT FUNCTION ☒ By design ☐ Incidental
Is pretreatment functioning? ☐ Yes ☐ No
Is sediment removal necessary? ☐ Yes ☐ No
Signs of pretreatment bypass? ☐ Yes ☐ No
Signs of flow of sediment from pretreatment to BMP? ☐ Yes ☐ No
Severity: ☐ Slight ☐ Moderate ☐ Severe

GENERAL DESIGN

BMP FEATURES (check all that apply)
☒ Maintenance Access
☐ Fence
☐ Multi-cell
☐ Micropool
☐ Impermeable Liner
☐ Underdrain
☐ Clean Out
☐ Observation Well
Is water present in observation well?
☐ Yes ☐ No Depth: _____ ft
☐ Pond Drain
☐ Other:_____

CONVEYANCE THROUGH BMP
☐ No Defined Channel
☒ Low Flow Channel
☐ Concrete ☐ Eroded ☒ Earthen ☐ Other _____
Length of Shortest Flow Path: _____(ft)

Is BMP designed with a Permanent Pool? ☐ Yes ☐ No

PERFORMANCE

GENERAL PROBLEMS: (check all that apply)

☐ Maintenance Needed	☐ Erosion at Embankments	☐ Permanent Pools not stable
☐ Water Bypass of Inlet	☐ Erosion within Facility	☐ Inadequate vegetation
☐ Water Bypass of Outlet	☐ Deposition within Facility	☐ Dead or Diseased Vegetation
☐ Incorrect Flow Paths	☐ Inappropriate Ponding of Water	☐ Too many invasive plants
☐ Short-circuiting of treatment mechanism	☐ Clogged Pond Drain/Underdrain	☐ Trees on Embankment
☐ No or ineffective treatment	☐ Clogged Media	☐ Failing structural components
☐ Ineffective pretreatment	☐ Inappropriate media material	☐ Safety issue (Note:_____)
☐ Others _____ __	☐ Inappropriate underlying soil (infiltration)	

WATER QUALITY IN FACILITY: ☐N/A

Algae	■None	☐Slight	☐Moderate	☐Severe
Odor	■None	☐Slight	☐Moderate	☐Severe
Turbidity	■None	☐Slight	☐Moderate	☐Severe
Color	■Normal	☐Abnormal: _____		

EVIDENCE OF:

- ☐ Geese
- ☐ Animal Burrows
- ☐ Mosquitoes
- ☐ BMP Alteration

PROBLEM		1=NONE	2 - FEW	3 – SEVERAL	4-SEVERE
TRASH		No evidence of trash	A few pieces of trash throughout BMP	Trash accumulation near inlet/outlet	Lots of trash in BMP or BMP used for storage
BMP BANK EROSION		No noticeable erosion	Slight erosion < 5% of bank affected	Moderate erosion ~15% of bank affected	Banks severely eroded, >25% of bank affected
SEDIMENT DEPOSITION		No sediment deposition	Areas of minor sediment deposition	Areas of some deposition, may be severe near inlet/outlets	Lots of deposition resulting in pond bottom clogging
SURFACE SLOPE		0-1% BMP surface slope	1-3% BMP surface slope or steeper slopes with check dams,	3-5% BMP surface slope with no check dams,	>5% surface slope;
SIDE SLOPES		BMP side slopes 3:1 or flatter	BMP side slopes 2:1	Steep BMP side slopes	Risk of side slope failure
STRUCTURAL		No evidence of structural damage	Minor problems (e.g., bank slump, eroded channels)	Moderate structural problems –failure pending	Structural failures (e.g., bank failure, blowout)
VISIBILITY		High visibility, near high-traffic areas	Some visibility, near traffic areas	Limited visibility, near low traffic areas	No visibility, behind buildings or fences
ACCESSIBILITY		Maintained access area for vehicles	Access area designated, but not maintained	Access for vehicles not designated	Access for vehicles not possible
VEG COVER		No mowing in/around BMP	Mowing along BMP edges but areas of no mow in BMP bottom	Mowed turf vegetation	BMP bottom has large areas of bare soil
		Dense plant cover (>75%)	Plant cover, 50-75%	Some plant cover, 25-50%	Sparse vegetative cover (<25%),
VEG HEALTH	TREES	Healthy and established	Slightly stressed	Stressed	Dead
	GROUND COVER	Healthy and established	Slightly stressed	Stressed	Dead
	SHRUBS	Healthy and established	Slightly stressed	Stressed	Dead
	EMERGENT WETLAND	Healthy and established	Slightly stressed	Stressed	Dead

OVERALL PERFORMANCE SCORE (check one number)

Excellent design and function, no general problems with performance	BMP is well designed, but is undersized or has a few performance problems	BMP is adequately designed, several problems with performance are noted	Poor BMP design, severe performance problems or failure

10 ☑ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐

FIELD NOTES

GOOD OR INTERESTING DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

POOR OR PROBLEMATIC DESIGN FEATURES:
PHOTO #'S: Photographs have been taken of the site inspection and are available upon request.

SECTION 3 – DESIGN PLAN VERIFICATION

PLAN AVAILABLE: ☐ As-built ☐ Other: _____

Do field observations match design plans/as-builts? Describe any differences.

Soil type in facility	☐ N/A	☐ Yes	☐ No	If no, describe:
Pretreatment type and size	☐ N/A	☐ Yes	☐ No	If no, describe:
Signage	☐ N/A	☐ Yes	☐ No	If no, describe:
Low-flow channel	☐ N/A	☐ Yes	☐ No	If no, describe:
Dimensions/volume	☐ N/A	☐ Yes	☐ No	If no, describe:
Inlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Outlet type, #, and sizing	☐ N/A	☐ Yes	☐ No	If no, describe:
Vegetation composition	☐ N/A	☐ Yes	☐ No	If no, describe:
Other features	☐ N/A	☐ Yes	☐ No	If no, describe:

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 9

Pollution Prevention/Good Housekeeping Program

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 9A

Pollution Prevention/Good Housekeeping Program

Employee Training Program

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

BOROUGH OF CARLISLE, CUMBERLAND COUNTY, PA
POLLUTION PREVENTION/GOOD HOUSEKEEPING PROGRAM (PPGHP)

I. PURPOSE

The Borough of Carlisle (Borough) owns and operates a Municipal Separate Storm Sewer System (MS4) that is used for collecting and conveying storm water from developed portions of the Borough to area streams to minimize surface flooding. Stormwater is defined as drainage runoff from the surface of the land resulting from precipitation or snow or ice melt. The Borough received a National Pollutant Discharge Elimination System (NPDES) Permit from the Pennsylvania Department of Environmental Protection (DEP) in 2015 for the Borough's Municipal Separate Storm Sewer System (MS4). The NPDES Permit has an effective date of May 1, 2015. The Borough's MS4 collects runoff and conveys it through a system of street gutters, pipes and swales, before discharging the runoff to surface waters located in the Borough or downstream from the Borough. The MS4 Permit places specific requirements on the Borough. Specifically, the MS4 Permit outlines a series of six Minimum Control Measures, or MCMs. Each of these contains multiple Best Management Practices (BMPs) and Measurable Goals that must be met. MCM#6 covers pollution prevention and good housekeeping measures at all municipal operations.

The Borough of Carlisle recognizes the benefit and importance of stormwater and the need to prevent or reduce pollutants from entering stormwater from municipal operations. This document shall be referred to as the Carlisle Borough Pollution Prevention/Good Housekeeping Program (PPGHP). The PPGHP will be used as a reference and training guide for good housekeeping procedures for municipal activities as they relate to stormwater and non-stormwater discharges and the Borough's NPDES MS4 permit and corresponding MCM #6 requirements.

II. PROGRAM REQUIREMENTS

The requirements for MCM #6 as provided in the MS4 Permit are as follows:

- *Develop and implement an operations and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and*

- *Provide employee training to prevent and reduce stormwater pollution from activities such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.*

The permit requires the following BMPs and Measurable Goals are to be implemented and achieved as part of MCM#6:

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

Measurable Goal: By the end of the first year of permit coverage, identify and document 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. This information shall be reviewed and updated each year of permit coverage, as needed. Part of this effort shall include maintaining a basic inventory of various municipal operations and facilities.

- **BMP #2:** Develop, implement and maintain a written operation and maintenance (O&M) program for all municipal operations and facilities that could contribute to the discharge of pollutants from the MS4s, as identified under BMP #1. This program shall address municipally owned stormwater collection or conveyance systems, but could include other areas (as identified under BMP #1). The O&M program should stress pollution prevention and good housekeeping measures, contain site-specific information, and address the following areas:

  a. Management practices, policies, and procedures shall be developed and implemented to reduce or prevent the discharge of pollutants to the MS4s. Consider eliminating maintenance-area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.

  b. Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach the MS4s. Review procedures for maintaining Borough owned stormwater BMPs.

  c. Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt / sand storage locations and snow disposal areas.

  d. Procedures for the proper disposal of waste removed from the MS4s and municipal operations, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, and other debris.

  Measurable Goal: During the first year of permit coverage, develop and implement a written O&M program that complies with BMPs #1 and #2. Review the O&M program annually, edit as necessary, and continue to implement during every year of permit coverage.

- **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 municipal operations to the MS4s. Any municipal employee or contractor shall receive training. Training should cover all relevant parts of the stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

Measurable Goal - 1: During the first year of permit coverage, develop and implement a training program that identifies the training topics that will be covered, and what training methods and materials will be used. Review the training program annually, edit it as necessary, and continue to implement it during every year of permit coverage.

Measurable Goal - 2: Employee training shall occur at least annually (i.e., during each permit coverage year) and shall be fully documented in writing and reported in periodic reports. Documentation shall include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).

III. IDENTIFICATION OF MUNICIPAL FACILITIES TRIBUTARY TO MS4

A. Facilities Located in Borough of Carlisle. The following properties and structures are owned or maintained by the Borough of Carlisle and have the potential to contribute stormwater runoff and other discharges to the Borough's MS4:

- Borough Building (53 W. South Street)
- Public Works Field Operations Garage (E. Garland Drive)
- Stuart Community Center (415 Franklin Street)
- Parks and Recreation Field Operations Garage (228 N. West Street)
- Carlisle Community Swimming Pool (1236 Franklin Street)
- Borough Parks (Biddle Mission Park (5 acres), 311 E. North St; Butcher Tot Lot (1 acre), 46 Chestnut Ave.; Dickinson Park (18 acres), 1240 Ritner Highway, Forbes Path (21 acres), 203 Meadow Boulevard., rear; Goodyear Park (4 acres), 205 S. Bedford St.; Heberlig-Palmer Park (2 acres), 131 Lincoln Ave.; LeTort Park (12 acres) & Fort LeTort Playground, 260 E. Pomfret St.; Lindner Park (2 acres), 629 W. Louther St. (between W. North St. & W. Louther St.); Memorial Park (2 acres), 149 W. Penn St.; Mooreland Athletic Area (7 acres), Mooreland Ave.; Seven Gables Park (13 acres), 3 Giant Ave.; Shaffer Park (18 acres) - 1649 Spring Road; Spahr Tot Lot (1 acre), 231 E. Mulberry Ave.; Thornwald Park (32 acres) & Amphitheater, 350 Walnut Bottom Road; Valley Meadows Park (18 acres), 203 Meadow Boulevard)
- Borough Police Station (240 Lincoln Street)
- Molly Picher Cemetery
- Pomfret Street Parking Garage (35 W. Pomfret Street)
- Municipal Parking Lots (Pomfret Street, Liberty Avenue, Locust Avenue, E. Souther Street (north lot), E. Louther Street (south lot), Chapel Avenue
- Borough Streets and Alleys
- Sanitary Sewers
- Wastewater Pumping Stations (Ridge Street (#2), S. Spring Garden Street (#3), Shearer Drive (#4), and Chesterfield (#5), 39 Sussex Drive)
- Storm Sewer Facilities, including Orange Street Stormwater Detention Basin
- Elevated Potable Water Storage Tanks (West End Tank, Ridge Street Tank, Penn Street Tank)
- Potable Water Distribution System

B. Municipal Operations Located Outside of the Borough of Carlisle**:** Some of the Borough facilities are located outside the Borough in municipalities that currently do not have MS4 permits. Therefore these facilities are not covered under this document. The Borough will need to establish, implement and maintain a written operation and maintenance (O&M) program for these municipal operations and facilities once the host municipality is issued a MS4 permit.

Operation	Address	Municipality Located	Watershed
Water Treatment Plant	Longs Gap Road	North Middleton Township	Conodoguinet Creek
Treated Water Storage Tanks and Water Pumping Facility	Garden Drive	North Middleton Township	Conodoguinet Creek
Wastewater Treatment Plant	N. Middlesex Road	Middlesex Township	Conodoguinet Creek
Yard Waste Compost Facility	Post Road	North Middleton Township	Letort Spring Run
Waggoners Gap Wastewater Pumping Station #1	Waggoners Gap Road	North Middleton Township	Conodoguinet Creek

.

IV. Types of Municipal Operations:

Borough Municipal Building • Snow and Ice Control • Parking Lot Sweeping • Line and Handicap Parking Painting • Landscaping • Recycling and Solid Waste Dumpsters • Milling and Paving	**Municipal Parking Lot Maintenance** • Snow and Ice control • Sweeping • Line and Handicap Parking Painting • Landscaping • Milling and Paving
Public Works Field Operations Garage • Equipment storage and maintenance • Vehicle fueling • Vehicle washing • Salt storage area • Oil separator maintenance • Snow removal storage • Street sweeping waste storage • Weed control • Recycling and Solid Waste Dumpsters	**Street and Alley Maintenance** • Asphalt patching • Crack sealing • Milling and Paving • Sweeping • Weed control • Line and curb painting • Curb replacement • Leaf collection • Snow and ice control/snow plowing

• Parking Lot Sweeping • Lawn and grounds care	• Animal carcass removal
Parking Garage Maintenance • Sweeping • Wash down stair wells • Line painting • Snow and ice control	**Stormwater Facilities Maintenance** • Inlet/outlet cleaning • Pipe and inlet replacement • Cherry St. Stormwater Basin Landscaping • Vegetated Swale maintenance • Infiltration basin maintenance • Pipe flushing and CCTV Inspection
Water Distribution System Maintenance • Hydrant Flushing • Leak Repair • Line Replacement • Valve Replacement	**Sanitary Sewer Maintenance** • Pipe flushing and CCTV Inspection • Root cutting • Replacement
Molly Picher Cemetery • Landscaping • Weed control	**Wastewater Pumping Stations** • Landscaping • Weed control • Snow and Ice Control • Wetwell cleaning
Stuart Community Center • Snow and Ice control • Parking Lot Sweeping • Line and Handicap Parking Painting • Landscaping • Recycling and Solid Waste Dumpsters	**Carlisle Community Swimming Pool** • Parking Lot Sweeping • Line and Handicap Parking Painting • Landscaping • Recycling and Solid Waste Dumpsters • Chemical storage and feed operations • Swimming Pool Painting
Water Storage Tanks • Snow and Ice control • Landscaping	**Police Station** • Ice and snow control • Parking Lot Sweeping • Line and Handicap Parking Painting • Landscaping • Recycling and Solid Waste Dumpsters
Parks and Recreation Field Garage • Snow and Ice control • Parking Lot Sweeping	**Borough Parks** • Ice and snow control • Parking Lot Sweeping • Line and Handicap Parking Painting • Landscaping • Recycling and Solid Waste Dumpsters • Equipment painting and maintenance

V. OPERATING PROCEDURES

The Borough's Public Works Field Operations Department has developed Standard Operating Procedures (SOPs) for some of its major operating activities that are on file at the Field Operations Garage. The Parks and Recreation Department has also prepared SOPs for its operations that are on file at their operations. Additional information related to activities that can have a direct impact the MS4 are provided in the Appendices as follows:

Appendix	Activity
1	USEPA Floor Cleanup Fact Sheet
2	Catch Basin Inspection and Cleaning SOP
3	Snow and Ice Control Policy
4	DEP Stormwater BMP Manual Excerpt related to maintenance for Dry Extended Detection Basins
5	Lawn Maintenance Specifications taken from the 2016 Borough Bid Documents for Lawn Maintenance Services

Additional SOPs will be added to this document as they are developed.

VI. EMPLOYEE TRAINING

Training of employees and relevant contractors will be conducted for both general pollution prevention knowledge and implemented BMPs as they pertain to MCM #6 and good housekeeping. A training plan will be developed annually and documented in Exhibit 1. The ultimate goal of the training program is to prevent or reduce the discharge of pollutants from municipal operations to the MS4.

Training techniques will include a combination of fact sheets, informational videos, webinars, and direct presentations to employees. The Staff Training Participation Log included in Exhibit 1 should be completed for each training session to document topic, attendees participating, and trainer. A permit year training summary will be prepared annually based on information included in completed Training Participation Logs and included as part of the annual MS4 Report. The Annual Training Summary Form is also included in Exhibit 1.

The training will generally cover relevant parts of the stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, good housekeeping, construction site monitoring, and Borough Ordinance requirements

VII. ANNUAL REPORT

All activities and items associated with the O&M Program including program modifications, training endeavors, will be summarized and the summaries included in the annual report. Each year the Borough will review the PPGHP, update as appropriately, and post the PPGHP on the Borough's website.

BOROUGH OF CARLISLE: SUMMARY OF MS4 TRAINING CONDUCTED
DURING PERMIT YEAR FROM JULY 1, 2023 TO JUNE 30, 2024

Date	Training Topic	Location	Training Method	Trainer	Staff Attending	Number of Staff Attending	Training Hours	Total Hours of Staff Training
12/1/23	PENN STATE EXTENSION - WORKSHOP - RESIDENTIAL STORMWATER SOLUTIONS BACKYARD MEADOWS	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	1.00
11/23/23	NATIONAL STORMWATER INSTITUTE - THE LAND USE AND GREEN INFRASTRUCTURE SCORECARD	Carlisle Municipal Building 53 W. South Street	Online Based	NATIONAL STROMWATER INSTITUTE	T.STRINE	1	1.00	2.00
7/23/23	PENNSTATE EXTENSION - WEBINAR ELIMINATING BARRIERS TO GREEN STORMWATER	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	3.00
8/23/23	EPA CLEAN WATER WEBINAR - WETLANDS: PROTECTING NATRUES WATER FILTERS	Carlisle Municipal Building 53 W. South Street	Online Based	EPA	T.STRINE	1	1.00	4.00
8/23/23	NATIONAL STORMWATER CENTER - FOREVER CHEMICALS	Carlisle Municipal Building 53 W. South Street	Online Based	NATIONAL STROMWATER INSTITUTE	T.STRINE	1	1.00	5.00
1/1/24	PENN STATE EXTENSION - GREEN INFRASTRUCTURE AND SALTY STORMWATER	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	6.00
1/1/24	NATIONAL STORMWATER INSTITUTE - HYDROLOGY OF STORMWATER	Carlisle Municipal Building 53 W. South Street	Online Based	NATIONAL STROMWATER INSTITUTE	T.STRINE	1	1.00	7.00
1/1/24	IZAAK WALTON LEAGUE OF AMERICA	Carlisle Municipal Building 53 W. South Street	Online Based	IZAAK WALTON LEAUGE OF AMERICA	T.STRINE	1	1.00	8.00
1/1/24	CENTER FOR WATERSHED PROTECTION - WEATHERING THE STORM	Carlisle Municipal Building 53 W. South Street	Online Based	CENTER FOR WATERSED PROTECTION	T.STRINE	1	1.00	9.00
2/1/24	EPA-CREATING THE WATER WORKFORCE OF THE FUTURE	Carlisle Municipal Building 53 W. South Street	Online Based	EPA	T.STRINE	1	1.00	10.00
2/1/24	PENNSYLVANIA ORGANIZATIONS FOR WATERSHEDS & RIVERS - CREATING STRONGER CONNECTIONS	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSYLVANIA ORGANIZATIONS FOR WATERSHEDS & RIVERS	T.STRINE	1	1.00	11.00
2/1/24	PENN STATE EXTENSION - MUNICIPAL STORMWATER MANAGEMENT IN PA	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	12.00
3/1/24	PENNSTATE EXTENSION - STREAMBANK STABILIZATION AND STREAM CROSSINGS ON FARMS	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	13.00
3/24/24	PENNSTATE EXTENSION - ALGAE AND MICRO PLASTICS STICK TOGETHER	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	14.00
3/1/24	PENNSTATE EXTENSION - WHY POLLINATORS MATTER AND HOW TO CREATE A POLLINATOR GARDEN	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	15.00
3/24/24	PENNSTATE EXTENSION - CHOOSE NATIVE MINI-WORKSHOP	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	16.00
3/24/24	PENNSTATE EXTENSION - BALANCING CARBON, FOREST HEALTH AND OTHER GOALS	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	17.00
4/24/24	PENNSTATE EXTENSION - RAIN BARREL DISCOVERY EXPLORE AND LEARN	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	18.00
4/24/24	PENNSTATE EXTENSION - WATER COOLER TALK - PA COUNTYWIDE ACTION PLAN ENGAGEMENT	Carlisle Municipal Building 53 W. South Street	Online Based	PENNSTATE EXTENSION	T.STRINE	1	1.00	19.00
						Yearly Training Hours:		**19.00**

BOROUGH OF CARLISLE, CUMBERLAND COUNTY, PA
MS4 PROGRAM EMPLOYEE TRAINING PLAN

I. **Permit Years 1 and 2 (August 1, 2020 through June 30, 2022) Training**. The Borough's focus on its first two years of MS4 activities will be with program development and meeting permit requirements, rather than employee training. Training topics and impacted staff will be as noted in below table. Other trainings to be conducted as opportunities arise.

Training Topics	Staff to Train	Training Venue
MS4 Program Basics	Public Works Field Operations Staff	Lecture type presentation with Q&A at Field Operations Garage
MS4 Data Collection and Documentation	Public Works Management	CAPCOG Training Sessions
Spill prevention and Control	Public Works Management/Public Works Crew Leaders	CAPCOG Training Sessions
Chesapeake Bay Pollutant Reduction Plan	Public Works Management	CAPCOG Training Sessions DEP Training Sessions

II. **Permit Year 3 (July 1, 2022 through June 30, 2023) Training**. Focus on third year training will be to introduce all applicable Borough staff and contractors to basic MS4 programs and requirements, with an emphasis on illicit discharge detection and pollution prevention/good housekeeping techniques. Given current deficiencies with vehicle washing and material storage at Public Works Garage, Public Works Management staff will tour other municipal operations and conduct interviews with other operations staff from other municipalities to develop an approach for these operations at Carlisle. Other trainings to be conducted as opportunities arise.

Training Topics	Staff to Train	Training Venue
MS4 Program Basics	Parks and Recreation management and maintenance staff	Lecture type presentation with Q&A at Parks and Recreation Garage
MS4 Program Basics	Borough Zoning and Codes Enforcement staff	Lecture type presentation with Q&A at Borough Hall
MS4 Program Basics	New Public Works Field Operations Staff or Public Works staff who missed the Year 1 training	Lecture type presentation with Q&A at Field Operations Garage

Illicit Discharge Detection and Elimination Program Basics	Public Works Field Operations Staff	Lecture type presentation with Q&A at Field Operations Garage
Illicit Discharge Detection and Elimination Program Basics	Parks and Recreation management and maintenance staff and Borough Zoning and Codes Enforcement staff	Lecture type presentation with Q&A at Borough Hall
Vehicle and equipment washing and materials storage	Public Works Management	Tour other facilities

III. Permit Year 4 (July 1, 2023 through June 30, 2024) Training.

Focus on fourth year training will be to introduce all applicable Borough staff and contractors to basic MS4 programs and requirements, with an emphasis on illicit discharge detection and pollution prevention/good housekeeping techniques.

Training Topics	Staff to Train	Training Venue
MS4 Program Basics	Police Department management and maintenance staff	Lecture type presentation with Q&A at Borough Police Department
MS4 Program Basics	Fire Department management and maintenance staff	Lecture type presentation with Q&A at Local Fire Department
Illicit Discharge Detection and Elimination Program Basics	Police Department management and maintenance staff	Lecture type presentation with Q&A at Borough Police Department
Illicit Discharge Detection and Elimination Program Basics	Fire Department management and maintenance staff	Lecture type presentation with Q&A at Local Fire Department
Pennsylvania Department of Transportation Local Technical Assistance Program on: -Stormwater Facility Operation and Maintenance And -Maintenance Techniques: Stormwater Control Facilities	Public Works Management and Staff	Lecture type presentation with Q&A at Field Operations Garage

IV. Permit Year 5 (July 1, 2024 through June 30, 2025) Training

Training plan for this permit year to be developed by Public Works Management staff at end of Permit Year 4 based on Year 4 training success and year 5 needs.

BOROUGH OF CARLISLE

"Committed To Excellence In Community Service"

Municipal Separate Storm Sewer System (MS4)
Annual Report
July 1, 2023 – June 30, 2024

Attachment 10

Progress Achieved - BMP Summary Schedule

and

Chesapeake Bay Pollution Reduction Plan

53 West South Street, Carlisle, PA 17013 Tel. (717) 249-4422

Borough of Carlisle,
Cumberland County, PA

Chesapeake Bay Pollutant Reduction Plan

For

Municipal Separate Storm Sewer System (MS4)

Originally Submitted: December 2019

Last Revised: May 2020

Chesapeake Bay Pollutant Reduction Plan

Borough of Carlisle

Cumberland County, Pennsylvania

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Introduction

The Borough of Carlisle owns and operates a Municipal Separate Storm Sewer System (MS4) with a service area that encompasses the Borough. The Pennsylvania Department of Environmental Protection (DEP) has issued a National Pollutant Discharge Elimination System (NPDES) Permit to the Borough that establishes the terms and conditions for discharges from the Borough's MS4 to waters of the Commonwealth. This Chesapeake Bay Pollutant Reduction Plan will address how the Borough of Carlisle intends to achieve the pollutant reduction requirements established by DEP in the Borough's MS4 NPDES Permit. This document was prepared following the guidance provided in the DEP NPDES Stormwater Discharges from Small Municipal Separate Storm Sewer Systems Pollutant Reduction Plan instructions.

General Information	
Permittee Name: **Carlisle Borough**	NPDES Permit No.: **PAI133517**
Mailing Address: **53 W South Street**	Effective Date: **May 1, 2015**
City, State, Zip: **Carlisle, PA, 17013**	Expiration Date: **April 30, 2020**
MS4 Contact Person: **□acob Shaffer**	Renewal Due Date: **November 1, 2019**
Title: **MS4 Coordinator**	Municipality: **Borough of Carlisle**
Phone: **(717) 240-6918**	County: **Cumberland County**
Email: **□shaffer□ carlislepa.org**	Consultant Name: **N□A**
Co-Permittees (if available): **N□A**	

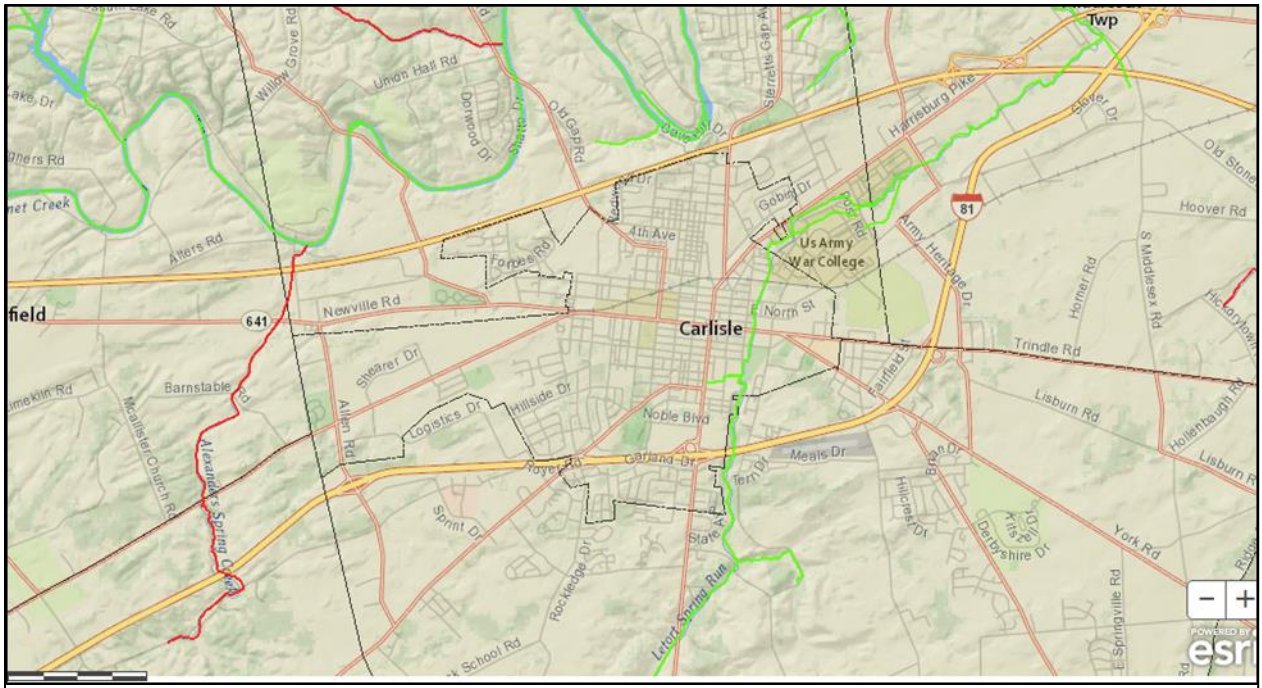
The Borough of Carlisle (Borough) is located in central Cumberland County, within the Cumberland valley and serves as the Cumberland County seat. The Borough is approximately 5.7 square miles in area, with the majority of the land containing high-density urbanized development. As of the 2010 United States census, the Borough population was 18,682. Population as of 2017 was 19,113, based on American Community Survey, US Census estimates. The Borough of Carlisle is currently in its first NPDES MS4 Individual Permit period and the permit is set to expire on April 30, 2020.

The topography of the Borough is a broad valley over limestone bedrock with slopes under eight percent. Although the Borough is located within the Conodoguinet Creek Watershed, the only streams flowing through the Borough are Letort Spring Run and the Molly Grub, a tributary of Letort Spring Run. Streams tributary to Conodoguinet Creek that eventually receive runoff from the Borough are Alexander Spring Run, Letort Spring Run, and the Molly Grub. The land in the extreme western edge of the Borough eventually drains to Conodoguinet Creek via a short section of Alexander Spring Run. The northcentral portion of the Borough eventually drains to Conodoguinet Creek, and the Letort Spring Run basin is comprised of the remainder of the Borough. The Molly Grub drains into Letort Spring Run at Letort Park, located in the east-central portion of the Borough. Letort Spring Run eventually drains into the Conodoguinet Creek about

3.9 stream miles north of the Borough in Middlesex Township. Conodoguinet Creek discharges into the Susquehanna River in East Pennsboro Township, Cumberland County. The Susquehanna River discharges into the Chesapeake Bay. Therefore, the Borough is located entirely within the Chesapeake Bay Watershed.

The length of open stream in the Borough is 0.31 miles for the Molly Grub from where it daylights at S. Hanover Street to its confluence with Letort Spring Run and 2.11 miles for Letort Spring Run. Letort Spring Run flows northward from its source in South Middleton Township to its confluence with Conodoguinet Creek in Middlesex Township. Letort Spring Run is classified as an Exceptional Value, Migratory Fishery from the Borough's southern border north 1.05 miles to the Railroad Bridge at Letort Park. The stream's designation changes to High Quality, Cold Water Fishery north of the railroad bridge to the Borough's border with North Middleton Township. The Borough's MS4 system only has outflows directly into Molly Grub or Letort Spring Run. Neither of these streams are defined as an impaired waterbody.

An area map showing attaining streams in green and non-attaining streams in red from the DEP eMaps website is provided below as Figure 1. The Carlisle municipal border is shown by a black dashed line.



FIG□RE 1. CARLISLE AREA STREAMS WATER □□ALITY ATTAINMENT STAT□S (Red designates "Approved Non Attaining" and Green designates "Approved Attaining")

Portions of the Borough's MS4 that do not directly discharge into the Molly Grub or Letort Spring Run flow overland or within earthen channels through North Middleton Township before reaching the Conodoguinet Creek or Alexander Spring Run immediately before this stream empties into Conodoguinet Creek.

Requirement #1: Public Involvement/Participation

DEP developed instructions to assist MS4 applicants and MS4 permittees in the preparation of a Chesapeake Bay Pollutant Reduction Plan (PRP). The instructions call for the municipality to undertake the public participation measures listed below and to report in the PRP that each was completed.

a. The applicant shall make a complete copy of the PRP available for public review.

b. The applicant shall publish, in a newspaper of general circulation in the area, a public notice containing a statement describing the plan, where it may be reviewed by the public, and the length of time the permittee will provide for the receipt of comments.

c. The applicant shall accept written comments for a minimum of 30 days from the date of public notice and attach a copy of all written comments received from the public to the PRP.

d. The applicant shall accept comments from any interested member of the public at a public meeting or hearing, which may include a regularly scheduled meeting of the governing body of the municipality.

e. The applicant shall consider and make a record of the consideration of each timely comment received from the public during the public comment period concerning the plan, identifying any changes made to the plan in response to the comment.

The Borough placed an advertisement in the Carlisle Sentinel establishing a 30-day public comment period and inviting the public to review and comment on the draft PRP on October 31, 2019. A copy of the proof of publication and advertisement is included as Appendix VI. The Borough placed a draft copy of this PRP on its website and included a presentation of the draft PRP for public comment at the Borough Council Workshop meeting of November 6, 2019. Borough Council regularly holds public workshop meetings the first Wednesday of each month, and publishes the agenda for the meeting on the Borough website prior to holding the meeting. The Borough also advertised the 30-day public comment period and the November 6, 2019 Workshop agenda on the Borough Website and Facebook page and published a press release in the Carlisle Sentinel. Copies of the November 6, 2019 workshop meeting minutes, presentation slide, Facebook post, and press release are included in Appendix VI.

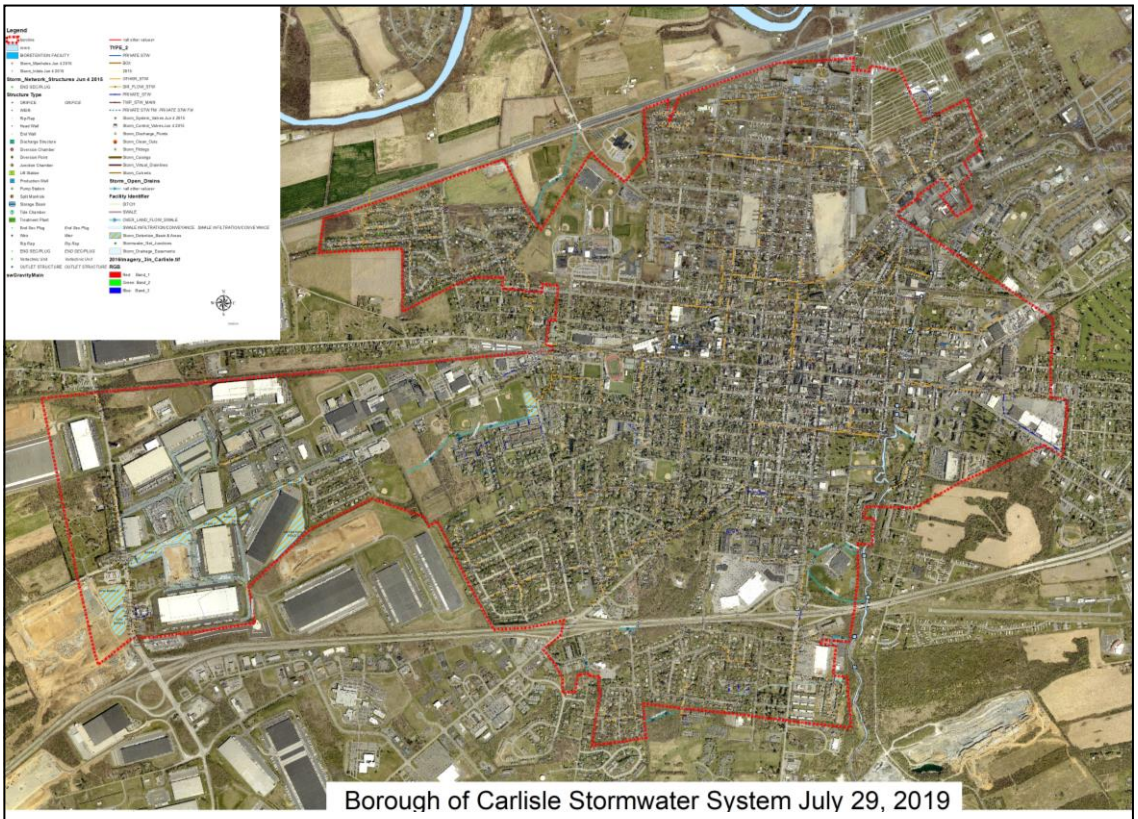
Public Comments Received on Draft and Revisions Made Based on Comments

The Borough received the two written public comments during the 30-day public comment period. The comments and the Borough's responses are provided in Appendix VII. No changes to the draft plan were warranted based on the public comments received.

Requirement □2: Drainage Area Mapping

DEP's instructions for preparation of a PRP call for the Plan to include a map that identifies land uses and/or impervious/pervious surfaces and the storm sewershed boundary associated with each MS4 outfall that discharges to surface waters draining to the Chesapeake Bay. In the case of the Borough, all of the area within the municipal boundary (the entire urbanized area) is located within the initial PRP Planning Area. The DEP instructions indicate in cases where there are no local surface water impairments, but the entire municipality is located in the Chesapeake Bay watershed, the map can display the entire storm sewershed within the municipality, without distinction between discharges to various local surface waters.

The current version of the Borough's Stormwater Facilities Map is included as Appendix V. The map depicts the entire Stormwater System within the Borough and identifies inlets, outfalls, flow paths, BMPs, and private systems. A smaller scale version of the Borough's Stormwater Facilities Map is shown below as Figure 2. The Borough's border is identified as a red line in Figure 2.



FIG□RE 2. Carlisle Borough Stormwater System Map

The Borough's MS4 is generally comprised of the following:

- Number of street catch basins: 1,026
- Total length (feet or miles) of storm sewer pipes: 150,500 feet or 28.5 miles
- Total length (feet or miles) of storm sewer open channels: 27,500 feet or 5.2 miles

Land use in the Borough is a mix of residential, commercial, institutional, and industrial with the majority of the parcels at or near build-out conditions. Borough staff estimated for the purpose of this PRP that the surface area of the Borough is approximately 3,487 acres (5.5 square miles), with 39.04 percent of the total land area covered by impervious surfaces and the remainder having pervious coverage. The following rationale was used to estimate the current area of pervious and impervious coverage in the Borough:

- Building coverage area was calculated using the digitized building layer data made available from the Cumberland County Planning Commission's 2012 Aerial Photography update. A summary of impervious and pervious coverage as assessed by Cumberland County within the Borough is listed below as Table 1.
- A copy of the Borough's existing Zoning Map is included as Appendix II, and the Carlisle Borough Land Use Map from the Cumberland County Comprehensive Plan is included as Appendix VIII.

Table 1. Borough of Carlisle, Cumberland County, PA Estimate of Impervious Land Coverage by Tax Classification (Excluding Land Occupied by Streets, Alleys, and Carlisle Barracks)

Tax Classification	Total Estimated □one Land Area (Acres)	□one Percent of Total Borough Area	Total Estimated Impervious Coverage (Acres)	Percentage of □oning Land Covered by Impervious Area	Total Estimated Pervious Coverage (Acres)	Percentage of □oning Land Covered by Pervious Area
AC	44.09	1.42%	6.83	0.22%	37.26	1.20%
C1	3.12	0.10%	1.81	0.06%	1.30	0.04%
C2	23.70	0.77%	18.23	0.59%	5.46	0.18%
C3	14.01	0.45%	8.61	0.28%	5.40	0.17%
C4	18.84	0.61%	10.92	0.35%	7.92	0.26%
C5	180.77	5.84%	122.49	3.96%	58.28	1.88%
CA	103.53	3.35%	48.85	1.58%	54.68	1.77%
CB	8.06	0.26%	5.19	0.17%	2.87	0.09%
CC	38.98	1.26%	21.02	0.68%	17.97	0.58%
CG	4.90	0.16%	3.93	0.13%	0.97	0.03%
CH	29.38	0.95%	14.17	0.46%	15.21	0.49%
CL	159.52	5.15%	8.35	0.27%	151.17	4.89%
CM	9.18	0.30%	3.32	0.11%	5.86	0.19%
CO	35.05	1.13%	23.71	0.77%	11.34	0.37%
CR	20.29	0.66%	13.08	0.42%	7.21	0.23%
CS	71.95	2.33%	56.56	1.83%	15.39	0.50%
CT	1.38	0.04%	0.95	0.03%	0.43	0.01%
CV	7.63	0.25%	4.48	0.14%	3.15	0.10%
CW	292.78	9.46%	201.48	6.51%	91.30	2.95%
CX	613.71	19.83%	225.43	7.28%	388.28	12.55%
I	136.74	4.42%	81.14	2.62%	55.60	1.80%
IL	17.30	0.56%	8.56	0.28%	8.74	0.28%
L1	25.09	0.81%	1.14	0.04%	23.94	0.77%
L2	19.58	0.63%	1.48	0.05%	18.10	0.58%
L3	20.87	0.67%	2.73	0.09%	18.14	0.59%
LX	9.45	0.31%	0.76	0.02%	8.69	0.28%
R	997.55	32.24%	66.01	2.13%	931.54	30.10%
RA	33.53	1.08%	16.75	0.54%	16.78	0.54%
RC	7.40	0.24%	2.76	0.09%	4.64	0.15%
RO	9.39	0.30%	2.73	0.09%	6.66	0.22%
RT	0.08	0.00%	0.04	0.00%	0.04	0.00%
RX	5.94	0.19%	2.67	0.09%	3.27	0.11%
U	6.41	0.21%	1.57	0.05%	4.83	0.16%
V	103.32	3.34%	1.44	0.05%	101.87	3.29%
VX	21.03	0.68%	0.55	0.02%	20.48	0.66%
TOTAL	**3094.52**	**100.00□**	**989.75**	**31.98□**	**2104.78**	**68.02□**

- Street and adjacent impervious areas were calculated using street centerline GIS layers and assuming an average street and sidewalk width of 38 feet for state roads in the Borough, 36 feet for Borough streets, and 12 feet for Borough alleys. A compilation of the total land coverage is listed below in Table 2.

Table 2. Borough of Carlisle, Cumberland County, PA Estimate of Total Land Area Coverage

Parcel Land Area Summary From Table 1.

	Area (Sq. Ft.)	Area (Acres)	Area (Sq.Mi.)
Pervious	91,683,876	2,104.77	3.29
Impervious	43,113,415.00	989.75	1.55
Total	**134,797,291**	**3,094.52**	**4.84**

Land Area Not Considered by Cumberland County Data

	Area (Acres)	Area (Sq.Mi.)
I-81	43.17	0.07
Carlisle Barracks	20.83	0.03
Total	**64**	**0.10**

Impervious Coverage from Streets

	Length (Miles)	Width (Feet)	Area (Acres)	Area (Sq.Mi.)
State Streets	11.79	38	54.31	0.08
Borough Streets	56.70	36	247.42	0.39
Borough Alleys	18.20	12	26.47	0.04
I-81	-	-	17.19	0.03
Total	**86.69**		**345.39**	**0.54**

Total Borough Land Area

	Area (Acres)	Area (Sq.Mi.)	Area (% of Total)
Pervious	2,130.75	3.33	61.11%
Impervious	1,335.13	2.09	38.29%
Carlisle Barracks	20.83	0.03	0.60%
Total	**3486.72**	**5.45**	**100.00□**

- As shown in Table 2, property owned by the United States Army War College (Carlisle Barracks) and PENNDOT (I-81) were not included in Cumberland County data and were pre-parsed from the Borough's assessment, but were added to initial estimates to calculate total Borough Area.
- The area of paved parking, patios and interior walkways were estimated as a percentage of total building coverage by each zoning district using a digitized representative area of each zoning district, which more accurately represented the type of development contained within the district.

Parsed Areas

Although the entire Borough is located within the established urbanized area, certain developed portions of the Borough do not drain into the Borough's MS4. DEP's guidelines for preparation of a PRP allow a municipality to "parse" land area out of the total land area present in the municipality. DEP defines parsing as a process in which land area is removed from a PRP planning area in order to calculate the actual or target pollutant loads that are applicable to an MS4.

Parsing provides an opportunity for a municipality to eliminate areas within its borders that do not drain to the MS4 and areas that are already covered by a separate NPDES permit. Other examples of land area that may be parsed include:

- The land area associated with non-municipal stormwater NPDES permit coverage that exists within the urbanized area of a municipality (in such cases the entities may submit a combined PRP);
- Land area associated with PennDOT roadways and the Pennsylvania Turnpike (roads and right of ways);
- Lands associated with the production area of a Concentrated Animal Feeding Operation that is covered by an NPDES permit;
- Land areas in which stormwater runoff does not enter the MS4.

Dickinson College, Dickinson School of Law, and Cumberland County government all own land within the Borough. Colleges and county governments sometimes have their own NPDES Permits for their separate storm sewer systems. However, at the time this PRP was prepared, none of these organizations have their own permits. Therefore, the land occupied by these establishments are included as part of the Borough's PRP.

There are no Concentrated Animal Feeding Operations in the Borough. There are 11.8 miles of roads in the Borough that are part of the state highway system, the area occupied by these state roadways will be parsed from the Borough's PRP, along with land and right-of-ways owned by PennDOT that occupy Interstate 81. The Borough also elected to parse areas that do not drain to the Borough's MS4. Staff used topographical maps in combination with the Stormwater System Map to identify properties that drain into private stormwater systems without entering the Borough's MS4. These areas were removed from the overall planning area and existing loading rate calculations. Figure 3 identifies the areas that were parsed out of the Borough's MS4. Areas shaded in red in Figure 3 were removed from the Borough's PRP planning area because they are managed by a private stormwater system that does not connect back into the Borough's MS4. The total parsed area is equivalent to 445.89 acres as shown in Table 3. In addition, the Borough chose to parse the portion of the U.S. Army Carlisle Barracks located within the Borough of Carlisle from its PRP planning area, since none of the Barrack's property drains into the Borough's MS4. A close-up view of the areas parsed (not including state roadways) are detailed in Appendix IX.



Figure 3. Land Parsed from Carlisle Borough's MS4

	Parcel Acreage	Parcel Sq. Ft	Impervious Sq Ft	Impervious Acres	Pervious Sq Ft	Pervious Acres
1225 Ritner Highway	4.85	211,359.00	146,521.00	3.36	64,838.00	1.49
1227 Ritner Highway	0.30	13,065.00	8,469.00	0.19	4,596.00	0.11
1229 Ritner Highway	1.31	57,126.00	-	-	57,126.00	1.31
1231 Ritner Highway	0.75	32,772.00	18,665.00	0.43	14,107.00	0.32
1233 Ritner Highway	0.43	18,914.00	17,719.00	0.41	1,195.00	0.03
1235 Ritner Highway	4.79	208,562.00	89,165.00	2.05	119,397.00	2.74
1275 Ritner Highway	9.33	406,525.00	297,699.00	6.83	108,826.00	2.50
1285 Ritner Highway	36.37	1,584,256.00	872,085.00	20.02	712,171.00	16.35
1415 Ritner Highway	4.30	187,244.00	104,854.00	2.41	82,390.00	1.89
1497 Ritner Highway	54.64	2,380,113.00	1,021,675.00	23.45	1,358,438.00	31.19
1615 Ritner Highway	1.95	84,830.00	47,948.00	1.10	36,882.00	0.85
1621 Industrial Drive	41.17	1,793,329.00	1,222,768.00	28.07	570,561.00	13.10
1621 RR Industrial Drive	43.90	1,912,115.00	297,493.00	6.83	1,614,622.00	37.07
1625 Ritner Highway	3.04	132,317.00	48,392.00	1.11	83,925.00	1.93
219 Allen Road	24.57	1,070,212.00	718,475.00	16.49	351,737.00	8.07
Allen Road	3.43	149,370.00	-	-	149,370.00	3.43
207 Allen Road	5.68	247,265.00	-	-	247,265.00	5.68
I-81	43.17	1,570,837.00	748,888.00	17.19	821,949.00	25.98
5 E Garland Drive	8.09	352,395.00	101,644.00	2.33	250,751.00	5.76
3 E Garland Drive	2.41	105,118.00	65,257.00	1.50	39,861.00	0.92
Letort Meadows	7.04	306,702.00	53,869.00	1.24	252,833.00	5.80
Meeting House Spring Road	29.85	1,300,448.00	1,201.00	0.03	1,299,247.00	29.83
Lamberton Middle School	32.07	1,396,782.00	231,281.00	5.31	1,165,501.00	26.76
801 S Hanover	3.23	140,545.00	28,875.00	0.66	111,670.00	2.56
Highland Court	2.59	112,643.00	43,802.00	1.01	68,841.00	1.58
Letort Regional Authority	1.50	65,373.00	3,397.00	0.08	61,976.00	1.42
Carlisle Barracks	20.83	-	-	-	-	-
State Roads	54.31	2,365,743.60	2,365,743.60	54.31	-	-
Total	**445.89**	**18,205,960.60**	**8,555,885.60**	**196.42**	**9,650,075.00**	**228.65**

Table 3. Land Parsed from Carlisle Borough's MS4

Pollutants of Concern

The pollutants of concerns can be identified by referring to the DEP MS4 Municipal Requirements Table[1]. The portion of the table applicable to the Borough of Carlisle is included for reference in Appendix C.

Table 4. Pollutants of Concern

MS4 Name	Impaired Downstream Waters	Requirement(s)
Carlisle Borough	Chesapeake Bay Nutrients/Sediment	Appendix D – Nutrients/Siltation (4a)

For all Chesapeake Bay PRPs, the pollutants of concern are Total Sediment (TS), Total Phosphorus (TP), and Total Nitrogen (TN). Based on DEP guidelines, the minimum required reductions in current pollutant loading over the Borough's next MS4 NPDES Permit cycle are ten percent for TS, five percent for TP and three percent for TN.

Requirement □3: Current Pollutant Loads

Baseline or current pollutant loadings from the Borough's MS4 were calculated for this PRP using the Chesapeake Assessment and Scenario Tool[2] (CAST) loading rates published for Cumberland County, Pennsylvania and land use coverage estimates developed for the Borough's stormwater utility billing database. The Borough implemented a stormwater utility fee in 2019 to generate revenue needed to operate and maintain its MS4. The Borough charges owners of all developed properties in the Borough a stormwater utility fee based on the amount of impervious coverage present on the owner's property. The Borough hired a consultant to assist in the development of the stormwater utility. One of the consultant's tasks was to measure the impervious coverage present on each developed property in the Borough. The consultant used tax assessment data obtained from Cumberland County and the County's aerial photography GIS database to measure impervious and pervious coverage for each property in the Borough. This estimate of impervious coverage will also be used for this PRP.

Projections for tree canopy cover within the Borough were taken from the Cumberland County GIS Data. Borough staff quantified the total acres of impervious and pervious coverage for various land use categories and multiplied the resultant acres by the TN, TS, and TP loading rates for the land use categories used by CAST to calculate total estimated pollutant loadings from the Borough's existing MS4. Table 5 summaries the resultant existing pollutant load estimates for the Borough's MS4. The values given in Table 5 are based on PRP planning area with the above-mentioned parsed areas removed from the calculations. Table 6 gives the minimum required pollutant reductions that are addressed in this PRP based on the 10%, 5%, and 3% reduction goals for TS, TP, and TN, respectively.

	Impervious			**Pervious**			**Totals**
	Ms4 Buildings and Other	MS4 Tree Canopy Over Impervious	MS4 Roads	MS4 Turf Grass	MS4 Tree Canopy Over Turf Grass	Regulated Construction	
MS4 Land Area (Acres)	846.74	18.08	273.89	1,661.54	192.49	48.07	3,040.81
Total Nitrogen Loading Rate from CAST (Lbs. TN/Acre/Year)	17.16	19.15	21.82	11.22	8.54	27.64	-
Baseline Total Nitrogen Loading (Lbs. TN/Year)	14,531.75	346.27	5,977.38	18,642.48	1,642.90	1,328.46	42,469.24
Total Phosphorus Loading Rate from CAST (Lbs. TP/Acre/Year)	0.75	0.83	0.94	0.68	0.52	3.55	-
Baseline Total Phosphorus Loading (Lbs. TP/Year)	635.06	14.95	256.63	1,121.54	99.90	170.55	2,298.64
Total Sediment Loading Rate from CAST (Lbs. TS/Acre/Year)	1,423.96	1,588.66	1,409.24	466.07	452.47	987.62	-
Baseline Total Sediment Loading (Lbs. TS/Year)	1,205,724.74	28,722.95	385,977.02	774,390.62	87,096.14	47,475.09	2,481,911.48

Table 5. Current Pollutant Loads

	Totals	□ Reduction	Amount Needed To Reduce (Lbs□Year)	Amount Reduced via CBPRP Pro□ects (Lbs□Year)
MS4 Land Area (Acres)	3,040.81	-	-	-
Total Nitrogen Loading Rate from CAST (Lbs. TN/Acre/Year)	-	-	-	-
Baseline Total Nitrogen Loading (Lbs. TN/Year)	42,469.24	3.00	1,160.33	2,005.34
Total Phosphorus Loading Rate from CAST (Lbs. TP/Acre/Year)	-	-		-
Baseline Total Phosphorus Loading (Lbs. TP/Year)	2,298.64	5.00	103.41	126.81
Total Sediment Loading Rate from CAST (Lbs. TS/Acre/Year)	-	-		-
Baseline Total Sediment Loading (Lbs. TS/Year)	2,481,911.48	10.00	154,802.93	205,720.83

Table 6. Pollutant Loads Summary

Existing BMPs

There are currently over 40 private Stormwater Management BMPs within the Borough's municipal boundary. Currently, all of these BMPs, both public and private, are in operational condition and continue to serve the function(s) for which they were designed. Estimated pollutant removal for each BMP was calculated by using the engineered drainage areas defined in the Land Development Plans and inputting the areas into CAST modeling. NPDES Permit information was used where available. Table 7 shows an adjusted pollutant loads summary considering existing BMPs. Table 8 provides a summary of the estimated pollutant removal for each BMP sorted by location. Site-specific information and CAST inputs for each site are provided in APPENDIX XI.

	Totals	Amount Reduced via Existing BMPs	Adjusted Totals	Reduction	Amount Needed To Reduce (Lbs/Year)	Amount Reduced via CBPRP Projects (Lbs/Year)
MS4 Land Area (Acres)	3,040.81	1,035.43	2,005.38	-	-	-
Total Nitrogen Loading Rate from CAST (Lbs. TN/Acre/Year)	-	-	-	-	-	-
Baseline Total Nitrogen Loading (Lbs. TN/Year)	42,469.24	3,791.47	38,677.77	3.00	1,160.33	2,005.34
Total Phosphorus Loading Rate from CAST (Lbs. TP/Acre/Year)	-	-	-	-		-
Baseline Total Phosphorus Loading (Lbs. TP/Year)	2,298.64	230.39	2,068.25	5.00	103.41	126.81
Total Sediment Loading Rate from CAST (Lbs. TS/Acre/Year)	-	-	-	-		-
Baseline Total Sediment Loading (Lbs. TS/Year)	2,481,911.48	933,882.21	1,548,029.27	10.00	154,802.93	205,720.83

Table 7. Adjusted Pollutant Loads Summary

Table 8. Existing Stormwater BMP List with Pollutant Removal Rates

Development Name	Development Address	BMP Type	Drainage Area (Acres)	Total Nitrogen Removal (Lbs. TN//Year)	Total Phospohorus Removal (Lbs. TP/Year)	Total Sediment Removal (Lbs. TS/Year)
Orange st detention	Orange St	Detention Basin	165.03	465.62	26.77	191,864.32
Chesterfield	Sussex Dr.	Detention basin	41.22	116.3	6.69	47,920.63
Courtyards of Carlisle	Courtyard Dr.	Detention Basin	15.13	42.69	2.46	17,587.35
		Swale	4.33	42.77	2.64	6,708.43
Hite Electric Co.	1550 Ritner Hwy.	Detention basin, pump & force main	2.74	7.74	0.45	3,187.04
Orrstown Bank	1 Giant Lane	Detention basin	2.26	6.38	0.37	2,627.20
C.P.A.R.C.	71 Ashland Ave.	Detention basin	2.61	7.37	0.43	3,031.24
Carlisle Police Station	240 Lincoln St.	Detention basin	1.00	2.83	0.17	1,160.37
Home Depot	1013 S. Hanover St.	Lot 37 Basin (Wetland Basin)	9.02	25.46	1.47	10,485.44
		Phillips/Frey Basin (Wetland Basin/Stormceptor)	6.63	4.68	0.54	1,280.63
Lowes	850 E. High St.	Raingardens w/ 2 foot sumps	9.26	6.53	0.75	1,794.61
Rockfield	Wellington Ct.	Swales	1.85	18.28	1.13	2,866.29
		Detention Basin	5.38	15.19	0.88	6,251.87
Carlisle Alliance Church	237 E. North St.	Underground gravel infiltration bed (A/B Soil Underdrain)	2.03	22.91	1.4	3,732.99
Parkview	Parkview Dr.	Detention Basins	3.20	9.04	0.52	3,729.72
		Bioretention/Rain Garden - C/d Underdrain	2.55	8.99	0.93	2,715.34
		Street Tree Planting - 108 Trees	0.36	0.79	0.04	71.33
Bruster's Ice Cream	220 Penrose Place	Detention basin	0.93	2.63	0.15	1,080.57
Meeting House Heights Plan 10 Phase 1	Meeting House Spring Rd.	Detention basin	6.65	18.77	1.08	7,725.71
Seven Gables Apartments	1 Rush Drive	Detention Basin	10.25	41.63	2.4	17,145.36
		underground infiltration basin (Combined w/ detention basin)	4.50	^	^	^
Royer's Flowers and Gifts	100 York Rd.	Detention basin	1.86	5.25	0.31	2,162.40
Sheetz	1900 Ritner Hwy.	Detention Basin	2.44	12.06	0.7	4,962.91
		Underground detention (Combined w/ detention basin)	1.83	^	^	^
		Rain Gardens/ Bio retention (A/B w/ Underdrain)	3.20	31.62	1.95	4,955.63
		Water Quality inserts/inlets	2.22	12.27	1.11	3,366.49
		Street Sweeping	2.28	12.66	1.15	3,476.55
Dickinson College - Rector Science Complex	301 W. Louther St.	Bioswale	5.00	49.38	3.05	7,749.26
Dickinson College - Kline Center Addition	40 Cherry St./575 W High Street	Underground detention basin	4.28	12.09	0.7	4,973.48
Burger King/Sunoco	370 Allen Rd.	Detention basin	2.04	5.76	0.34	2,370.01
Dawn Ridge	Dawn Ridge Loop	Detention basins	7.70	21.74	1.25	8,949.84
Project Share	123 Lincoln St.	underground infiltration beds	0.12	1.02	0.07	169.69
Goodman-N-Logistics Center	100 & 200 Goodman Dr.	Detention basins in Borough	17.29	48.79	2.81	20,097.64
Townhomes Development	650 N. College St.	Infiltration Beds (type A Soil, w/ Underdrain)	7.20	68.07	4.58	11,744.11
Dickinson College - High St.Residence Hall	448/450 W. High St.	(Raingardens) - Permeable Pavement - A/B Soil - Underdrain	1.80	12.71	0.74	2,441.52
		Detention Basin	0.93	2.63	0.15	1,080.57
Giant Foods,LLC.	S Spring Garden St	Detention Pond	14.19	40.05	2.31	16,495.44
Carlisle Borough Street Sweeping	Hanover/High & Downtown Streets	3 days/week 11.4 Miles * 38 ft	52.51	0	0	1,873.30
	All other streets	1/month 57.36 Miles * 36ft	250.30	0	0	890.23
	Parking Lots	1/week	3.17	0	0	57.29
	Liberty Ave	East Pomfret (0.22 acres)				
	67 & 69 W Pomfret	West Pomfret (0.33 acres)				
	E Locust Avenue	East Louther North (0.5 acres)				
	36 & 38 E Louther	East Louther South (0.41 acres)				
	62 W North Street	West Louther North (0.59 acres)				
	32 W Louther	West Louther South (0.57 acres)				
	35 W Pomfret Street	Pomfret St Parking Garage (0.55 acres)				
Valley Meadows Bioswale	Nottingham Village	Bioswale	61.52	607.52	37.42	95,365.34
Exel Lot	DA1	Detention Pond	46.34	130.75	7.52	53,874.92
	DA2	Bioswale	58.78	580.46	35.75	91,116.98
	DA3	Detention Pond	88.06	248.47	14.29	102,379.69
	DA4	Bioswale	103.45	1,021.57	62.92	160,362.48
		Total Removal Through Existing BMPs	1035.43	3,791.47	230.39	933,882.21

Requirement 4: Municipal Infrastructure Upgrades

Borough staff annually prepares a 5-year Capital Improvement Plan (CIP) for all Borough infrastructure and operations. Borough Council takes action annually to adopt the 5-year CIP and the costs for implementation of the CIP is included in the Borough's annual operations budget. Borough staff reviewed the CIP developed for years 2020 through 2025 to identify areas where municipal infrastructure upgrades are planned that would potentially be suitable for incorporation of stormwater Best Management Practices (BMPs) as part of the project. Staff also considered the resultant operations and maintenance responsibilities related to the potential BMPs. Staff quantified the drainage area for each CIP project, the appropriate BMPs suitable for the project based on a desktop analysis of the drainage area, project location, and local environmental conditions, and developed estimated cost for the project. Borough staff then inputted the potential BMP projects into the CAST Modeling Tool[4] and used the CAST BMP effectiveness values to determine anticipated pollutant load reductions for implementation of the BMPs.

The BMPs selected by the Borough for implementation during the next MS4 NPDES Permit cycle are identified in the remainder of this plan. The information provided for each project includes a brief description, a map showing the drainage area boundary for the proposed BMP and the approximate location of the proposed BMP within the Borough, and a table listing the estimated pollutant reduction by implementation of the proposed BMP. All identified potential BMP candidate projects would be maintained by the Borough.

The Borough completed two projects during 2019 that incorporated stormwater BMPs and resulted in a reduction of the overall pollutant loading from the Borough's MS4. The projects were the Carlisle Green Streets Project and the Valley Meadows Reforestation Project. These two projects are described below, and are counted in the proposed overall reduction for the next MS4 NPDES Permit cycle.

Project 1: Carlisle Green Streets Project

The Carlisle Green Streets project was designed to address flooding at the corner of N. Cherry Street and W. Louther Street. The project involves the installation of two curb bump-outs along the north and south sides of W. Louther Street. Each bump-out houses a rain gardens to capture and treat stormwater runoff from the surrounding area before the runoff enters the Borough Stormwater conveyance piping. Each curb bump-out also has a series of flow-through tanks located below the rain garden to retain the water and slowly release it to downstream conveyance pipes. The rain gardens consist of bio-engineered soil, then a mulch-compost mix and a variety of native plantings to absorb stormwater and mitigate erosion from the top layer of soil. The project is located on public streets adjacent to Dickinson College Campus. As such, Dickinson College Grounds Staff have agreed to maintain the BMPs. The BMP will be inspected after every major rain event, cleaned out, and replanted as necessary.

Table 9 presents the estimated annual pollutant load reduction expected from the project, based on the CAST BMP effectiveness values for rain gardens downstream of urban impervious coverage. Copies of the CAST Model BMP Scenario printout documentation sheets for each proposed project is provided in Appendix X.

Carlisle Green Streets	
Drainage Area	11.55 Acres
	Lbs/Year
TN Reduced	114.07
TP Reduced	7.03
TS Reduced	17,901.33

Table 9. Carlisle Green Streets Pollutant Reduction

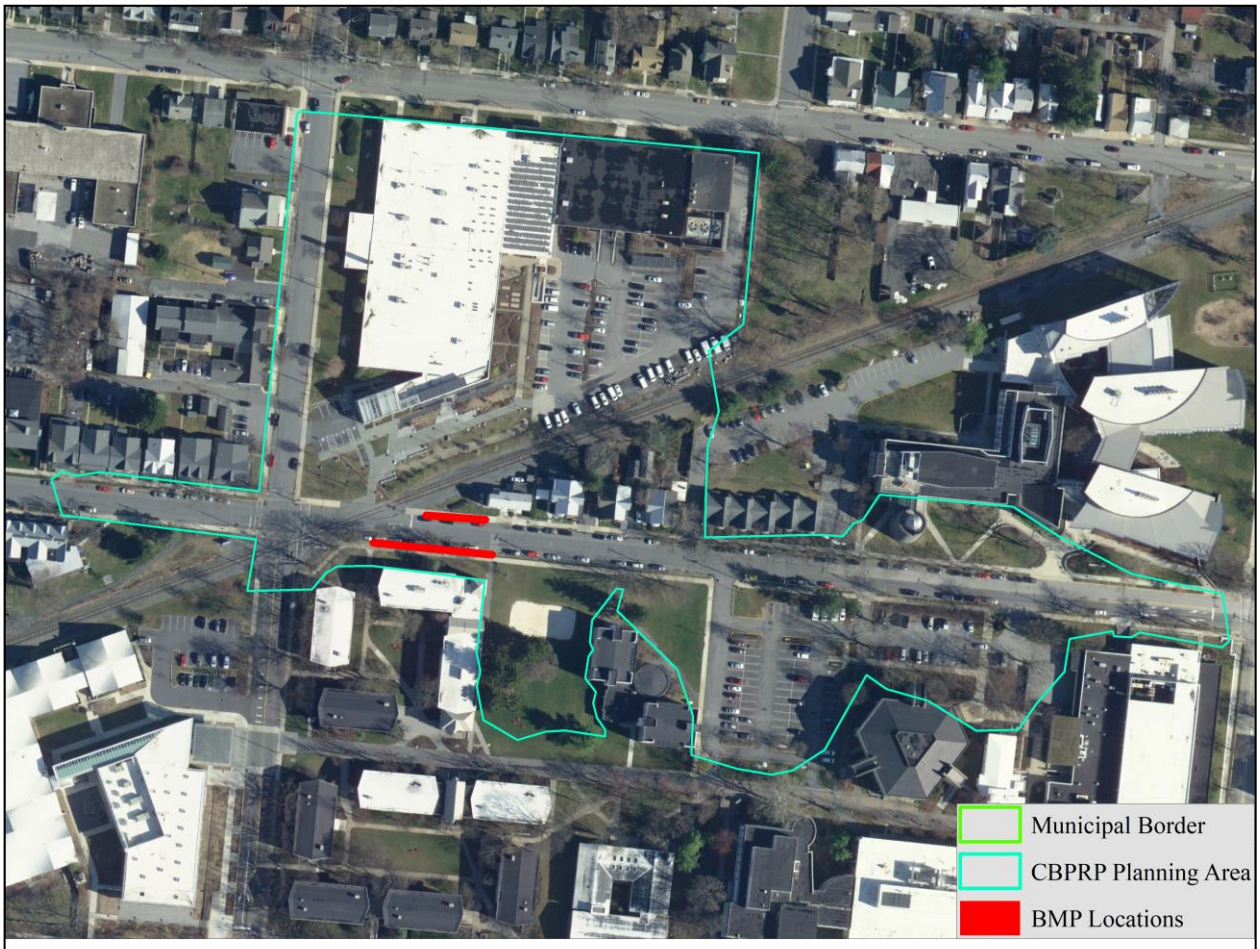


Figure 4. Carlisle Green Streets Drainage Area

Pro□ect 2: Valley Meadows Tree Planting

The Borough's Valley Meadows Park is located south of US Route 11 and north of Interstate 81 in the southwest corner of the Borough. A portion of the park serves as a 200-feet wide vegetative buffer between the warehouse and logistics facilities located in South Middleton Township and the adjacent residential areas of the Borough. The developer for the warehouse complex installed an earthen berm along the perimeter of the industrial/commercial land project and the Borough's adjacent residential land use areas to the north. The Borough has undertaken a tree planting effort to create an urban forest within this buffer area. Stormwater runoff from the warehouse development and portions of the industrial land in the Borough drains into this buffer area and eventually drains into the Borough's MS4. The buffer area treats 27.4 acres within the Borough. However, the CAST Model indicates to assess the drainage area at a rate of 300 trees/acre treated. 1,326 trees were planted, which equates to 4.42 acres treated. This BMP will be replanted as necessary, and inspected at least twice per year to analyze BMP effectiveness. Table 10 provides the estimated pollutant removal from the tree-planting project.

Valley Meadows Tree Planting	
Area Treated	1326 Trees/4.42 Acres
	Lbs/Year
TN Reduced	12.09
TP Reduced	0.81
TS Reduced	270.02

Table 10. Valley Meadows Supplemental Trees Pollutant Reduction

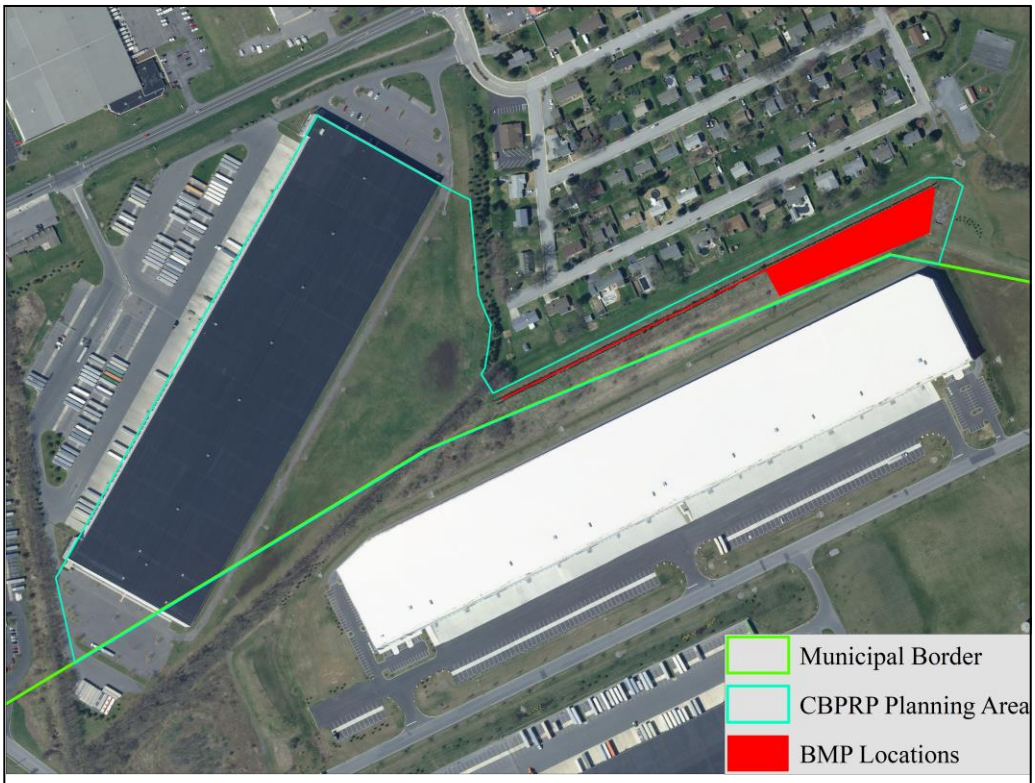


Figure 5. Valley Meadows Drainage Area

Pro□ect 3: TIGER Pro□ect Streetscape Improvements

The TIGER Project Streetscape Improvements is a component of the Carlisle Connectivity Project, a complete street initiative the Borough is undertaking to upgrade the transportation network around three former brownfield sites. The Carlisle Connectivity Project is being undertaken in two components, the TIGER Project and the N. Hanover Street Project. Both projects will upgrade the roadway network with traffic calming, pedestrian/bicycle facilities, intersection improvements, transit facility upgrades, wayfinding, and green infrastructure for stormwater management. The proposed stormwater BMPs include urban tree canopy additions, raingardens, pervious parking approaches, and bioswales to manage stormwater runoff. All of the proposed BMPs will be located within the public right-of-way and will be operated and maintained by Borough staff.

Tiger Streetscape Project	
Drainage Area	53.72 Acres
	Lbs/Year
TN Reduced	64.19
TP Reduced	4.46
TS Reduced	11,399.93

Table 11. Tiger Streetscape Pollutant Reduction



Figure 7. Tiger Streetscape Drainage Area

Pro□ect 4: North Hanover Streetscape Pro□ect

The North Hanover Streetscape project is the second component of the Carlisle Connectivity Project and involves transportation improvements on North Hanover Street, East and West Penn Street, and Fairground Avenue south of the Norfolk Southern Railroad tracks. Proposed stormwater infrastructure improvements include tree plantings, flow-through planters, and infiltration strips. The BMP will be inspected after every major rain event, debris removed and replanted as necessary.

N Hanover Streetscape	
Land Treated	11.01 Acres
	Lbs/Year
TN Reduced	54.38
TP Reduced	3.65
TS Reduced	9,320.74

Table 12. N Hanover Streetscape Pollutant Reduction

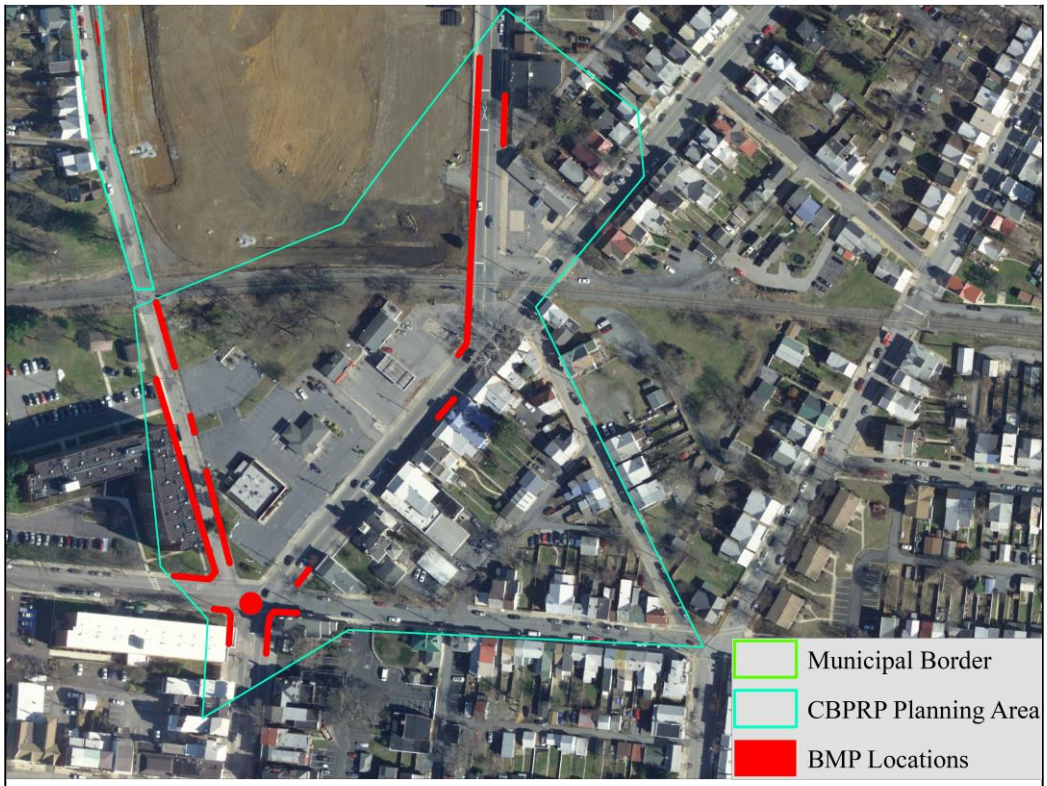


Figure 8. N Hanover Streetscape Drainage Area

Pro□ect 5: Pomfret □ Louther Parking Lot Stormwater Improvements

The Borough owns and operates several paved parking lots in the downtown area. The 5-year CIP includes repaving two of these lots, the W. Pomfret Street lot and the E. Louther Street lot. Both lots are 100% impervious with bituminous paving. The proposed projects will repave most of the lots, but remove the existing paving along the perimeter of the lots and replace the paving with engineered soil and vegetative plantings that function as infiltration strips. The lot will be crowned so runoff is directed to the planting wells. These dividers act as borders around the parking lots as well as dividers for the parking spaces. The BMP will be inspected after every major rain event to assist in the determination of BMP effectiveness; cleaned out and replanted as necessary.

Pomfret Filter Strip Stormwater Treatment	
Land Treated	0.49 Acres
	Lbs/Year
TN Reduced	1.4
TP Reduced	0.22
TS Reduced	526.23

Table 13. Pomfret Lot Pollutant Reduction

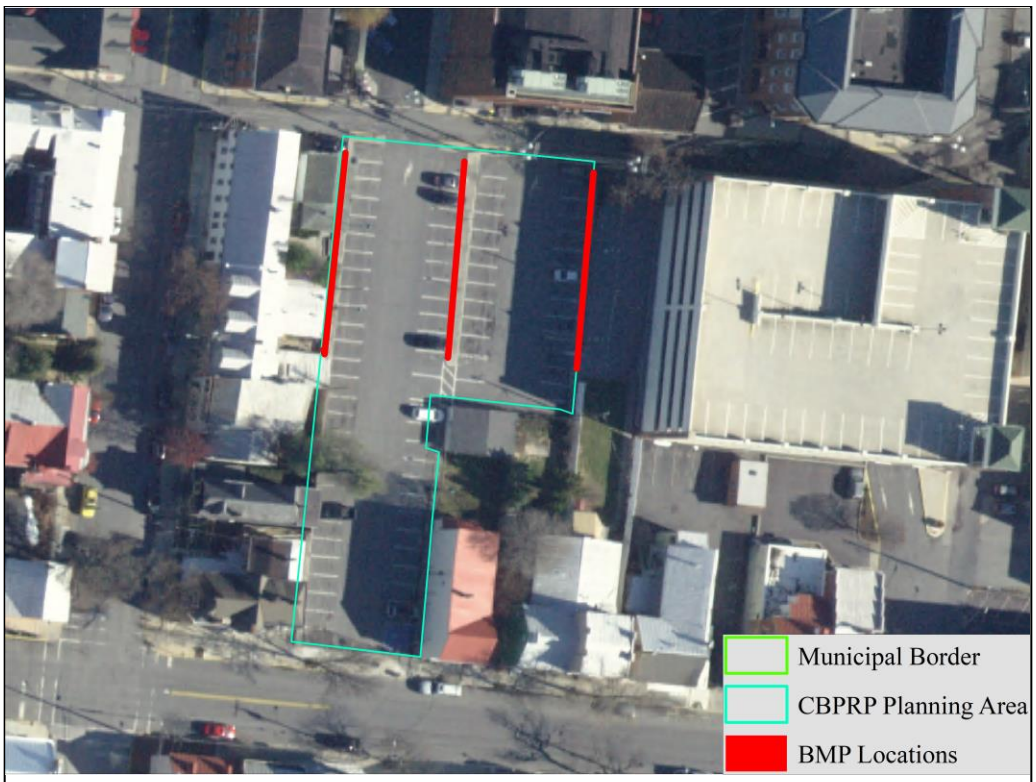


Figure 9. Pomfret Street Parking Lot Drainage Area

Louther Filter Strip Stormwater Treatment	
Land Treated	3.29 Acres
	Lbs/Year
TN Reduced	9.29
TP Reduced	1.45
TS Reduced	3,568.00

Table 14. Louther Street Parking Lot Pollutant Reduction



Figure 10. Louther Street Parking Lot Drainage Area

Pro□ect 6: Forested Buffer – Biddle Mission Park

Letort Spring Run forms the western border of the Borough's Biddle Mission Park in the northeastern section of the Borough. The eastern streambank of Letort Spring Run, north of the PennDOT bridge over the stream, is currently unstabilized and subject to erosion. The Borough has identified a forested buffer in the 5-year CIP. The current proposal is to plant native trees and plants that can retain organic matter on the top layer of soil, while also reaching down to stabilize lower layers of soil. The length of the stream within Borough property at Biddle Mission Park is about 470 Linear Feet with a buffer width of 35 feet. This BMP will be replanted as necessary, and inspected at least twice per year to analyze BMP effectiveness.

Forest Buffer - BiddleMissionPark	
Land Treated	0.38 Acres in Buffer
	Lbs/Year
TN Reduced	5.06
TP Reduced	0.48
TS Reduced	591.80

Table 15. Biddle Mission Park Pollutant Reduction

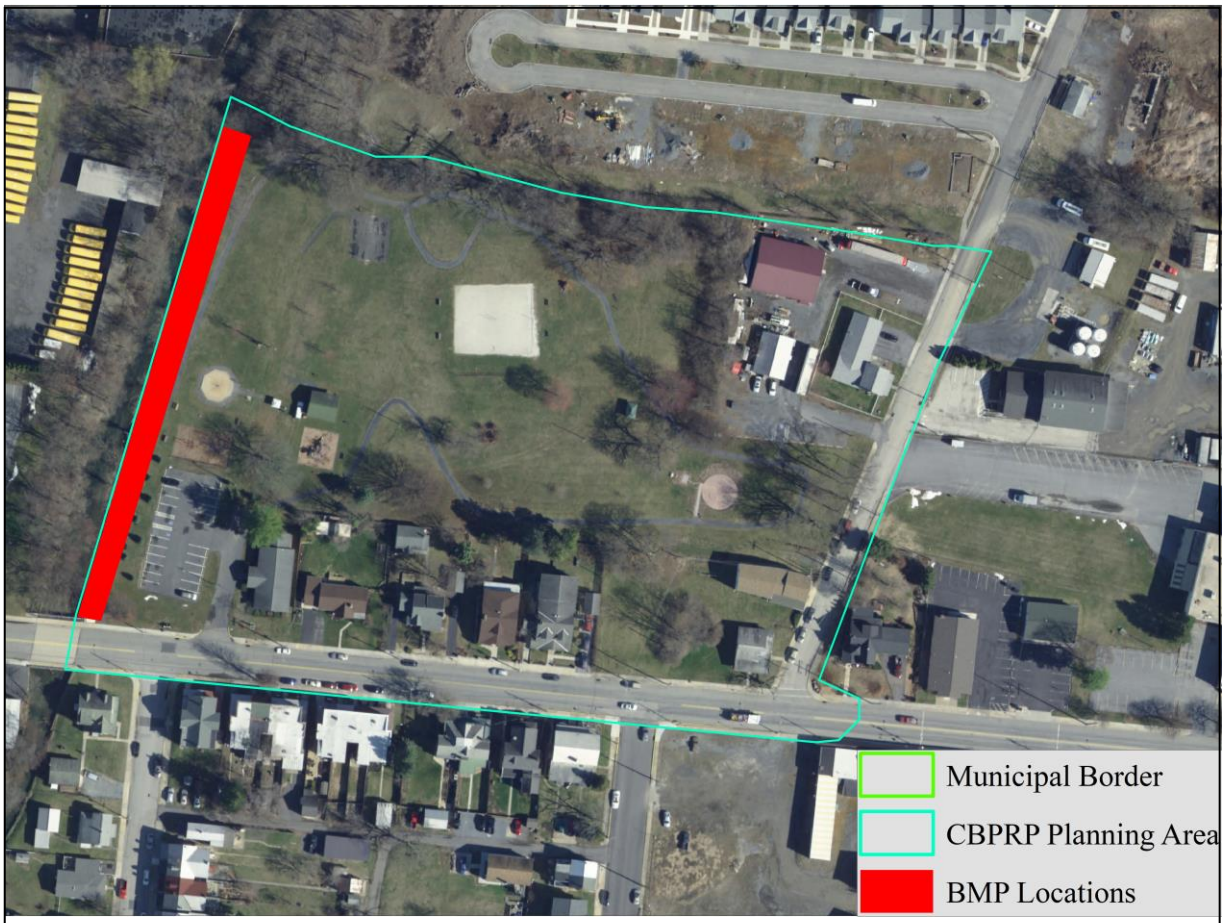


Figure 11. Forested Buffer Drainage Area – Biddle Mission Park

Pro□ect 7: Orange Street Bioswale

The Borough currently owns and maintains a dry detention basin at the intersection of W. South Street and S. Orange Street that serves a residential area to the south of the basin. The Borough plans to convert part of this basin into a bioswale to treat the stormwater that passes through the basin more effectively. The BMP will be inspected after every major rain event to assist in the determination of BMP effectiveness; cleaned out and replanted as necessary.

Orange St Bioswale Conversion	
Drainage Area	165.03 Acres
	Lbs/Year
TN Reduced	1164.05
TP Reduced	73.61
TS Reduced	63,956.91

Table 16. Orange Street Bioswale Conversion Pollutant Reduction

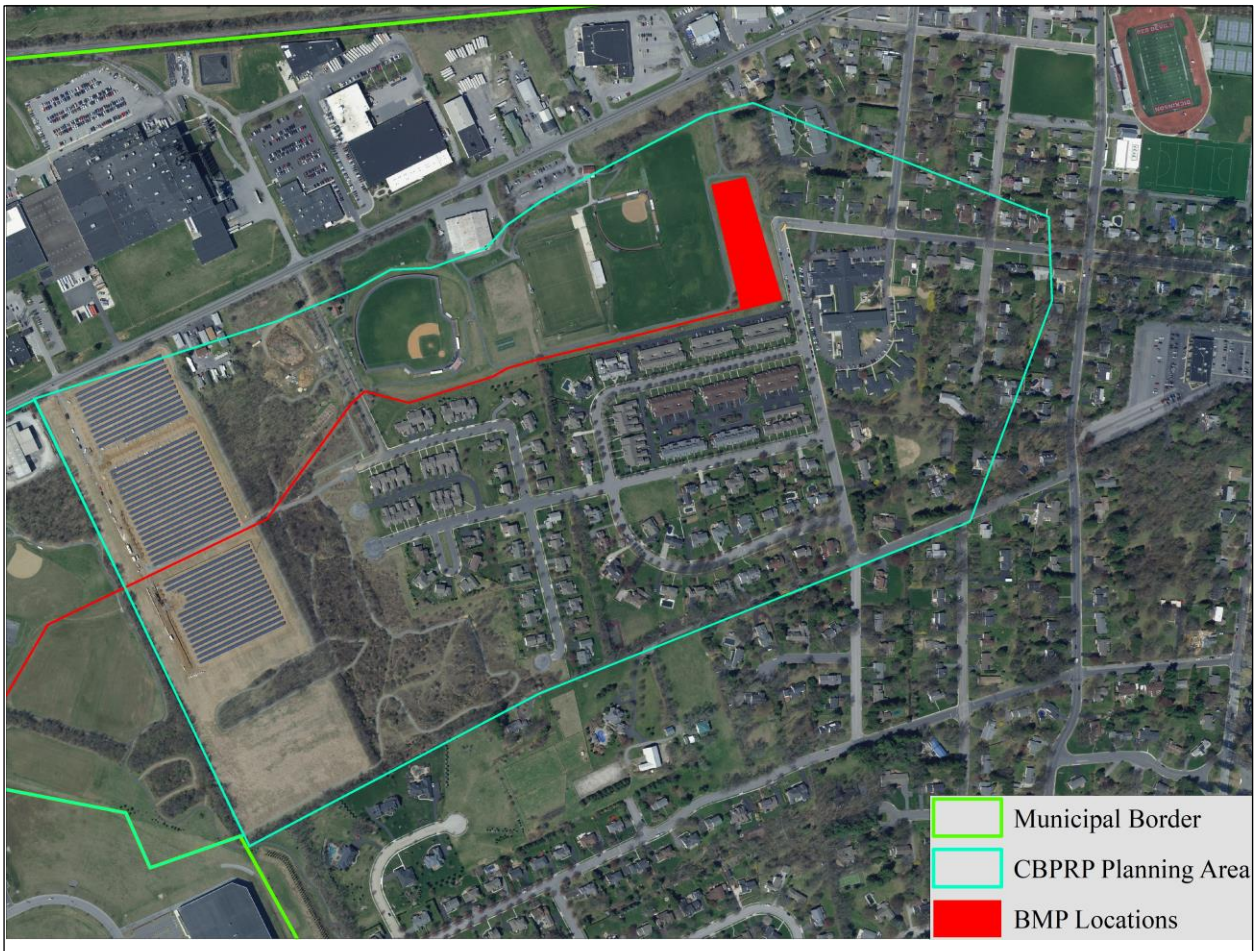


Figure 12. Orange St Bioswale Drainage Area

Pro□ect 9: Thornwald Park

The Borough's Thornwald Park is located east of Walnut Bottom Road and north of US I-81 in the southcentral part of the Borough. The park receives runoff from I-81, the residential development to the south of I-81 and the commercial area between Walnut Bottom Road and the park. Currently, a large drainage channel runs through the middle of the park that receives and conveys runoff from the surrounding areas. The Borough plans to implement multiple BMPs along the drainage channel to treat the runoff before it reaches Walnut Bottom Road tot eh north. The proposed BMPs include raingardens, vegetated channels, and bio-swales to treat the Stormwater runoff from I-81 and nearby residential areas.

Thornwald Vegetated Open Channel/Bioswale/RainGarden	
Drainage Area	61.71 Acres
	Lbs/Year
TN Reduced	580.81
TP Reduced	35.10
TS Reduced	98185.87

Table 17. Thornwald Pollutant Reduction

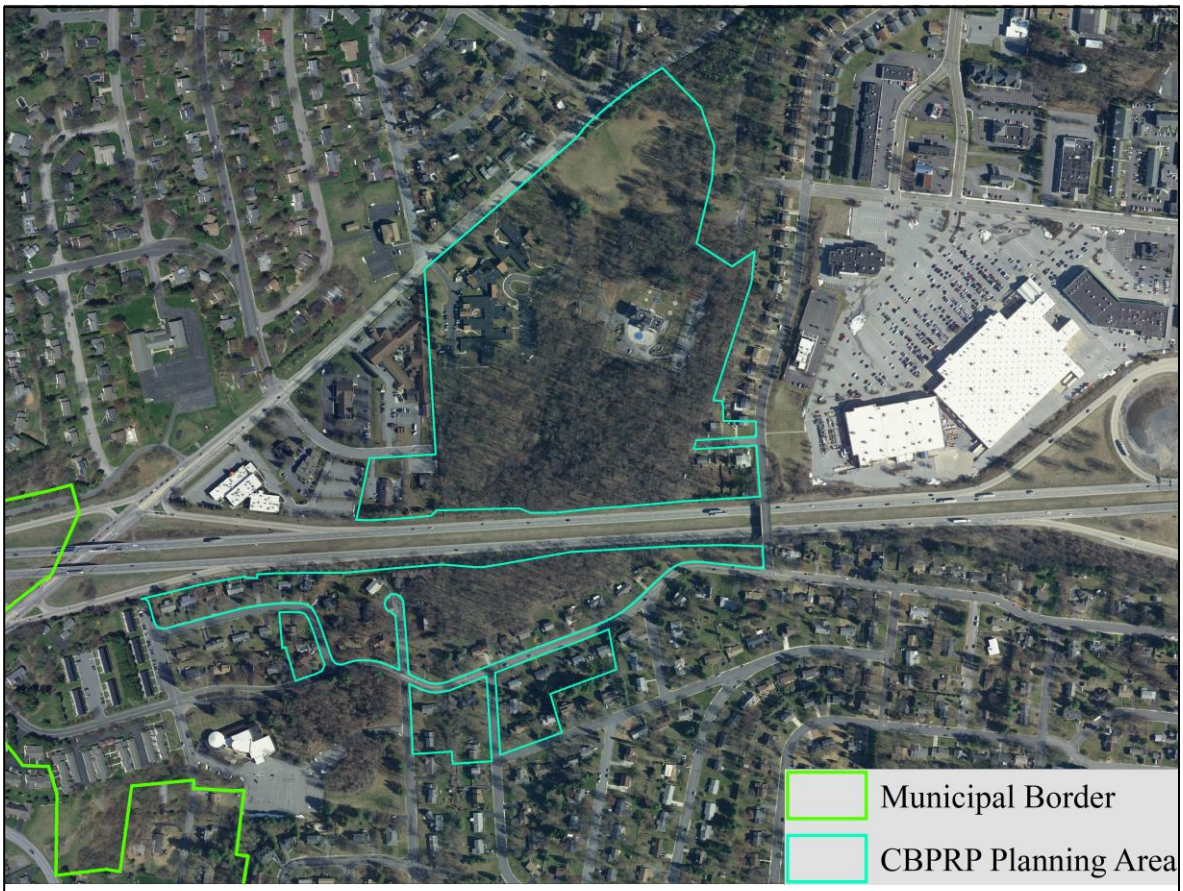


Figure 13. Thornwald Park Drainage Area

Requirement 5: Proposed BMPs

Table 18 summarizes the projects the Borough has completed through 2019 while Table 19 summarizes the projects that the Borough intends to undertake over the next five-year NPDES Permit cycle, the anticipated pollutant reductions from the projects, and compares the total reduction to the reductions required by the Borough's NPDES Permit. Appendix I gives a tentative schedule for completion of each project.

Table 18. Projects Completed Through 2019

CBPRP Project Name	Pollutant Reduction		
	Lbs. TN/Year	Lbs. TP/Year	Lbs. TS/Year
Carlisle Green Streets	114.07	7.03	17,901.33
Valley Meadows Tree Planting	12.09	0.81	270.02
Removal Subtotal	126.16	7.84	18,171.35

Table 19. Proposed Projects 2020-2025

CBPRP Project Name	Pollutant Reduction		
	Lbs. TN/Year	Lbs. TP/Year	Lbs. TS/Year
Tiger Streetscape Project	64.19	4.46	11,399.93
N Hanover Streetscape Project	54.38	3.65	9,320.74
Pomfret Lot Improvements	1.40	0.22	526.23
Louther Lot Improvements	9.29	1.45	3,568.00
Orange St Bioswale Conversion	1,164.05	73.61	63,956.91
Thornwald Park	580.81	35.10	98,185.87
Biddle Mission Park	5.06	0.48	591.80
Total Future Removal	**1,879.18**	**118.97**	**187,549.48**

Table 20. Pollutant Reduction Summary by Project

CBPRP Project Name	Lbs. TN/Year	Lbs. TP/Year	Lbs. TS/Year
Carlisle Green Streets	114.07	7.03	17,901.33
Valley Meadow Tree Planting	12.09	0.81	270.02
Tiger Streetscape Project	64.19	4.46	11,399.93
N Hanover Streetscape Project	54.38	3.65	9,320.74
Pomfret Lot Improvements	1.40	0.22	526.23
Louther Lot Improvements	9.29	1.45	3,568.00
Orange St Bioswale Conversion	1,164.05	73.61	63,956.91
Thornwald Park	580.81	35.10	98,185.87
Biddle Mission Park	5.06	0.48	591.80
Total Future Removal	**2,005.34**	**126.81**	**205,720.83**
Required Removal	**1,160.33**	**103.41**	**154,802.93**

References

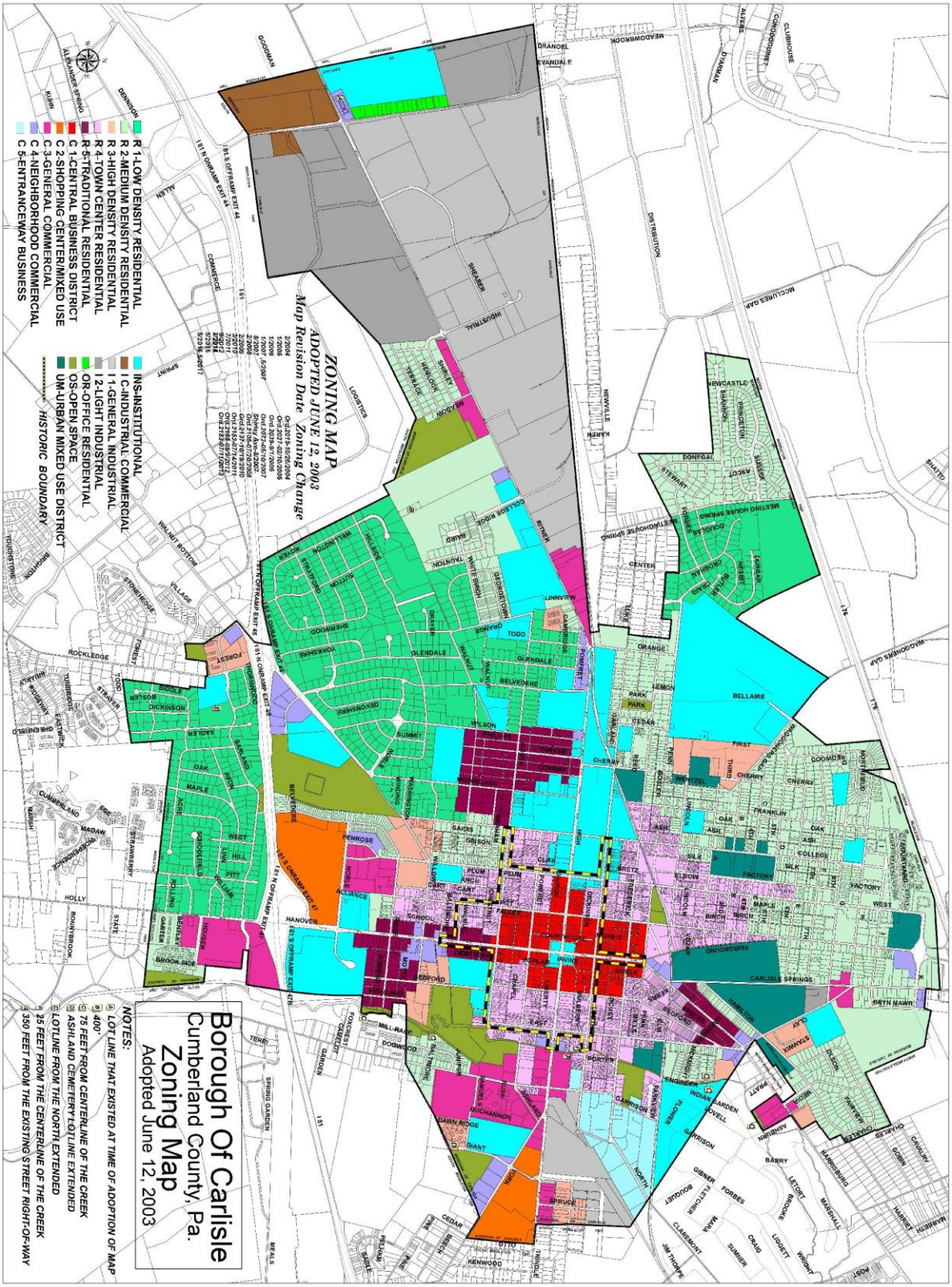
1. PADEP, MS4 Municipal Requirements Table (rev. 3/13/2019)
2. Chesapeake Bay Program, 2017. Chesapeake Assessment and Scenario Tool (CAST) Version 2017d. Chesapeake Bay Program Office, Software Release 6.0.0

APPENDICES

APPENDI□ I: Proposed Stormwater BMP Pro□ect Schedule

CBPRP Project	Receiving Water(s)	Non-Structural BMPs	Structural BMPs	Tentative Project Schedule
Valley Meadows	Conodoguinet Creek	Tree Planting	None	Completed Spring 2019
Carlisle Green Streets	Letort Spring Run	None	Rain Garden	Completed September 2019
Thornwald Park	Letort Spring Run	None	Rain Garden(s), Vegetative Channel(s), Bioswale(s)	Design: Winter 2022 - Spring 2023 Permitting: Summer 2023 Bidding: Fall 2023 Construction: Spring 2024 – Fall 2024
Orange Street Retrofit	Letort Spring Run	None	Rain Garden(s), Vegetative Channel(s), Bioswale(s)	Design: Winter 2021 - Spring 2022 Permitting: Summer 2022 Bidding: Fall 2022 Construction: Spring 2023 – Fall 2023
Tiger Streetscape	Letort Spring Run	Plantings	Rain Gardens, Bioswales	Design: completed Permitting: completed Bidding: Fall 2019 Construction: Winter 2019 – Fall 2021
Louther Lot Stormwater Improvements	Letort Spring Run	None	Infiltration Strips	Design: Spring 2023 Construction: Summer 2023
Pomfret Lot Stormwater Improvements	Letort Spring Run	None	Infiltration Strips	Design: Spring 2020 Construction: Summer 2020
N Hanover Streetscape	Letort Spring Run	Plantings	Rain Gardens, Bioswales	Design: completed Permitting: Fall 2019 Bidding: Winter 2020 Construction: Spring 2020 – Fall 2021
Biddle Mission Park	Letort Spring Run	Protect sensitive features, Protect/enhance riparian buffer	Streambank Restoration	Design: Winter 2022 - Spring 2023 Permitting: Summer 2023 Bidding: Fall 2023 Construction: Spring 2024 – Fall 2024

APPENDI□ II: Current □oning Map



APPENDIX III: PADEP MS4 Requirements Table

MS4 Name	NPDES ID	Individual Permit Required?	Reason	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)	Other Cause(s) of Impairment
Cumberland County						
CAMP HILL BORO	PAG133549	No		Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	
				Susquehanna River	Appendix C-PCB (5)	
				Cedar Run	Appendix B-Pathogens (5)	
				Unnamed Tributaries to Cedar Run		Cause Unknown (5)
				Yellow Breeches Creek	Appendix B-Pathogens (5)	
CARLISLE BORO	PAI133517	Yes	SP, IP	Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	
EAST PENNSBORO TWP	PAG133680	No		Unnamed Tributaries to Conodoguinet Creek		Cause Unknown (5)
				Susquehanna River	Appendix C-PCB (5)	
				Holtz Run	Appendix B-Pathogens (5)	
				Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	
				Unnamed Tributaries to Susquehanna River	Appendix E-Siltation (5)	Other Habitat Alterations (4c)
HAMPDEN TWP	PAI133513	Yes	SP, IP	Pine Run	Appendix B-Pathogens (5)	
				Yellow Breeches Creek	Appendix B-Pathogens (5)	
				Trindle Spring Run	Appendix E-Siltation (4a), Appendix C-PCB, Priority Organics (5)	Cause Unknown (5)
				Cedar Run	Appendix B-Pathogens (5)	
				Sears Run	Appendix E-Siltation (5)	Cause Unknown (5)
				Holtz Run	Appendix B-Pathogens (5)	
				Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	
				Susquehanna River	Appendix C-PCB (5)	
LEMOYNE BORO	PAG133552	No		Susquehanna River	Appendix C-PCB (5)	
				Unnamed Tributaries to Susquehanna River	Appendix E-Siltation (5)	Other Habitat Alterations (4c)
				Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	
LOWER ALLEN TWP	PAG133711	No		Unnamed Tributaries to Cedar Run		Cause Unknown (5), Flow Alterations (4c)
				Yellow Breeches Creek	Appendix B-Pathogens (5)	
				Unnamed Tributaries to Yellow Breeches Creek	Appendix E-Organic Enrichment/Low D.O., Siltation (5)	
				Susquehanna River	Appendix C-PCB (5)	
				Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	
				Cedar Run	Appendix B-Pathogens (5), Appendix E-Nutrients, Siltation (5)	Other Habitat Alterations (4c)

APPENDI□ IV: MS4 Stormwater Outfall Map




CHURCH
LIBERTY
HIGH
YORK
DOMER
CHAPEL
SOUTH
CHESTNUT
CEMETERY
WALNUT
PINE
BALTIMORE
WILLOW
BEDFORD
GOODYEAR
MOTTS
RIDGE
ROBBINS
ALLIANCE
NOBLE
HEATHERFIELD
FOXCREST
CAMELOT
GARDEN
SPRING
ROBIN
SPRING GARDEN
TERRI
GARLAND
WILLIAM
LIMESTONE CREEK
VETERANS ASHLAND
RUSH
BUCHANNON
SAMUELS
GIANT
I 81 S ONRAMP EXIT 47
I 81 S OFFRAMP EXIT 47A
I 81 S OFFRAMP EXIT 47B
I 81 N OFFRAMP EXIT 47
I 81 N ONRAMP EXIT 47
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APPENDI□ V: Stormwater System Map



APPENDI□ VI: Public Participation Notice

NOTICE IS HEREBY GIVEN that the Borough of Carlisle's draft Chesapeake Bay Pollutant Reduction Plan is available for public viewing at the Borough Office at 53 W. South Street, Carlisle, PA, 17013 and on the Borough's website at www.carlislepa.org. The draft Plan provides a list of proposed projects to be undertaken by the Borough over the next five years to reduce the amount of nutrients present in stormwater discharges from the Borough's separate storm sewer system. Written comments from the public on the draft plan will be accepted by the Borough up to 30 days after the date of this notice. Comments should be submitted to Carlisle Borough Water Resources Department, 53 W. South Street, Carlisle, PA 17103. The public may also provide comments on the draft plan at the Borough Council's regularly scheduled monthly workshop meeting to be held starting at 6 pm, November 6, 2019 at Borough Hall.

APPENDI□ VI: Public Participation Proof of Publication

PROOF OF PUBLICATION

State of Pennsylvania, County of Cumberland

Kimberly Kamowski, Publisher, of The Sentinel, of the County and State aforesaid, being duly sworn, deposes and says that THE SENTINEL, a newspaper of general circulation in the Borough of Carlisle, County and State aforesaid, was established December 13th, 1881, since which date THE SENTINEL has been regularly issued in said County, and that the printed notice or publication attached hereto is exactly the same as was printed and published in the regular editions and issues of THE SENTINEL on the following day(s):

October 31, 2019

COPY OF NOTICE OF PUBLICATION

NOTICE

NOTICE IS HEREBY GIVEN that the Borough of Carlisle's draft Chesapeake Bay Pollutant Reduction Plan is available for public viewing at the Borough Office at 53 W. South Street, Carlisle, PA, 17013 and on the Borough's website at www.carlislepa.org. The draft Plan provides a list of proposed projects to be undertaken by the Borough over the next five years to reduce the amount of nutrients present in stormwater discharges from the Borough's separate storm sewer system. Written comments from the public on the draft plan will be accepted by the Borough up to 30 days after the date of this notice. Comments should be submitted to Carlisle Borough Water Resources Department, 53 W. South Street, Carlisle, PA 17103. The public may also provide comments on the draft plan at the Borough Council's regularly scheduled monthly workshop meeting to be held starting at 6 pm, November 6, 2019 at Borough Hall.

Affiant further deposes that he/she is not interested in the subject matter of the aforesaid notice or advertisement, and that all allegations in the foregoing statement as to time, place and character of publication are true.

Sworn to and subscribed before me this

31st day of October 2019.

Bethany M. Holtry
Notary Public

My commission expires:

Commonwealth of Pennsylvania - Notary Seal
Bethany M. Holtry, Notary Public
Cumberland County
My commission expires September 26, 2023
Commission number 1264748
Member, Pennsylvania Association of Notaries

APPENDI□ VI: Public Participation Press Release

For additional Information contact:
Jacob Shaffer, MS4 Coordinator
Mark Malarich, Water Resources Director
717-240-6918 or 717-240-6932

For Release:
November 26, 2019

BOROUGH OF CARLISLE PRESS RELEASE

Carlisle Borough Stormwater Pollution Reduction Plan Available for Comment

Public Comment on the Plan Will be Accepted Through December 6, 2019

The Borough of Carlisle has developed a plan to meet the nitrogen, phosphorus, and sediment reduction requirements of its National Pollutant Discharge Elimination (NPDES) Permit for its Municipal Separate Storm Sewer Systems (MS4) that are mandated by Pennsylvania Department of Environmental Protection (DEP).

As a condition of the Permit, the Borough is required to review public comments on the draft plan before its submission to DEP. The 30-day public comment period began with the presentation of the draft Plan by Borough staff at the November 6, 2019 Borough Council Workshop meeting and extends until December 6, 2019.

The draft Plan identifies several Best Management Practices (BMPs) to be implemented over the next five years to meet the pollution reduction requirements placed on the Borough for stormwater discharges to waters tributary to the Chesapeake Bay. The public is invited to review the draft Plan, which is available on the Borough's website at: https://www.carlislepa.org/wp-content/uploads/2019/11/CBPRP-2019-Web.pdf.

A hard copy of the Plan is also available for review at Borough Hall, 53 West South Street.

APPENDI□ VI: Public Participation Facebook Post



APPENDIX VI: Borough of Carlisle Workshop Meeting Minutes 11/06/2019

Borough of Carlisle
Workshop Meeting Agenda
November 6, 2019
6:00 PM

Present at the meeting: Councilors Flower-Webb, Fulham-Winston, Guido, Landis, Deputy Mayor Shultz and Mayor Scott. Also present were: Borough Manger Armstrong, Water Resources Director Malarich, Community Development Manager Skelly, Finance Director Juday, Parks & Recreation Director Crouse, Public Information Coordinator Taylor, Dickinson Student Ambassador Smith, Dickinson Law Student Ambassador Speer and Borough Secretary Stone.

**Scribe note: Councilor Crampsie was not present at the meeting.*

I. Call to Order & Pledge of Allegiance

Mayor Scott called the Workshop Meeting to order at 6:00 p.m.

I. Public Comment:

Mr. Chris Wyman, Ridge Street, entered into the record an article he authored entitled "Smoke Detectors and Carbon Monoxide Alarms (Part 1). The article is attached to these minutes.

II. Meeting Minutes:

A. Borough Council approved the October 2, 2019 Workshop Meeting Minutes.

III. Economic Development

A. Rebecca Yearick, Downtown Program Services provided a briefing to Council on Carlisle Borough Shopsteading Loan consideration for "Nothing Sweeter Bakery". Owner, Annette Lane is requesting $15,000 in CDBG fund available in 2019. See attached briefing information.

IV. Budget & Finance Committee:

A. Purchase of GEM E2:

Borough Council voted 6-0 to approve the purchase of a GEM E2 from Best Line Equipment of Shippensburg, Pennsylvania at a cost not to exceed $18,700 (eighteen thousand seven hundred dollars). (Shultz/Flower-Webb)

V. Community Planning/Smart Growth Committee:

A. Rental Ordinance

Borough Manager Armstrong remarked that the process of creating a rental ordinance has been one of Councils goals since 2018. She noted staff has met with numerous community individuals to discuss the draft rental ordinance. The ordinance recently provided to Council was a good working draft ordinance and staff is comfortable with the content.

Workshop Meeting November 6, 2019

Community Development Manager Skelly provided an overview of the updates to the current prepared draft ordinance:
He stated the following updates were incorporated into the document.

- The definitions in the ordinance were reviewed Borough Solicitor
- Clarity of registration process and inspection cycle
- A default of three-year inspection cycle, if no issues are found on the property, it will be placed on a five-year inspection cycle.
- In the event problems are found, the property will then be placed on a two-year inspection cycle.
- Clarity on the criteria used for the inspections.

Borough Manager Armstrong stated the following language was also added to the ordinance.

- Registration is free
- Dictates who is required to register
- Exempt from registration and inspections: such as; hotel, motel, hospital, nursing homes, personal care and licensed group homes and on campus student housing.
- Reason for exemptions are that those entities presently fall under state or federal oversight.
- Option for a certified third party Code inspections. An inspection fee would not then be paid to the Borough.

She noted that once the ordinance is enacted, the implementation date would not be until April or June of 2020 in order for staff to be prepared for the process. A FAQ document will be created for those with questions regarding the rental ordinance. Council was asked to review the ordinance and provide feedback to staff.

Deputy Mayor Shultz recommended providing a list of endorsed inspectors for landlords to be able to choose from when their property is due for inspection.

Mr. Wyman spoke of his concern regarding a national problem with rental inspection codes at the municipal level that could conflict with state levels inspections, such as the incident described in the attached article.

Mr. David Lanza, member of CARPOA, 2132 Market Street, Camp Hill, Pennsylvania, inquired about the language in §193-17 (B)(3) of the rental ordinance that exempts a residential building where the current property owner resides within the building or within the Borough and can demonstrate that no more than four property maintenance violation for the building have occurred in the 24 months prior to license application or renewal. He inquired as to when that two-year period would begin. Mr. Skelly noted the time period would begin as of the date of registration. Mr. Lanza asked that this language be incorporated into the document. Discussion ensued between Mr. Lanza, Council and staff regarding aspects in the ordinance such as fees and listed exemptions. He stated if the building is without violations for the given time period, it should not matter where the owner lives. Mr. Lanza would like to see the exemptions strengthened and defined as long as the goal to maintain the housing can still be met.

A citizen recommended considering inspection exemptions for property owners that run a business and have rentals in the same building. He commented that this would encourage investors to operate businesses in Carlisle.

Workshop Meeting November 6, 2019

Mr. Wyman noted he is opposed to the requirement in §193-20 for residents to have the lease agreement visible in the dwelling. He noted the tenant would not be compliant, which will result in the landlord receiving a fine. He also asked if there would be flexibility for deferment of required repairs that are not possible due to inclement weather. Councilor Guido responded that those determinations would be at the discretion of the staff in those types of cases. Mr. Wyman noted that there are other municipalities with deferment language in their ordinance.

Mr. Fleck made several inquiries regarding the draft ordinance:

- How often does an apartment need to be licensed?
  - Mr. Skelly replied the license would coincide with inspection cycle for that unit.
- Requested definition of transient visitors
  - Mr. Skelly explained there is not a legal definition; if necessary that would be determined by the Council for Solicitor.
- Questioned who is the Board of Appeals?
  - Mr. Skelly explained this a group of appointed persons that is responsible for hearing complaints regarding Zoning Hearing Board decisions and inspection appeals.
- Have there been fee changes?
  - Mr. Skelly noted fees would be set appropriately to cover the cost of the program.
  - Borough Manager Armstrong noted the time frame to complete an inspection is still being determined. Once that process is complete, the fees can be established.

Mayor Scott recessed the meeting at 7:12 p.m. and reconvened at 7:19 p.m.

VI. Public Safety Committee:

A. Traffic Calming Draft Policy:

Mayor Scott provided the following overview of the purpose of this policy, which would be brought to council at the December workshop meeting.

The policy will provide a uniform policy that will include procedures and criteria for initiation of traffic studies by Borough staff for the approval and installation of speed humps and other traffic calming measures on public streets within the Borough of Carlisle.

OBJECTIVES OF TRAFFIC CALMING:

- Reduce motorists' speed.
- Increase driver attentiveness in residential areas.
- Induce drivers to stay on the collector system and not cut through residential streets.
- Increase pedestrian safety.
- Return the residential streets to the residences for multi-modal use, (bikes, pedestrians, vehicles).
- Maintain and enhance neighborhood livability.

Council Guido thanked staff for bringing this initiative forward to develop a consistent process to review these requests. She asked to be inclusive of the neighbors in the general area before making a decision on any request.

Workshop Meeting November 6, 2019

B. West Chapel Avenue Traffic Calming Request:

Mayor Scott noted staff is not making a recommendation to change the speed limit on Chapel Avenue but will instead be installing a traffic-calming device.

Water Resources Director Malarich recommended that temporary speed humps be placed on West Chapel Avenue during the spring, summer and fall seasons. He noted the speed humps would be put in place in the spring of 2020.

VII. Public Works Committee:

A. Sale of Water Quality Nutrient Credits:

Borough Council voted 6-0 to approve entering into an agreement for the sale of water quality nutrient credits to the City of Lancaster for Water Year 2019 for Fifty Thousand Three Hundred Ninety-Six Dollars ($50,396.00). (Fulham-Winston/Landis)

B. 2019 Wastewater Treatment Plant Wet Well Cleaning:

Borough Council voted 6-0 to accept the proposal from Kline's Services to perform the annual cleaning of the wet well at the Carlisle Wastewater Treatment Plant for a not to exceed cost of $14,150 (5 days at $2,830/day). (Fulham-Winston/Landis)

C. Orange and High Street Traffic Sign Time Extension Change Order

Borough Council voted 6-0 to approve Change Order No.1 to increase the contract time for completion of the Orange and High Street Traffic Signal Upgrade Project by 205 days to May 1, 2020, with no increase in the contract amount. (Fulham-Winston/Landis)

D. Penn Street Tank Painting Contract Time Extension Change Order:

Borough Council voted 6-0 to approve Change Order No.1 to increase the contract time for completion of the Penn Street Water Tank Repainting Project by 177 days to May 31, 2020, with no increase in the contract amount. (Fulham-Winston/Landis)

E. Purchase of Manhole Adjustment Equipment:

Borough Council voted 6-0 to approve the purchase of the gold series manhole repair equipment package from Critex, LLC. of Delphos, Ohio for $26,959.75 (twenty-six thousand nine hundred fifty-nine dollars and seventy-five cents). (Fulham-Winston/Landis)

Council viewed a video presentation on the operation of the manhole repair equipment. Mr. Malarich stated with the use of this machine, the repair process would take a few hours, opposed to days the process would take to repair it manually.

F. Chesapeake Bay Pollutant Reduction Plan:

Mr. Malarich provided an update on the existing conditions that impact stormwater runoff in the Borough and the proposed improvement plans in the Borough to further reduce sediment runoff into the Chesapeake Bay. The PowerPoint presentation is attached to these minutes.

Workshop Meeting November 6, 2019

Councilor Landis remarked to also consider strategies to decrease mandated parking requirements, which would decrease impervious coverage.

Borough Manager Armstrong noted there would be discussion during the budget hearing regarding street trees and the problems they could have on sidewalks.

Councilor Guido suggested educating the residents with the recommended species of trees to plant that would not have an adverse effect the sidewalks.

A resident on Arch and Willow Streets express concern as to where and what type of tree to plant on his property. Parks & Recreation Director Crouse recommended for the resident to visit the Borough website and submit an application and she would work with him on the planting. The resident also suggested a bump out on Willow Street to reduce speed.

ADJOURNMENT

There being no further business or public comment, the meeting adjourned at 7:50 p.m.

_____
Timothy A. Scott
Mayor

_____
Joyce E. Stone
Borough Secretary

APPENDI□ VI: CBPRP Workshop Presentation Slides

Borough of Carlisle
Existing Conditions Impacting Stormwater

- Total Borough Area: 5.6 square miles
- Impervious Area: 44%
- Pervious Area: 56%
- Tree Canopy Area: 6.85% Total
- Tree Canopy over Impervious Areas: 21.94%
- Waterbody Classifications: Exceptional Value & High Quality

Municipal Separate Storm Sewer System (MS4) Requirements

- Permit Expires 4/30/20
- Permit Renewal Application due 11/19
- Chesapeake Bay Pollutant Reduction Plan Due 11/19
- Reduction Requirements:
  - Sediment: 10%
  - Phosphorus: 5%
  - Nitrogen: 3%

Chesapeake Bay Pollutant Reduction Plan

Parameter	Current Estimated Loading (pounds per year)	Required Reductions (pounds per year)
Sediment	3,007,324	300,732
Total Phosphorus	2,605	130
Total Nitrogen	49,116	1,473

Proposed Projects & Estimated Removals (ppy)

Project	TN	TP	TS	% of TS
TIGER Streetscape Improvements	504	31	79,080	24.4%
N. Hanover Streetscape Improvements	64	4	10,005	3.1%
W. Pomfret Lot Improvements	0	0	125	0.1%
E. Louther Lot Improvements	0	0	1,371	0.4%
Orange Street Basin Improvements	1,023	65	56,195	17.3%
Thornwald Park Improvements	378	23	58,919	18.2%
Biddle Mission Park Streambank Stabilization	36	32	117,803	36.4%
Total	2,005	155	323,500	100.0%

APPENDI□ VII: Public Comments

Comment: Quite a few warehouses on these maps have the potential to offset some of our drainage issues in the Borough by utilizing Green Roof infrastructure. Any new buildings above a set Square FT should be required to build to a standard that can withstand greenroofs/solar. This is wasted space with huge public benefit potential.

– Jeff Adams 12/02/2019 via Borough of Carlisle Facebook Page

Response: There is currently no vacant land located within the Industrial Zoning District available for development in the Borough at this time. The Borough has established a Stormwater Utility Fee based on impervious coverage that provides some financial incentive to future developers to consider green roof infrastructure.

Comment: The following notes would be some of my recommendations for what the residents and borough can do to lesson the impact of pollution and impact on our environment.

1. Borough can increase the budget for more street trees. This helps reduce pollution, trees absorb more stormwater and are ecstatically pleasing.
2. County Conservation Department can have workshops or classes that teach the importance of native vs non-native plants. Native plants have a stronger root system and help absorb more stormwater, require less watering, etc. Work with local greenhouses on this concept.
3. Work with the Carlisle Garden Club to promote yards that have conservation ideas worked into their landscape. The Garden of the Month during the summer would be an ideal opportunity for this.
4. Set up a kiosk at the downtown farmers market or local festivals to promote and educate the public.
5. Educate the public on the effects of fertilizers.
6. Work with Dickinson College ALLARM on monitoring of storm drains. Just a thought, is there a screen that can filter trash, etc. that can be installed on storm drains□
7. Continue to work concepts into Zoning that require developers to plan responsibly. (I have full confidence Kirk Stoner on top of, but had to throw that in)
8. An individual can become an informed voter and support those who are concerned about our environment.
9. much more.....

Just a few notes from a concerned citizen.

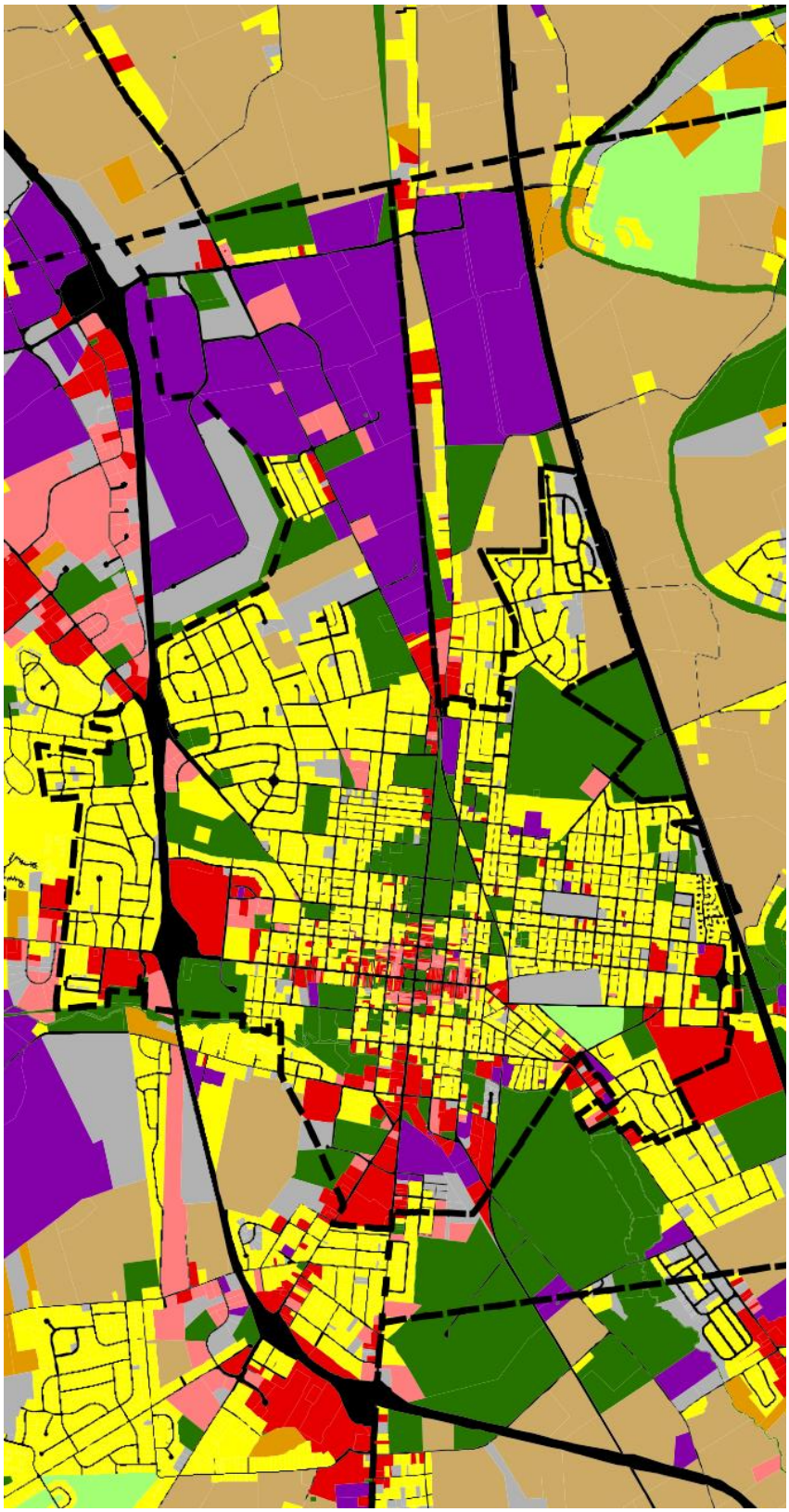
– Pamela Still 12/03/2019 via Email

Response: These comments do not directly address the project proposed in the Chesapeake Bay Pollutant Reduction Plan. However, the Borough will take these comments into consideration when considering future MS4 public outreach and education incentives.

No revisions are needed to the CBPRP after the receipt of public comments.

APPENDI□ VIII: Carlisle Borough Land □se Map

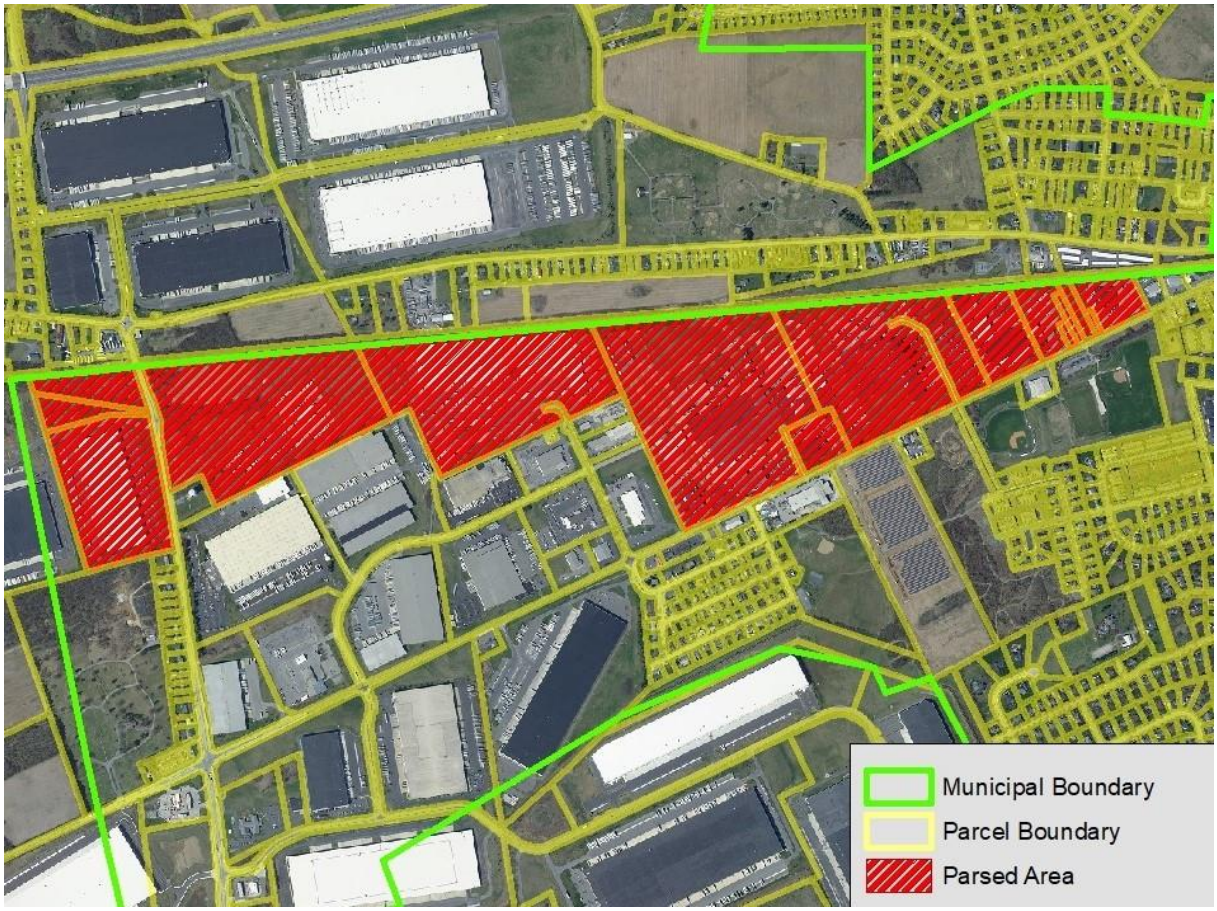
CARLISLE BORO□GH LAND □SE MAP (FROM C□MBERLAND CO□NTY COMPREHENSIVE PLAN)



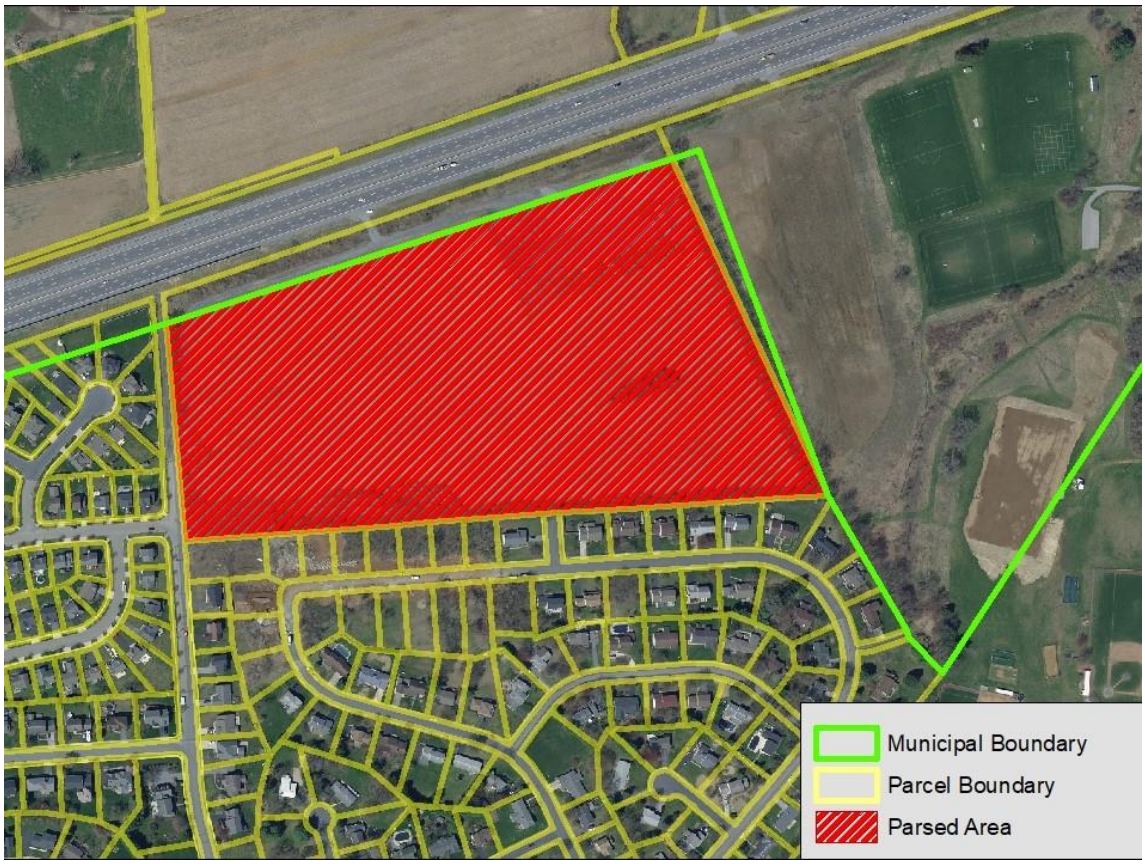
LEGEND:

1. Industrial
2. Commercial Retail
3. Commercial Service
4. Commercial Open Space
5. Agriculture
6. Large Lot Residential
7. Residential
8. Public
9. Vacant
10. Transportation

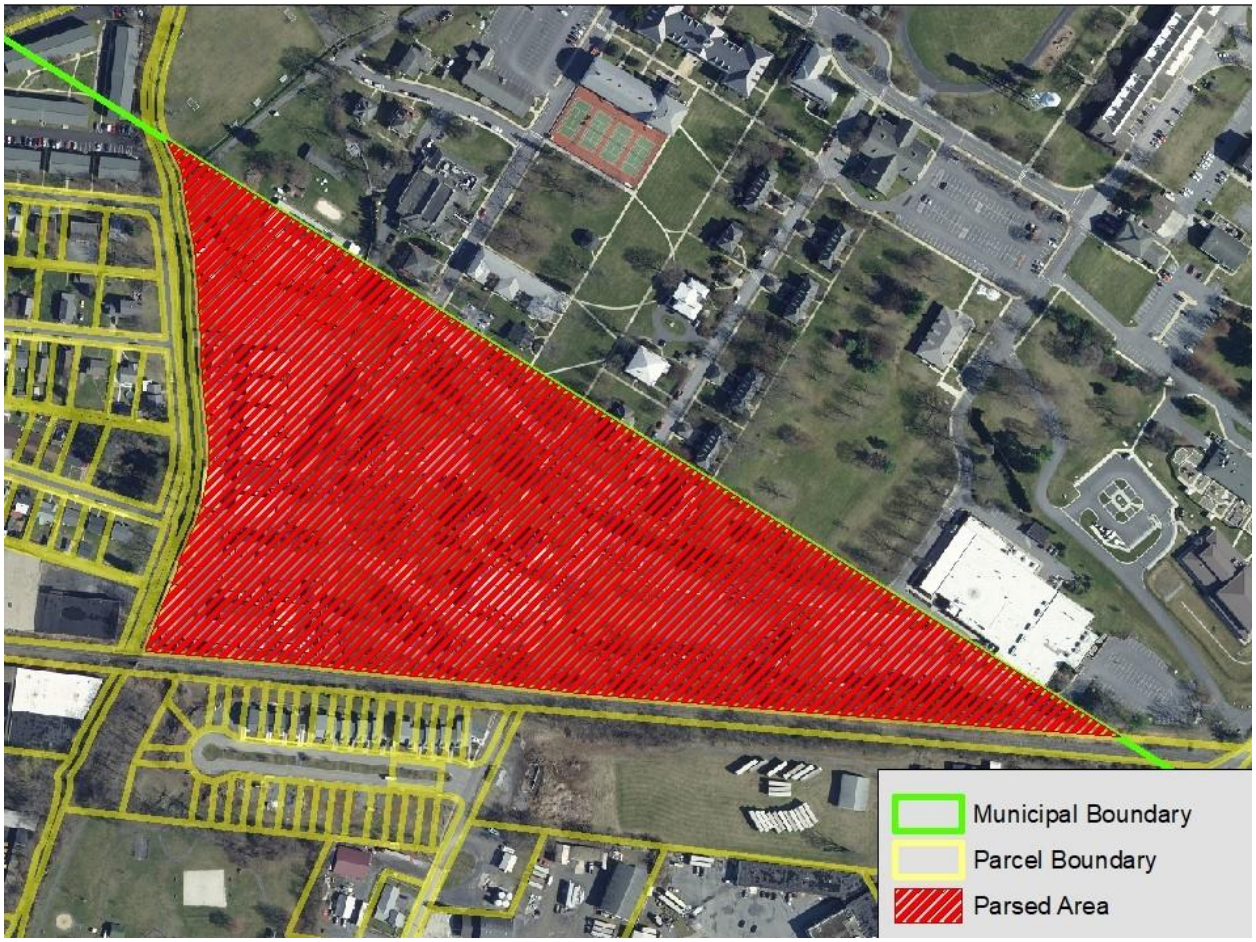
APPENDI□ I□: Parsed Areas of Carlisle



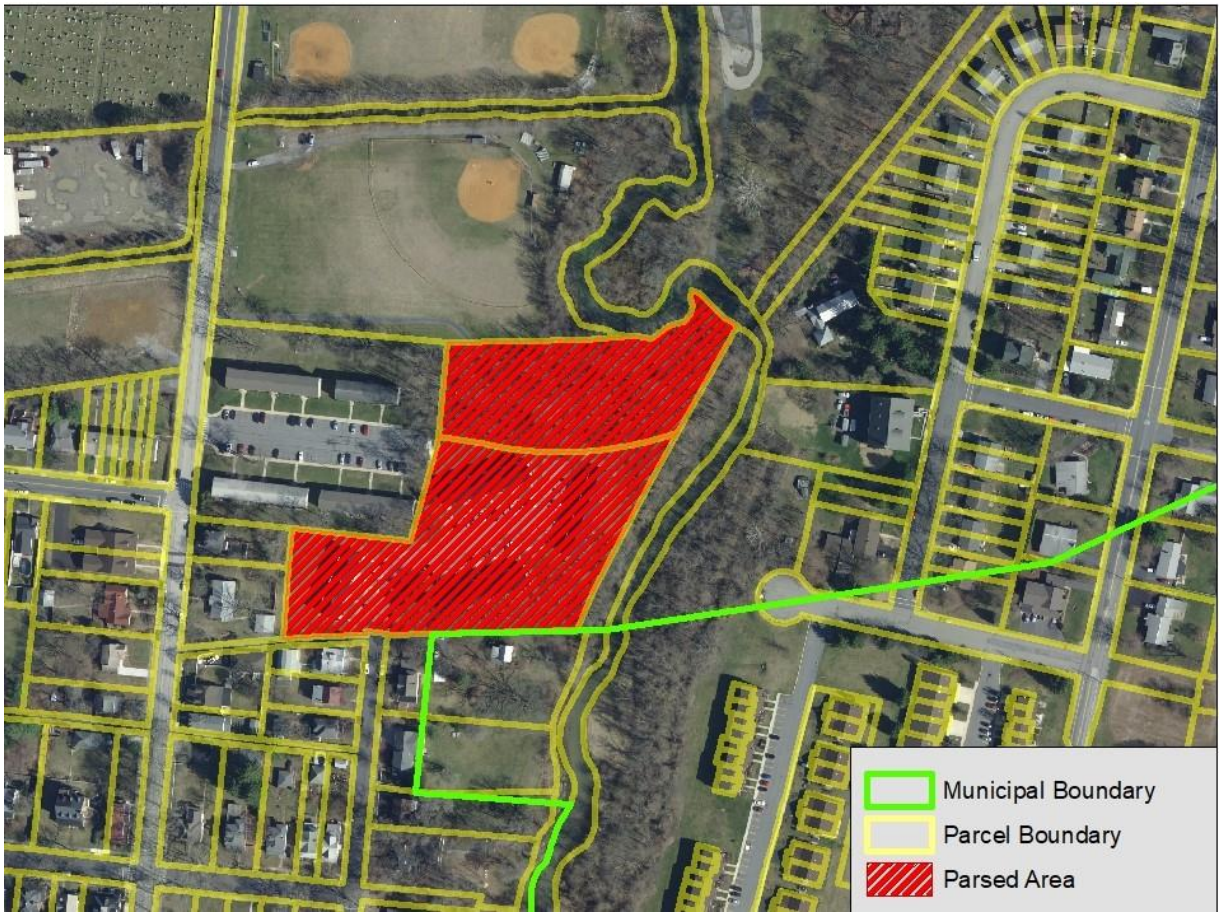
Parsed Parcels						
	Parcel Acreage	Parcel Sq. Ft	Impervious Sq Ft	Impervious Acres	Pervious Sq Ft	Pervious Acres
1225 Ritner Highway	4.85	211,359.00	146,521.00	3.36	64,838.00	1.49
1227 Ritner Highway	0.30	13,065.00	8,469.00	0.19	4,596.00	0.11
1229 Ritner Highway	1.31	57,126.00	-	-	57,126.00	1.31
1231 Ritner Highway	0.75	32,772.00	18,665.00	0.43	14,107.00	0.32
1233 Ritner Highway	0.43	18,914.00	17,719.00	0.41	1,195.00	0.03
1235 Ritner Highway	4.79	208,562.00	89,165.00	2.05	119,397.00	2.74
1275 Ritner Highway	9.33	406,525.00	297,699.00	6.83	108,826.00	2.50
1285 Ritner Highway	36.37	1,584,256.00	872,085.00	20.02	712,171.00	16.35
1415 Ritner Highway	4.30	187,244.00	104,854.00	2.41	82,390.00	1.89
1497 Ritner Highway	54.64	2,380,113.00	1,021,675.00	23.45	1,358,438.00	31.19
1615 Ritner Highway	1.95	84,830.00	47,948.00	1.10	36,882.00	0.85
1621 Industrial Drive	41.17	1,793,329.00	1,222,768.00	28.07	570,561.00	13.10
1621 RR Industrial Drive	43.90	1,912,115.00	297,493.00	6.83	1,614,622.00	37.07
1625 Ritner Highway	3.04	132,317.00	48,392.00	1.11	83,925.00	1.93
219 Allen Road	24.57	1,070,212.00	718,475.00	16.49	351,737.00	8.07
Allen Road	3.43	149,370.00	-	-	149,370.00	3.43
207 Allen Road	5.68	247,265.00	-	-	247,265.00	5.68



Parsed Parcels						
	Parcel Acreage	Parcel Sq. Ft	Impervious Sq Ft	Impervious Acres	Pervious Sq Ft	Pervious Acres
Meeting House Spring Road	29.85	1,300,448.00	1,201.00	0.03	1,299,247.00	29.83



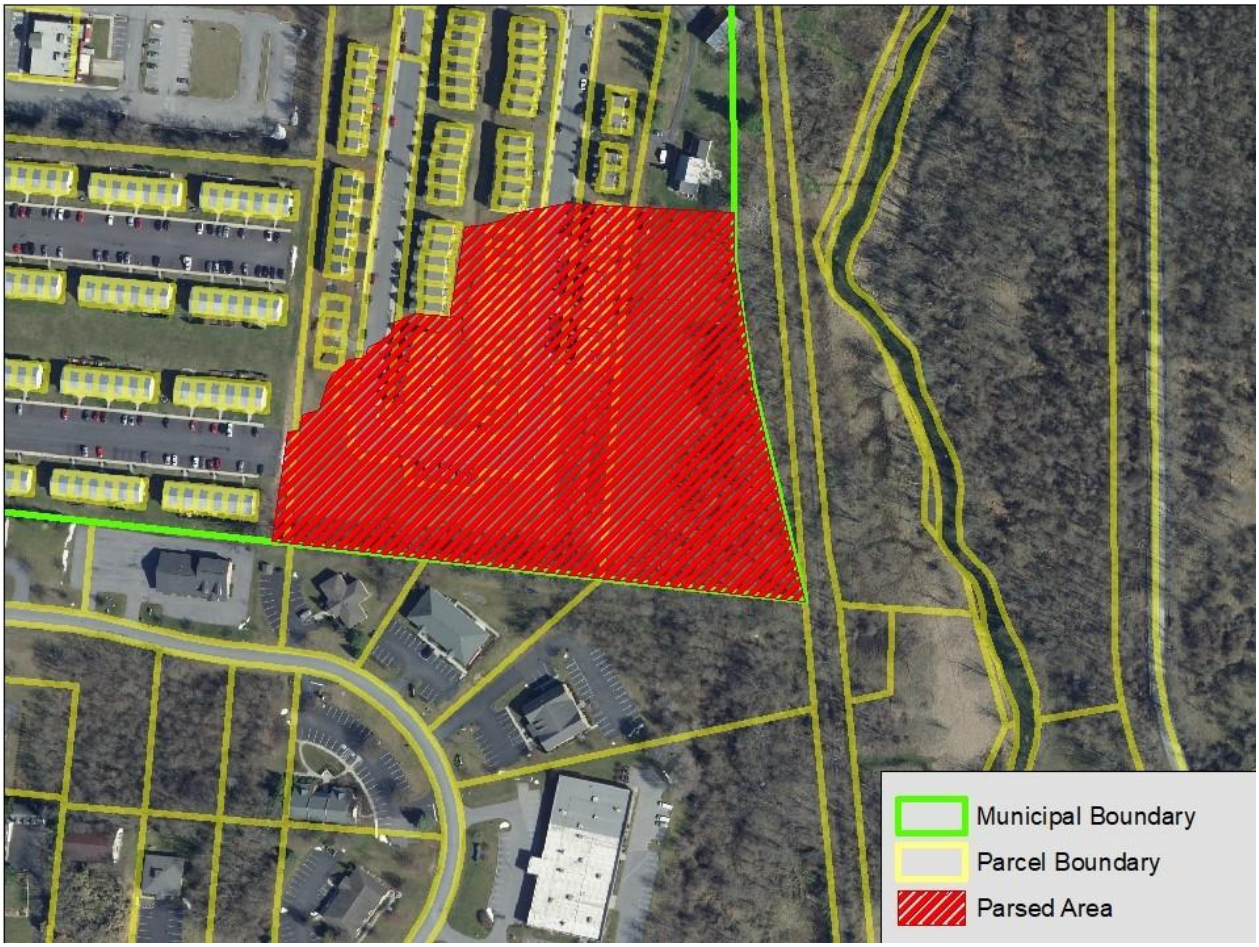
Parsed Parcels						
	Parcel Acreage	Parcel Sq. Ft	Impervious Sq Ft	Impervious Acres	Pervious Sq Ft	Pervious Acres
Carlisle Barracks	20.83	-	-	-	-	-



Parsed Parcels						
	Parcel Acreage	Parcel Sq. Ft	Impervious Sq Ft	Impervious Acres	Pervious Sq Ft	Pervious Acres
Highland Court	2.59	112,643.00	43,802.00	1.01	68,841.00	1.58
Letort Regional Authority	1.50	65,373.00	3,397.00	0.08	61,976.00	1.42



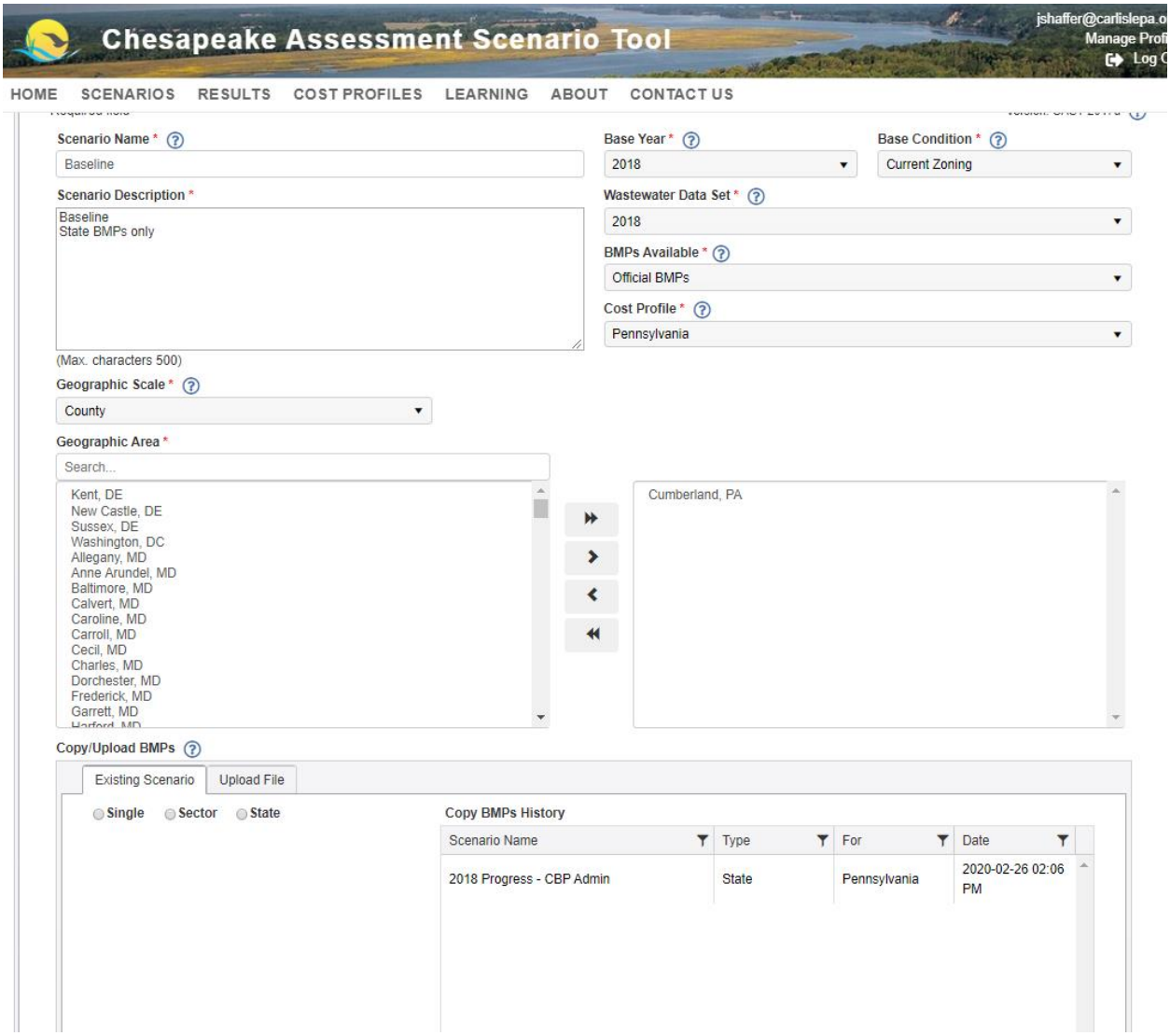
Parsed Parcels						
	Parcel Acreage	**Parcel Sq. Ft**	**Impervious Sq Ft**	**Impervious Acres**	**Pervious Sq Ft**	**Pervious Acres**
I-81	43.17	1,570,837.00	748,888.00	17.19	821,949.00	25.98
Lamberton Middle School	32.07	1,396,782.00	231,281.00	5.31	1,165,501.00	26.76
801 S Hanover	3.23	140,545.00	28,875.00	0.66	111,670.00	2.56
5 E Garland Drive	8.09	352,395.00	101,644.00	2.33	250,751.00	5.76
3 E Garland Drive	2.41	105,118.00	65,257.00	1.50	39,861.00	0.92



Parsed Parcels						
	Parcel Acreage	**Parcel Sq. Ft**	**Impervious Sq Ft**	**Impervious Acres**	**Pervious Sq Ft**	**Pervious Acres**
Letort Meadows	7.04	306,702.00	53,869.00	1.24	252,833.00	5.80

APPENDI□ □: CAST Model Inputs

These are the baseline conditions used for the Carlisle Borough loading baseline as well as all BMPs put into the CAST Model. As BMPs were added to the baseline, they were compared against the original baseline to determine the reduction amount.



Project 1: Carlisle Green Streets

Edit BMP

*Required field

Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Bioretention/raingardens
Secondary BMP *	Bioretention/raingardens - A/B soils, underdrain
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	11.55

Save Cancel

Project 2: Valley Meadows Tree Planting

Edit BMP

*Required field

Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Tree Planting - Canopy
Secondary BMP *	Tree Planting - Canopy
Load Source *	MS4 Turf Grass
Unit *	Acres
Amount *	4.42

Save Cancel

Pro□ect 3: Valley Meadows Bioswale

Edit BMP

*Required field

Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Bioswale
Secondary BMP *	Bioswale
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	61.52

Save Cancel

Pro□ect 4: TIGER Pro□ect Streetscape Improvements

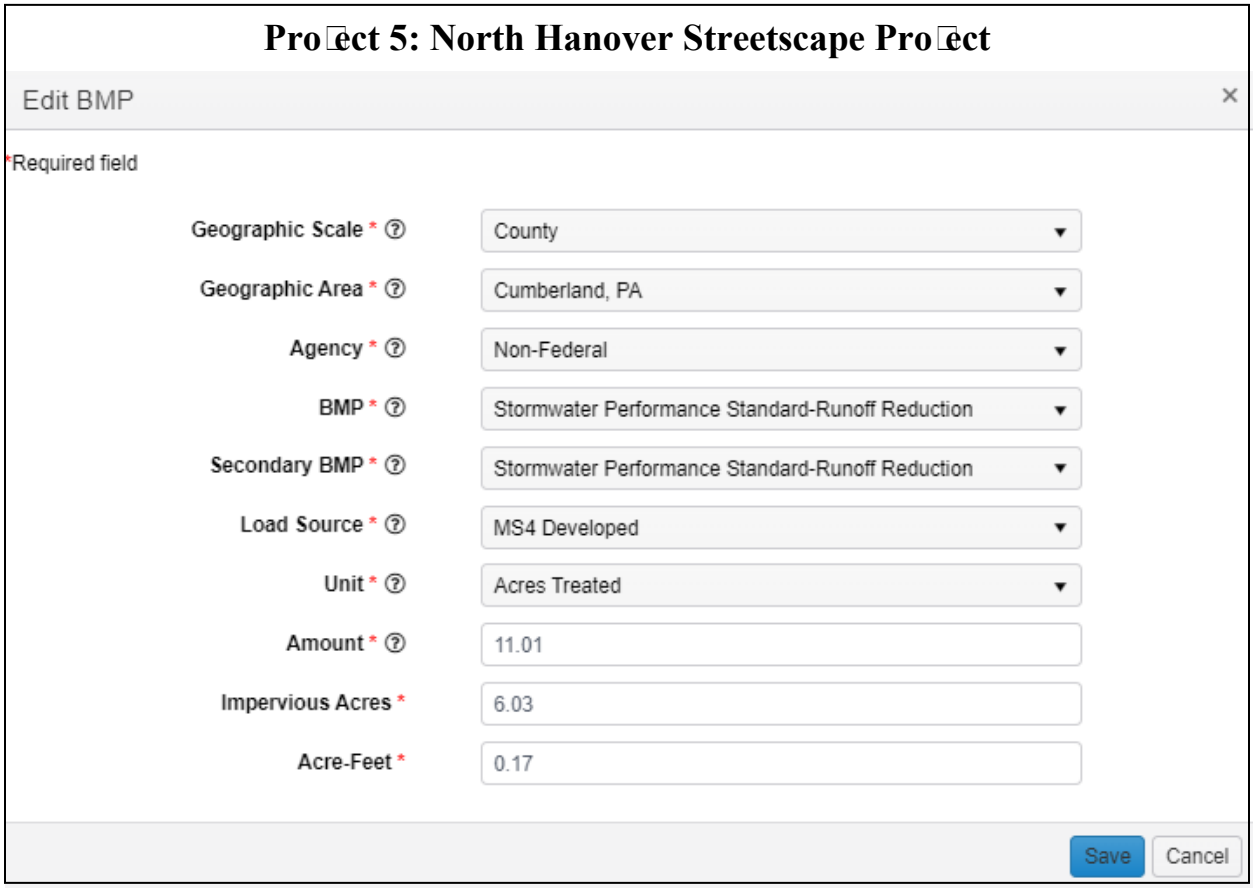
Edit BMP

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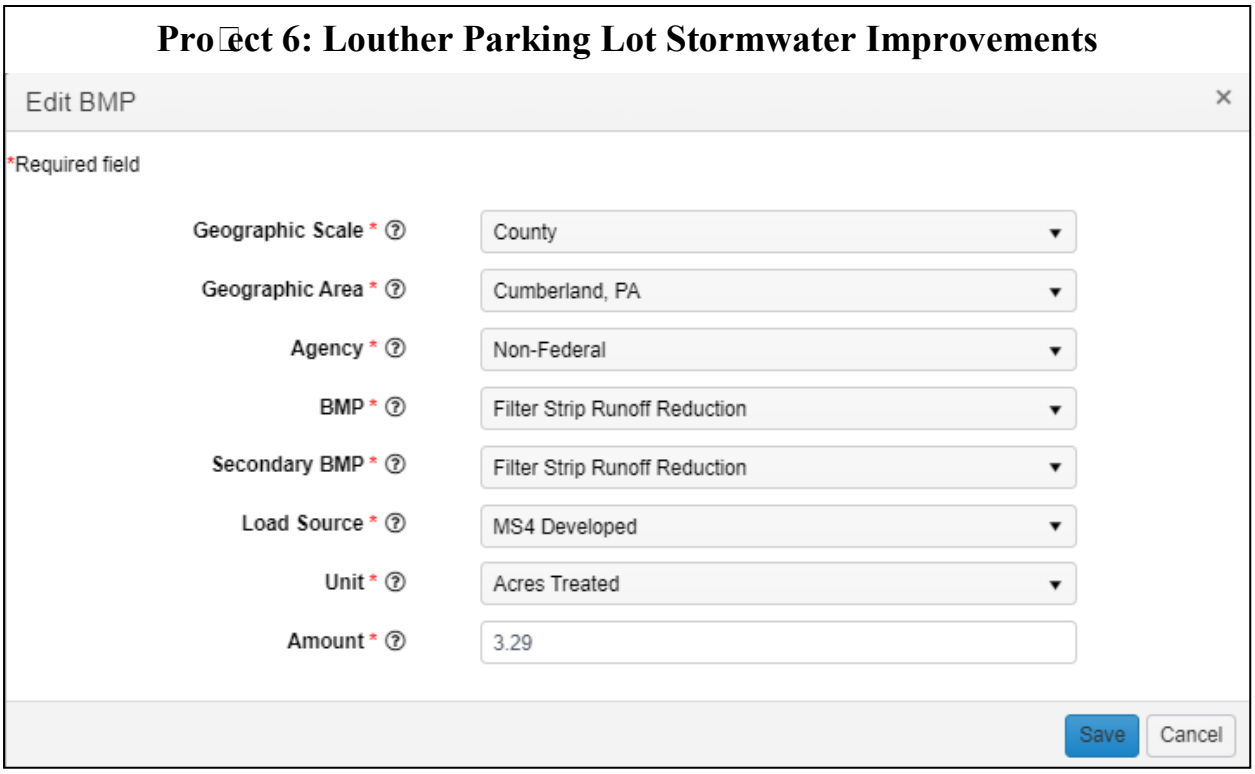
Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Stormwater Performance Standard-Runoff Reduction
Secondary BMP *	Stormwater Performance Standard-Runoff Reduction
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	53.72
Impervious Acres *	22.33
Acre-Feet *	0.13

Save Cancel

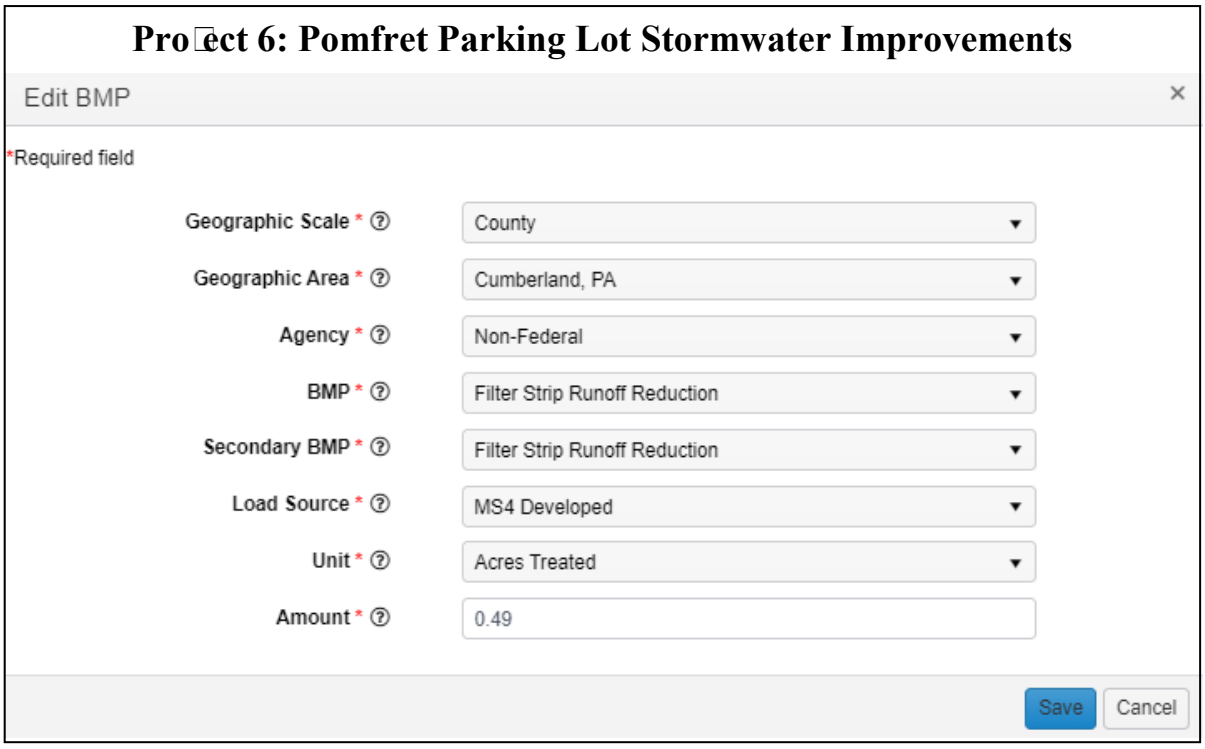
Project 5: North Hanover Streetscape Project



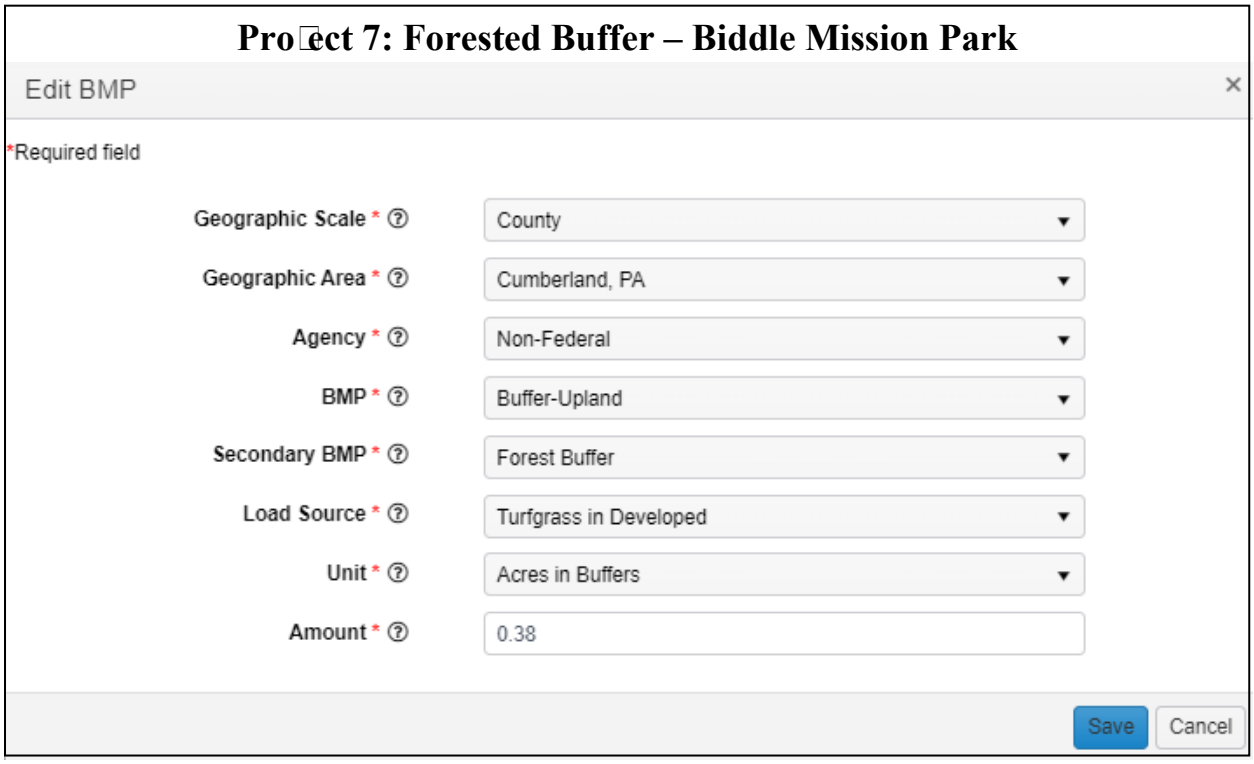
Project 6: Louther Parking Lot Stormwater Improvements



Pro□ect 6: Pomfret Parking Lot Stormwater Improvements



Pro□ect 7: Forested Buffer – Biddle Mission Park



Project 8: Because this site already has a BMP in place, the conversion removal amount was calculated by subtracting the proposed BMP removal amount from the current BMP removal amount.

Project 8: Orange Street Bioswale Conversion - Current BMP

Edit BMP

*Required field

Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Dry Extended Detention Ponds
Secondary BMP *	Dry Extended Detention Ponds
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	165.03

Save Cancel

Project 8: Orange Street Bioswale Conversion - Proposed BMP

Edit BMP

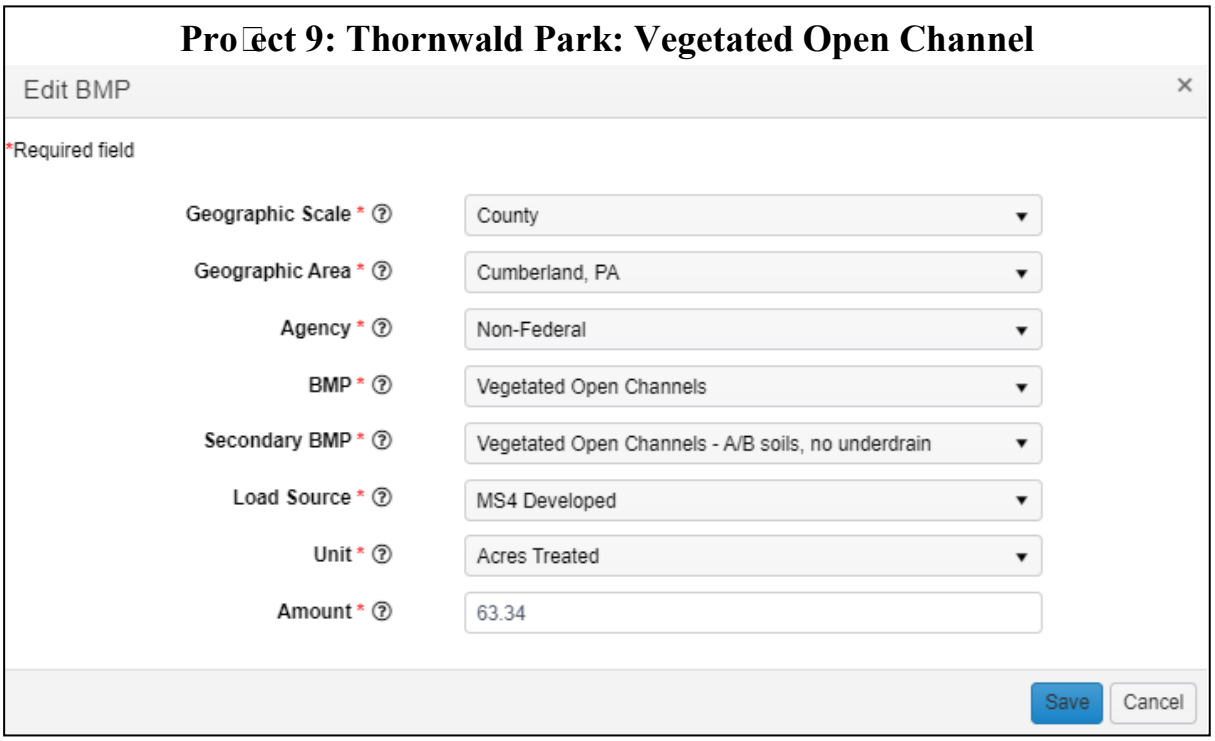
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Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Bioswale
Secondary BMP *	Bioswale
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	165.03

Save Cancel

Pro□ect 9: No BMP locations have yet been determined for Thornwald Park. However, many BMPs and their designs have been discussed. To determine pollutant removal, the removal amount for (3) three different BMPs were calculated and the total removal was taken as the average of the three removal amounts.

Pro□ect 9: Thornwald Park: Vegetated Open Channel



Project 9: Thornwald Park: Bioswale

Edit BMP

*Required field

Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Bioswale
Secondary BMP *	Bioswale
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	63.34

Save Cancel

Project 9: Thornwald Park: Bio-retention Garden/Rain Garden

Edit BMP

*Required field

Geographic Scale *	County
Geographic Area *	Cumberland, PA
Agency *	Non-Federal
BMP *	Bioretention/raingardens
Secondary BMP *	Bioretention/raingardens - A/B soils, no underdrain
Load Source *	MS4 Developed
Unit *	Acres Treated
Amount *	63.34

Save Cancel

APPENDI□ □I: Site-Specific Details for Existing Stormwater BMPs

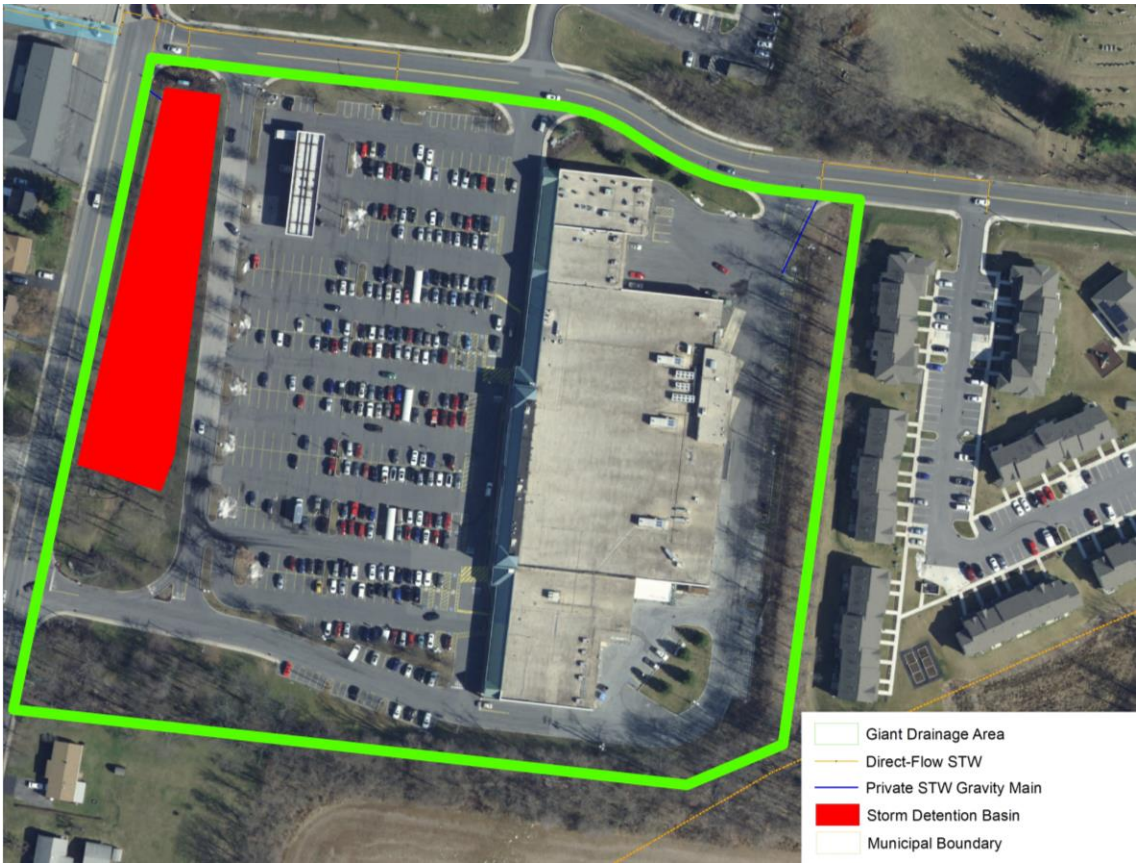
CAST Model Pollutant Removal Inputs	
Orange St. Detention Pond	
Geographic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	165.13



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Orange St Detention Basin	1988	40°11'59.8"N 77°12'38.5"W	N/A

Site Description	BMP Operations & Maintenance Activities / Frequencies
At the Orange Street Detention Pond Site, a stormwater detention pond treats 165.03 Acres of developed land. Runoff is conveyed to the basin via bio-swales and stormwater pipes, and then enters the municipal storm-sewer system via a 36" pipe on the eastern side of the basin.	1. In general, check all erosion and sediment control measures weekly after each significant rainfall. 2. Excavate, spread and dry sediment for use in onsite grading. 3. Check seeded areas regularly to see that a good vegetation stand is maintained. Fertilize and reseed areas as needed. 4. Remove unsuitable material from the site for proper disposal. 5. Frequently check and closely monitor mulched areas with respect to their effectiveness in controlling erosive storm runoff velocities and sediment transport. Re-mulch areas as often as necessary until adequate ground cover is established.

CAST Model Pollutant Removal Inputs	
Giant Foods Store	
Geographic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	14.19



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Giant Foods	1996	40°11'47.7"N 77°10'53.3"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
As part of this development, a 160,000 cubic foot detention basin was constructed along the western edge of the property, adjacent to South Spring Garden Street. This Facility attenuates stormwater runoff from the site, as well as a major length of Samuels Drive, prior to discharge into the adjacent Borough stormwater collection system within South Spring Garden Street.		- Plans have no specific requirements	

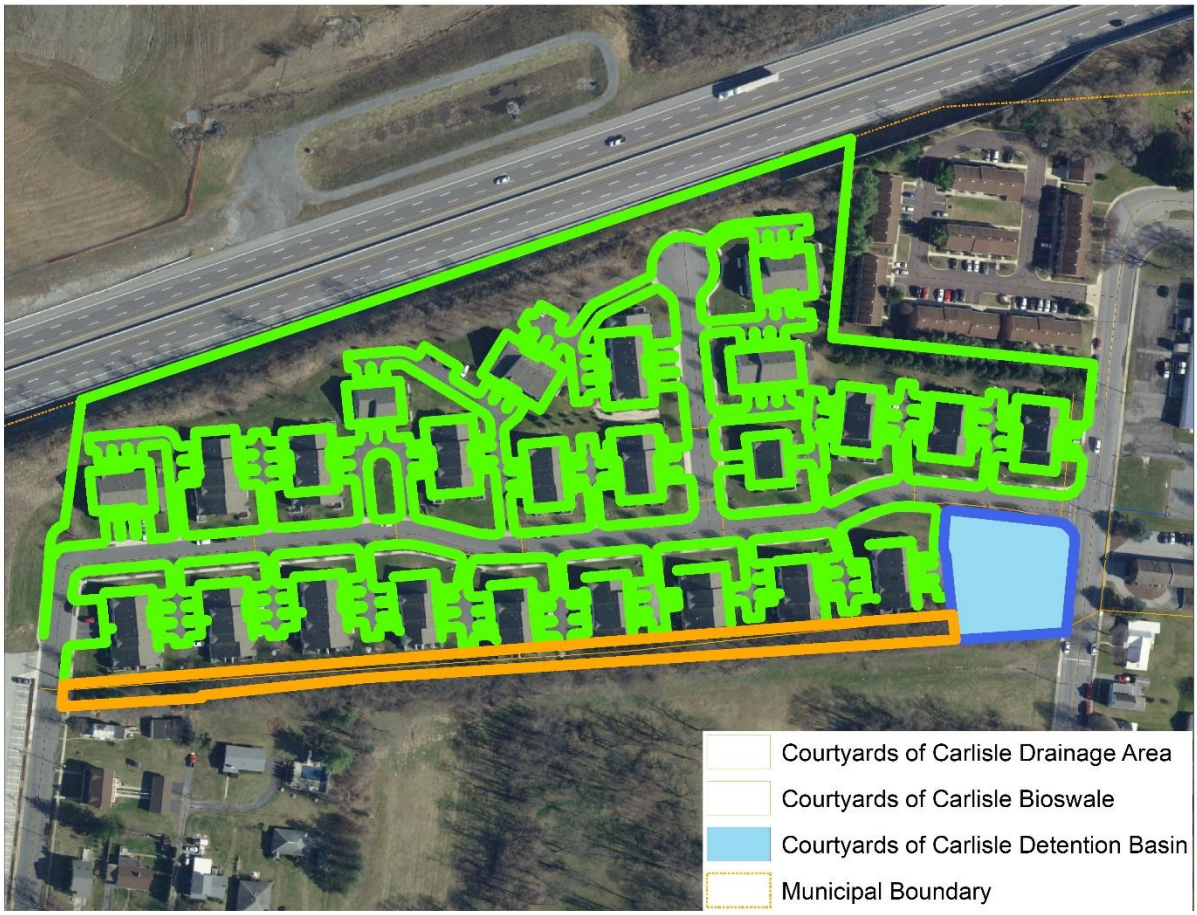
CAST Model Pollutant Removal Inputs	
Chesterfield	
Geographic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	41.22



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Chesterfield	1997	40°12'39.2"N 77°13'22.0"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Runoff from the Chesterfield enters stormwater inlets around the site. Runoff is conveyed to the detention basin on the North side of the property via stormwater gravity-fed pipes. Runoff ultimately flows under the Turnpike and along the drainage way towards the Conodoguinet Creek.		During construction, the contractor will be responsible for maintenance of all erosion and sedimentation control facilities. All control facilities will be inspected weekly and after every rainfall runoff event to determine what, if any, maintenance is required. The individual lot owner is responsible for the on-lot controls, which are to be maintained in the same manner as control facilities for the construction of the infrastructure.	

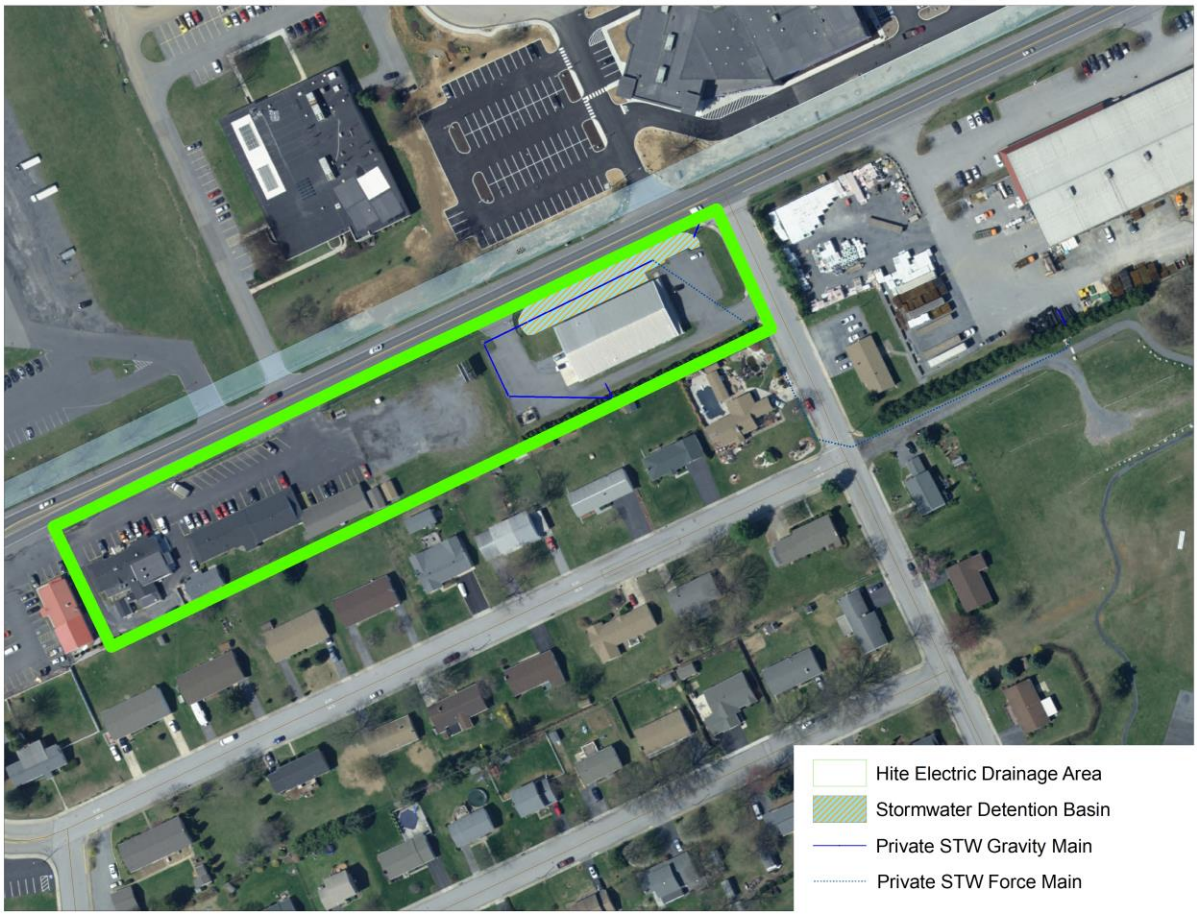
CAST Model Pollutant Removal Inputs	
Courtyards of Carlisle	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	15.13

CAST Model Pollutant Removal Inputs	
Courtyards of Carlisle	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioswale
Secondary BMP	Bioswale
Load Source	MS4 Developed
Unit	Acres Treated
Amount	4.33



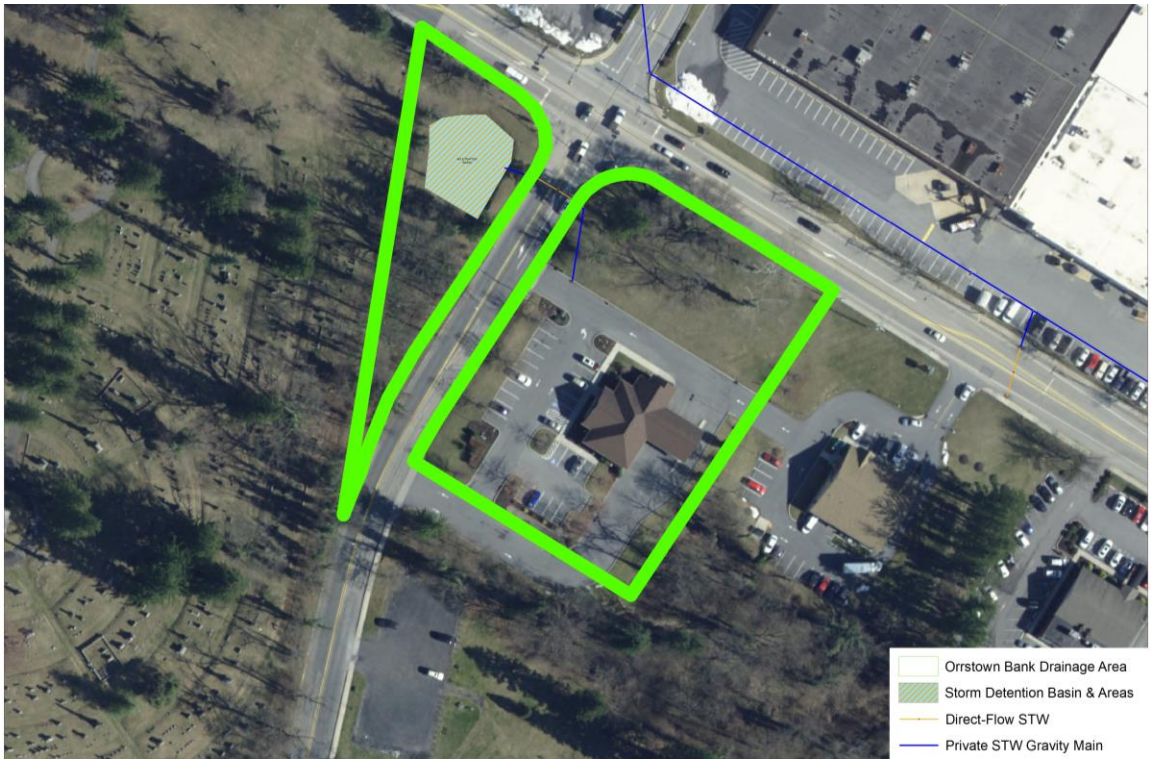
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Courtyards of Carlisle	1998	40°13'02.5"N 77°11'31.3"W	#PR-10-H065
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Runoff from this site is collected by a combination of bioswales (shown in orange) and stormwater piping and drains to a detention basin via a 36” in the Southeast corner of the property.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Hite Electric Co	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.74



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Hite Electric Co	2003	40°11'49.3"N 77°13'27.6"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Stormwater Facilities at Hite Electric feature a detention basin with a submersible pump in a pump in the bottom of the basin. Stormwater is conveyed from the basin to Valley Meadows Park via a force pump when necessary.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Orrstown Bank	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.26



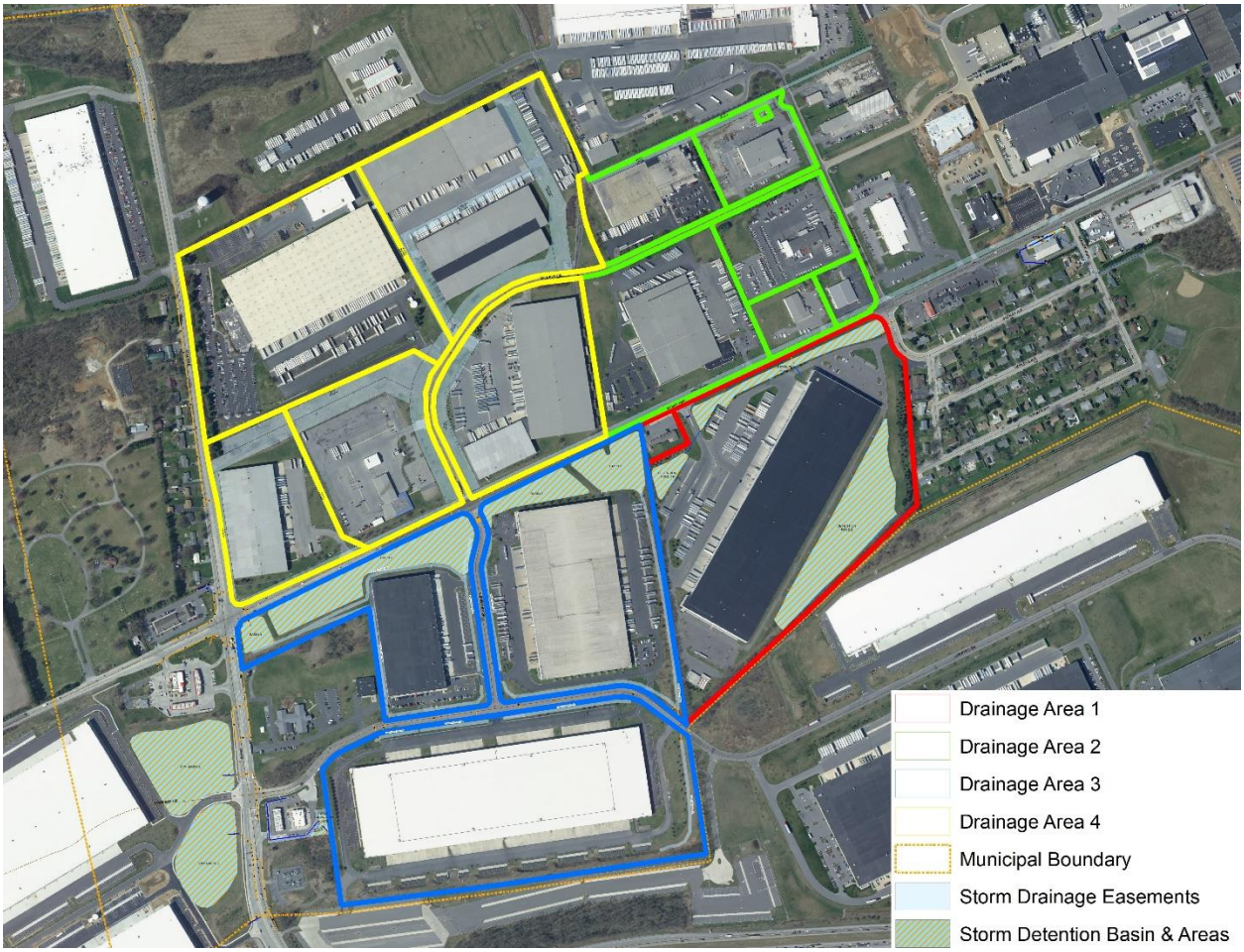
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Orrstown Bank	2003	40°11'56.0"N 77°10'34.7"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Surface Runoff from the bank building is collected in a series of inlets and culverts and is discharged to the existing storm sewer culvert under Giant Lane and ultimately to the detention basin on the southwest corner on the intersection of Giant Lane and York Road.		Facility should be expected at least quarterly and after every major storm. The detention basin should need to be cleaned of sediment every 2-10 years. Infiltration Basin – maintain adequate flow rate and vegetative stabilization, unclog and reseed as needed. Inlets/Outlets – Should be inspected and replaced if showing signs of wear and/or hinders BMP performance.	

CAST Model Pollutant Removal Inputs	
Exel Lot - Drainage Area 1	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	46.34

CAST Model Pollutant Removal Inputs	
Exel Lot - Drainage Area 2	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioswale
Secondary BMP	Bioswale
Load Source	MS4 Developed
Unit	Acres Treated
Amount	58.78

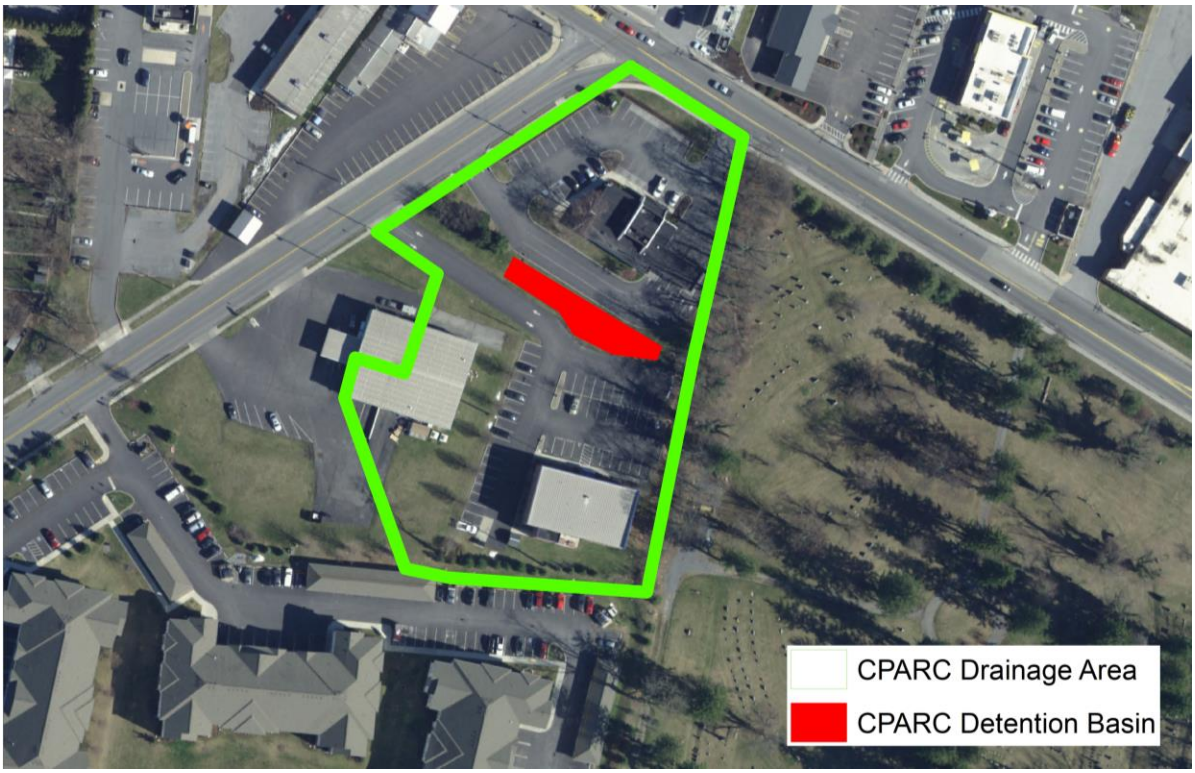
CAST Model Pollutant Removal Inputs	
Exel Lot - Drainage Area 3	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	88.06

CAST Model Pollutant Removal Inputs	
Exel Lot - Drainage Area 4	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioswale
Secondary BMP	Bioswale
Load Source	MS4 Developed
Unit	Acres Treated
Amount	103.45



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Exel Lot	2003	40°11'36.4"N 77°14'02.0"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Stormwater runoff is conveyed from Drainage Areas 1 (Red) and 3 (Blue) and directed to detention basins south of S.R. 11. Excess runoff from these areas along with runoff from drainage area 2 (green) and 4 (yellow) is conveyed via bio-swales to a detention basin in the central region Drainage Area 4 as well as a detention basin north of Drainage Area 4.		- Maintain the forebays in good condition (>60% Vegetative Coverage on basins bottom, >75% grass coverage on slopes) - At least 4 times a year and after storms exceeding 1" of rainfall, inspect all stormwater facilities and overland areas draining to these facilities. Remove sediment, trash, and other debris as found. - Restrict mowing to dry periods greater than 72 hours after storm/rainfall events.	

CAST Model Pollutant Removal Inputs	
CPARC	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.61



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
CPARC	2004	40°11'58.7"N 77°10'43.7"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Runoff from the CPARC as well as First National Bank feeds into the detention basin seated in a low-lying area between the two properties.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Carlisle Police Station	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	1



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Carlisle Police Station	2004	40°12'20.9"N 77°11'39.7"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
All stormwater runoff from the site is directed towards the stormwater detention basin located near the existing low point at the southeastern portion of the site. The basin outlets to an existing stormwater manhole located north of the detention basin.		- Erosion and sediment control facilities shall be inspected weekly and upon the completion of each storm event. All erosion and sediment control facilities shall be cleaned and repaired as required.	

CAST Model Pollutant Removal Inputs	
Home Depot - Lot 37 Basin (Wetland Basin)	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Wet Ponds and Wetlands
Secondary BMP	Wet Ponds and Wetlands
Load Source	MS4 Developed
Unit	Acres Treated
Amount	9.02

CAST Model Pollutant Removal Inputs	
Home Depot - Phillips/Frey Basin (Stormceptor)	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Detention Ponds and Hydrodynamic Structures
Secondary BMP	Dry Detention Ponds and Hydrodynamic Structures
Load Source	MS4 Developed
Unit	Acres Treated
Amount	6.63



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Home Depot	2004	40°13'02.5"N 77°11'31.3"W	N/A

Site Description	BMP Operations & Maintenance Activities / Frequencies
Runoff from the site enters 3 different drainage areas. 4 acres is tributary to a detention basin northeast of the site, but is not considered because it is located in a parsed area. All other stormwater runoff enters a wetland detention basin in the southeast corner of the site either directly or via a Stormceptor directly south of the Home Depot building before entering the detention basin	- Stormceptors are to be cleaned and inspected annually or when sediment volume reaches 15% of the total storage. - The basin will be vegetation-lined as described on the final plans and is to be routinely maintained. The basin is to remain lined and any areas showing signs of erosion are to be immediately reseeded.

CAST Model Pollutant Removal Inputs	
Lowe's Home Improvement	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Detention Ponds and Hydrodynamic Structures
Secondary BMP	Dry Detention Ponds and Hydrodynamic Structures
Load Source	MS4 Developed
Unit	Acres Treated
Amount	9.26



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Lowe's	2004	40°11'58.0"N 77°10'21.5"W	Had Permit, UNK Number
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Stormwater runoff is collected by 12 on-site inlets, which drain into the bio-retention facilities (fitted with a Vortech Unit) located in the two curbed islands as shown, and then enters the municipal storm-sewer system via a drainage basin in the northwest corner of the site. Stormwater Inlets were fitted with two-foot sumps to trap sediment.		- The bio-retention facility shall be inspected quarterly and after major storms. Detailed inspections by a qualified inspector shall occur at least annually to ensure that the facility is operating as designed and to schedule maintenance that the facility may require. - All sumped stormwater inserts shall be inspected monthly. Sediment shall be removed from March-October or when 6" of sediment accumulates.	

CAST Model Pollutant Removal Inputs	
Rockfield	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioswale
Secondary BMP	Bioswale
Load Source	MS4 Developed
Unit	Acres Treated
Amount	1.85

CAST Model Pollutant Removal Inputs	
Rockfield	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	5.38



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Rockfield	2004	40°11'31.8"N 77°12'59.0"W	Had Permit, UNK Number

Site Description	BMP Operations & Maintenance Activities / Frequencies
Runoff from this site enters the bio-swale or the detention basin before entering the borough's storm-sewer system. Stormwater management facilities were developed and implemented to treat the runoff caused from the new development.	- The facility should be inspected quarterly and after major storms. - Detailed inspections by a certified inspector shall occur at least annually. - Maintaining turf grass on the tops of berms and on the exterior slopes of embankments is advisable.

CAST Model Pollutant Removal Inputs	
Carlisle Alliance Church	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Infiltration Practices w/o Sand, Veg. - A/B soils, no underdrain
Secondary BMP	Infiltration Practices w/o Sand, Veg. - A/B soils, no underdrain
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.03



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Carlisle Alliance Church	2005	40°12'16.4"N 77°10'57.4"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Runoff from this site drains west to east, passing through a gravel infiltration bed before entering Letort Spring Creek, located immediately east of the site.		- Inspect seeded areas for failure and if repairs or reseeding is necessary, do them immediately. - Maintain the surface of the infiltration trench. Colonization of the surface by grasses or other vegetation is discouraged.	

CAST Model Pollutant Removal Inputs	
Parkview	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	3.2

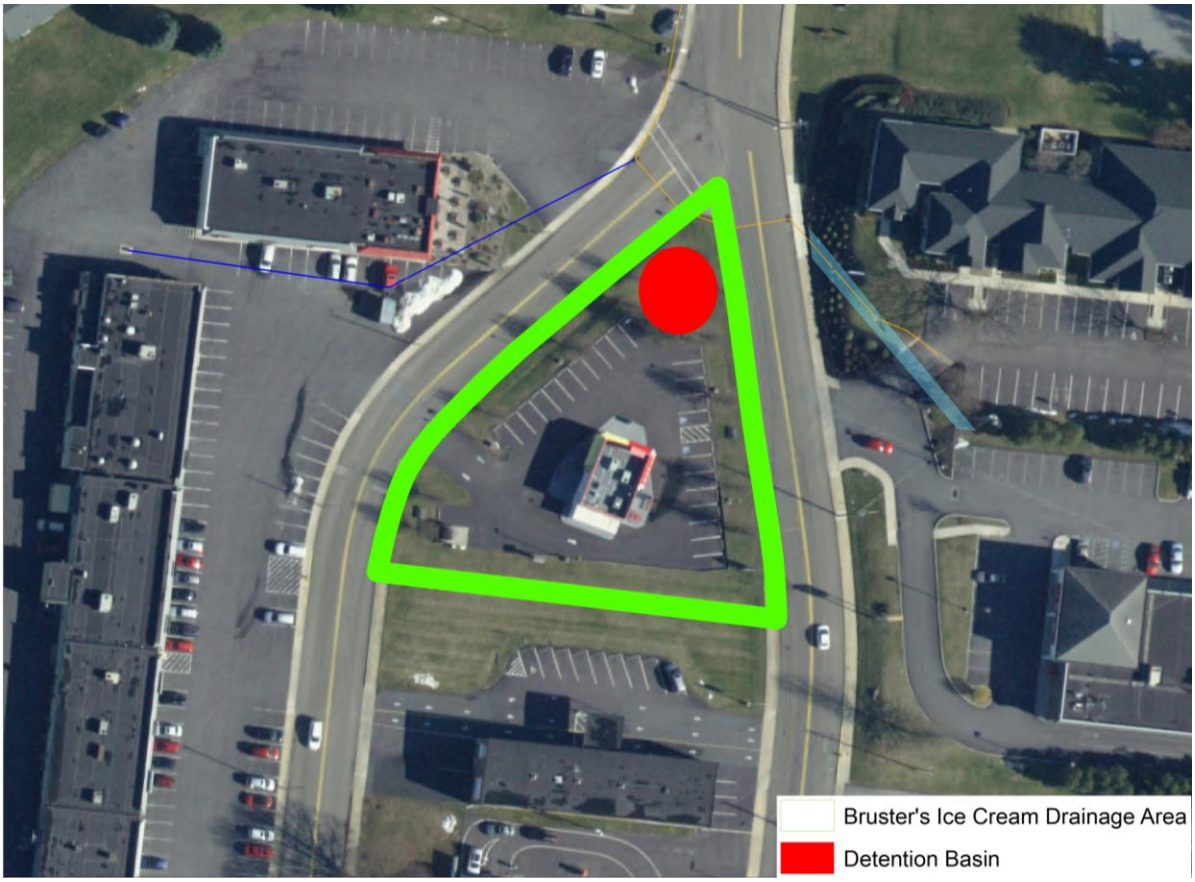
CAST Model Pollutant Removal Inputs	
Parkview	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioretention/raingardens
Secondary BMP	C/D soils, underdrain
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.55

CAST Model Pollutant Removal Inputs	
Parkview	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Tree Planting - Canopy
Secondary BMP	Tree Planting - Canopy
Load Source	Roads
Unit	Acres Treated
Amount	0.36



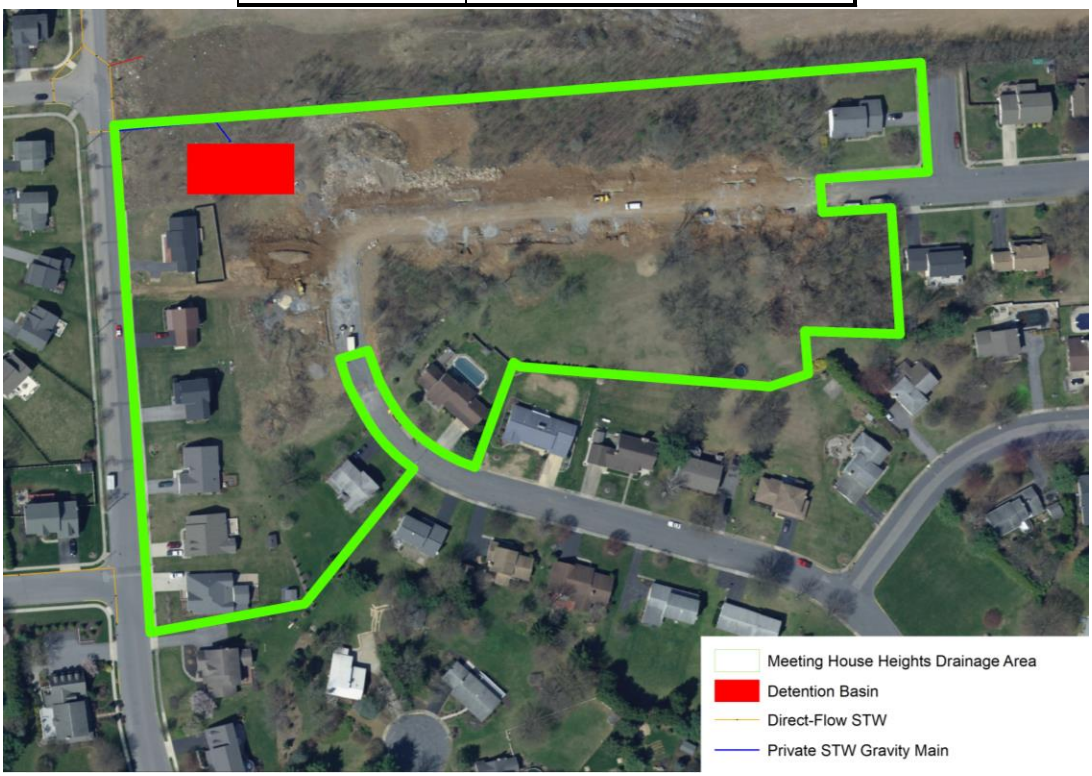
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Parkview	2008	40°12'20.4"N 77°10'51.0"W	Had Permit, UNK Number
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff will be directed into the proposed basins either by direct surface flow or by a system of pipes. Runoff released from the detention basins will discharge through a protected wooded riparian area before entering Letort Spring Run.		- Vegetated areas should be inspected annually for erosion and unwanted growth of exotic/invasive species. - Vegetated areas should be maintained at a minimum of 95% vegetative cover.	

CAST Model Pollutant Removal Inputs	
Bruster's Ice Cream	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	0.93



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Bruster's Ice Cream	2008	40°11'33.2"N 77°11'42.9"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
On-site and 0.44 Acres of off-site area drain into the detention basin with an outlet structure conveying excess water to the Borough's storm-sewer system.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Meeting House Heights	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	6.65



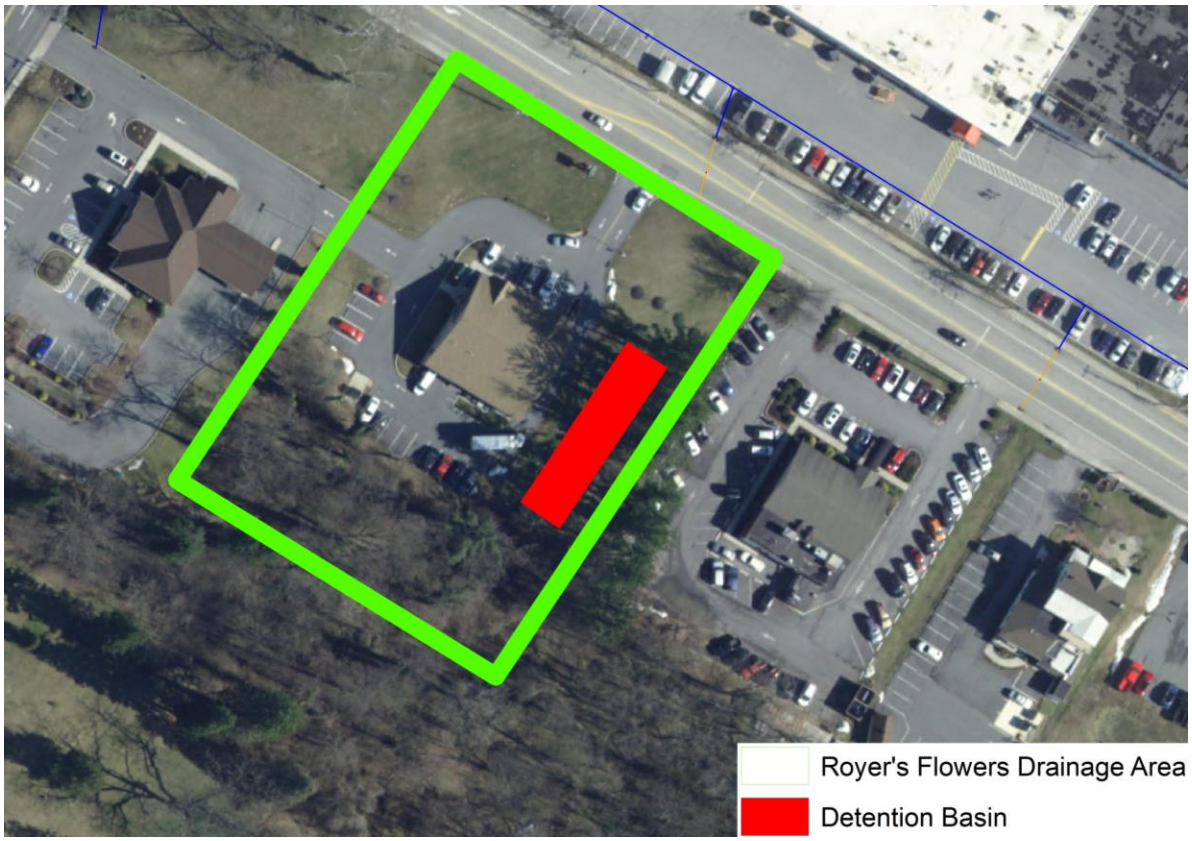
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Meeting House Heights	2008	40°12'39.3"N 77°12'59.5"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site Runoff flows through the site and drains to a detention basin on the southwest corner of the property. Excess flow is conveyed to the Borough's storm-sewer system via stormwater piping within the basin.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Seven Gables Apartments	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	14.75



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Seven Gables Apartments	2009	40°11'51.9"N 77°10'50.4"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site stormwater Runoff enters either an underground or aboveground detention system for infiltration, excess drains into the basin in the southwest corner of the site, which crosses under S Spring Garden St via pipes and expels into a swale.		- All basins should be inspected for signs of erosion at least quarterly - Sediment removal should be conducted when the basin is completely dry. - Vegetated areas should be inspected annually for erosion and unwanted growth of exotic/invasive species.	

CAST Model Pollutant Removal Inputs	
Royer's Flowers and Gifts	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	1.9



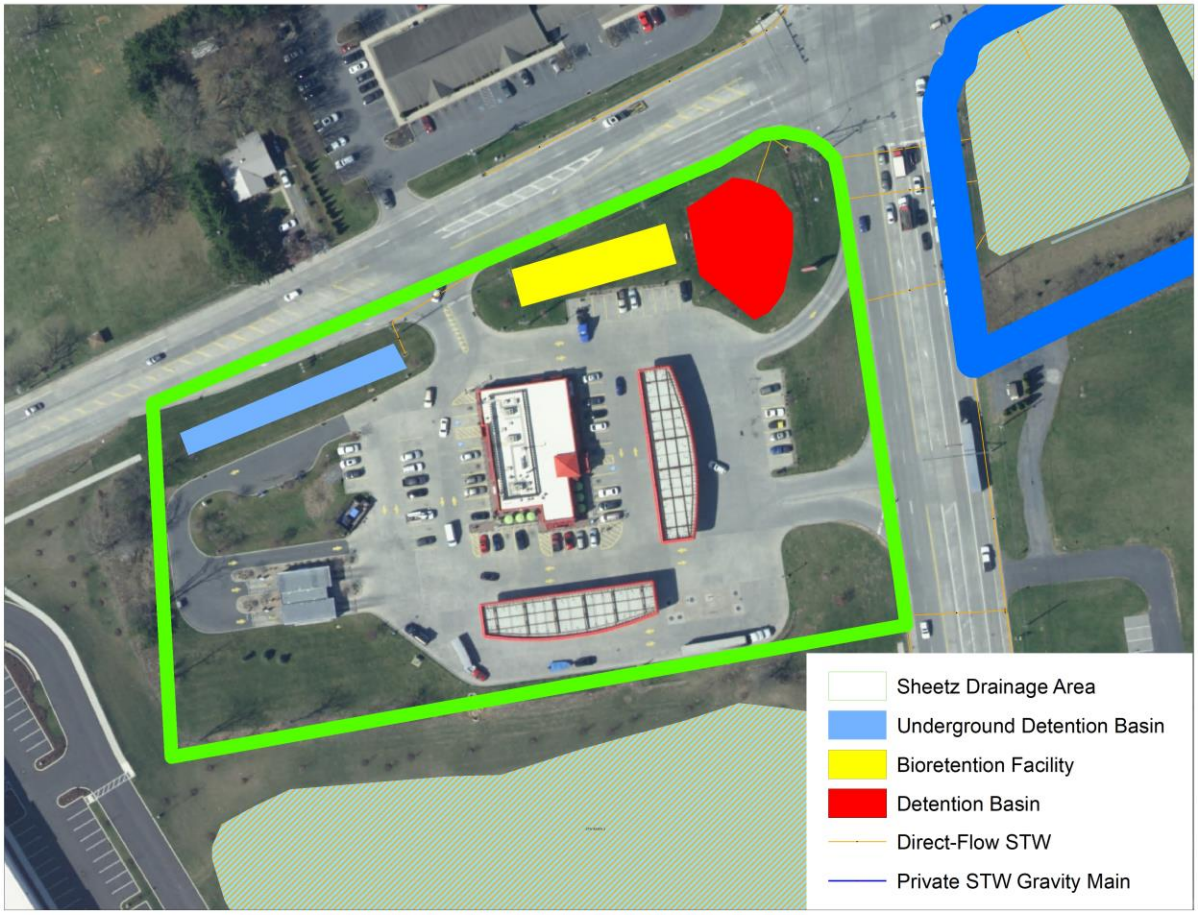
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Royer's Flowers and Gifts	2010	40°11'52.7"N 77°10'29.5"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site Stormwater runoff enters the detention basin on the east side of the site before flowing North into an existing storm-sewer system, which eventually discharges into Letort Spring Run.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Sheetz - Detention Basins	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	4.27

CAST Model Pollutant Removal Inputs	
Sheetz - Rain Gardens	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioretention/raingarden
Secondary BMP	A/B Soils w/ Underdrain
Load Source	MS4 Developed
Unit	Acres Treated
Amount	3.2

CAST Model Pollutant Removal Inputs	
Sheetz - Water Quality Inserts/Inlets	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Stormwater Performance Standard - Stormwater Treatment
Secondary BMP	Stormwater Performance Standard - Stormwater Treatment
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.22
Impervious Acres	2.22
Acre-Feet	0.39

CAST Model Pollutant Removal Inputs	
Sheetz - Street Sweeping	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Stormwater Performance Standard - Stormwater Treatment
Secondary BMP	Stormwater Performance Standard - Stormwater Treatment
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.28
Impervious Acres	2.28
Acre-Feet	0.51



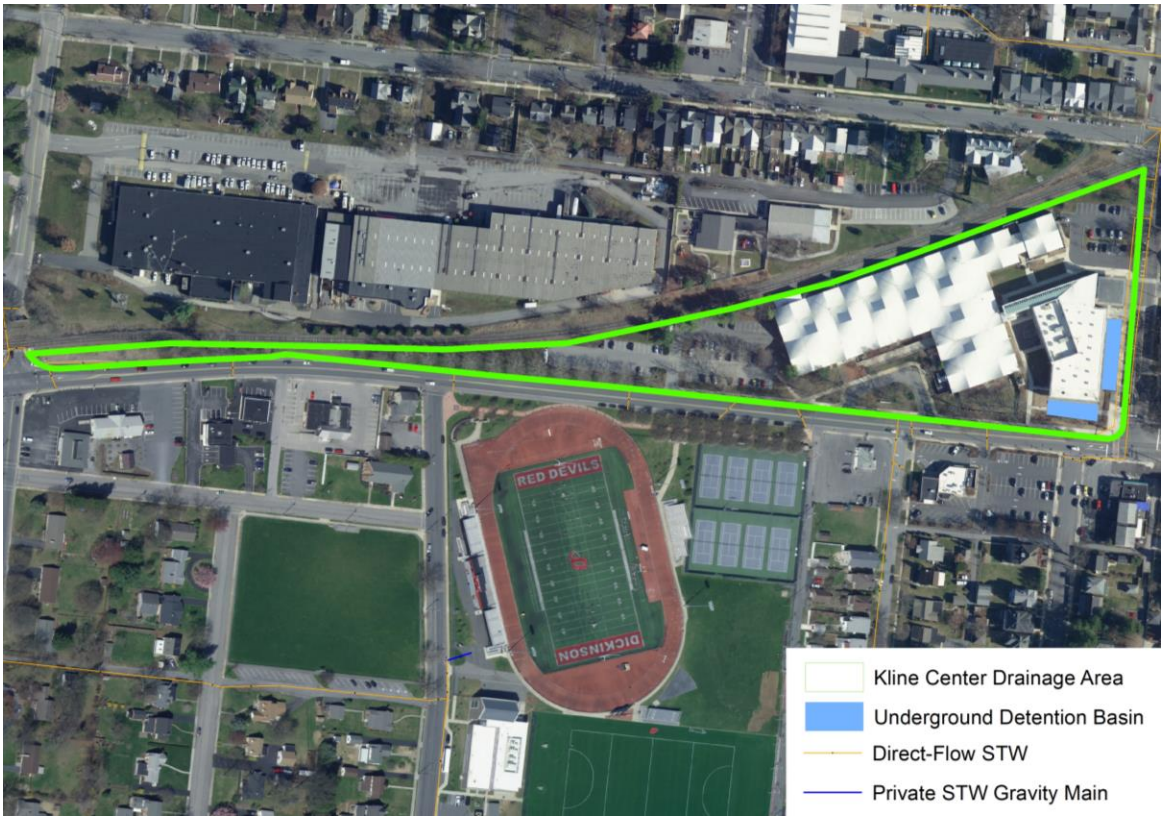
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Sheetz	2011	40°11'27.1"N 77°14'27.7"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff enters inlets before entering a PCSM BMP. All runoff flows into the on-site detention basin (red) before flowing under and across Allen Road to enter the Exel Lot Basin, which flows into Exel Lot Drainage Area 4.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
DC - Rector Science Complex	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioswale
Secondary BMP	Bioswale
Load Source	MS4 Developed
Unit	Acres Treated
Amount	5



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
DC - Rector Science Complex	2012	40°12'17.3"N 77°11'46.7"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff is directed to the bio-swale (red) in the northeastern portion of the site. The bio-retention swale overflows through an outlet structure to a new inlet along College Street at the existing public storm sewer.		- The bio-retention facility shall be inspected quarterly and after major storms. - Detailed inspection by a qualified inspector should be scheduled at least annually. - The mulch layer shall be removed and replaced every 2 to 3 years in the spring of the year.	

CAST Model Pollutant Removal Inputs	
DC - Kline Center Addition	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	4.28



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
DC - Kline Center Addition	2014	40°12'10.4"N 77°12'03.4"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff is directed into two connected underground stormwater detention basins. Although the basins have an overflow system, infiltration through these basins was not intended due to Karst topography. Runoff is is instead re-used to water gardens.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Burger King / Sunoco	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	2.04



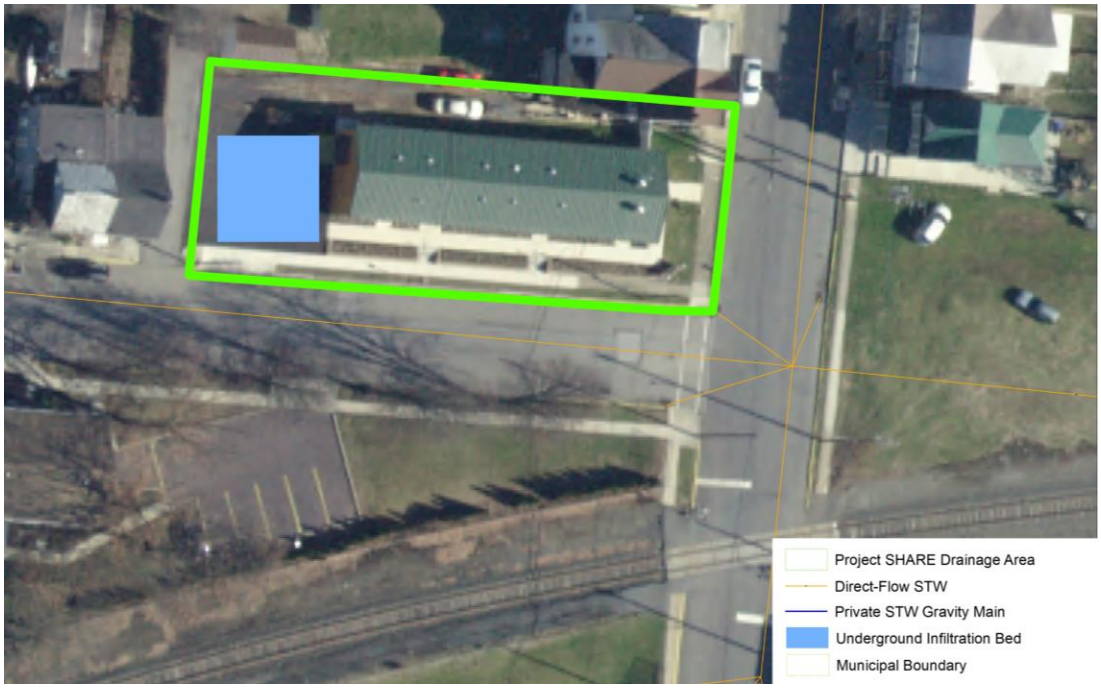
Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Burger King / Sunoco	2015	40°11'17.5"N 77°14'19.4"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff is collected in the detention basin via piping before entering the property immediately south owned by PPL. Discharge ultimately flows into Alexander Spring Run.		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Dawn Ridge	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	7.7



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Dawn Ridge	2015	40°11'48.2"N 77°10'38.1"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff is conveyed to any of 3 detention basins on-site via stormwater piping. Stormwater leaves the site through a head wall with a 2" orifice and drains over rip-rap passed the northeastern corner of the site		- Plans have no specific requirements	

CAST Model Pollutant Removal Inputs	
Project SHARE	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Stormwater Performance Standard - Runoff Reduction
Secondary BMP	Stormwater Performance Standard - Runoff Reduction
Load Source	MS4 Developed
Unit	Acres Treated
Amount	0.12
Impervious Acres	0.12
Acre-Feet	0.01



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Project SHARE	2015	40°12'24.7"N 77°11'28.9"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
All site runoff is directed to an underground infiltration bed designed to temporarily store 2" of runoff and permanently remove the first 1" of stormwater runoff for the site.		- Catch basins should be inspected at least 2 times per year. - Regularly clean out gutters to reduce sediment load to infiltration system - Evaluate the drain-down time of the subsurface infiltration system to ensure the drain-down time of 72 hours	

CAST Model Pollutant Removal Inputs	
Goodman N Logistics Center	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	17.29



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Goodman N Logistics Center	2015	40°11'20.7"N 77°14'28.7"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site runoff from the Goodman buildings flow into these two detention basins before discharging into a bypass culvert previously installed under the Sheetz store site. Only area within Carlisle municipal boundaries was considered in the drainage area.		- Stormwater Facilities must be inspected by the property at least once a year for the first 5 years of property ownership to ensure proper BMP functionality.	

Carlisle Borough Mechanical Street Sweeping Activities Summary (Since 2016)		
Site Name	**Area Treated (Acres)**	**Frequency**
Hanover/High & Downtown Streets	52.51	3 days/week
All other streets	250.3	1/month
Parking Lots (Listed Below)	3.17	1/week
Liberty Ave	*East Pomfret (0.22 acres)*	
67 & 69 W Pomfret	*West Pomfret (0.33 acres)*	
E Locust Avenue	*East Louther North (0.5 acres)*	
36 & 38 E Louther	*East Louther South (0.41 acres)*	
62 W North Street	*West Louther North (0.59 acres)*	
32 W Louther	*West Louther South (0.57 acres)*	
35 W Pomfret Street	*Pomfret St Parking Garage (0.55 acres)*	

CAST Model Pollutant Removal Inputs	
Valley Meadows Bioswale	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Bioswale
Secondary BMP	Bioswale
Load Source	MS4 Developed
Unit	Acres Treated
Amount	61.52



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Valley Meadows Bioswale	2017	40°11'40.7"N 77°13'19.6"W	N/A

Site Description	BMP Operations & Maintenance Activities / Frequencies
The Valley Meadows Bioswale Project was completed in 2017 with the purpose of redirecting and absorbing runoff that came from the catch basins constructed south of the park located in South Middleton Township. The bioswale drains eastward to the detention basin the borders the west end of Orange Street and includes planting that both slow the velocity of stormwater while also absorbing stormwater.	- All areas of turfgrass that have been disturbed from construction or is not growing properly should be seeded with an appropriate grass seed mix. - Swale should be inspected quarterly and after every major storm.

CAST Model Pollutant Removal Inputs	
Townhomes Development	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Stormwater Performance Standard - Runoff Reduction
Secondary BMP	Stormwater Performance Standard - Runoff Reduction
Load Source	MS4 Developed
Unit	Acres Treated
Amount	7.2
Impervious Acres	3.1
Acre-Feet	0.56



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
Townhomes Development	2017	40°12'40.2"N 77°11'39.5"W	N/A
Site Description		**BMP Operations & Maintenance Activities / Frequencies**	
Site stormwater runoff enters inlets and flows to the underground infiltration basin. While this BMP can handle treat more runoff, only the drainage area that includes completed construction was considered for pollutant load reduction.		- Street Sweeping must occur a minimum of 4 times per year. - Areas receiving amended soils must be maintained and not altered. - Mowing of amended soils shall be performed using lightweight equipment to avoid compaction. - Amended soils shall be inspected in the spring and fall each year.	

CAST Model Pollutant Removal Inputs	
DC - High Street Residence Hall	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Dry Extended Detention Pond
Secondary BMP	Dry Extended Detention Pond
Load Source	MS4 Developed
Unit	Acres Treated
Amount	0.93

CAST Model Pollutant Removal Inputs	
DC - High Street Residence Hall	
Geogrpahic Scale	County
Geographic Area	Cumberland, PA
Agency	Non-Federal
BMP	Permeable Pavement
Secondary BMP	A/B Soils - w/ Underdrain
Load Source	MS4 Developed
Unit	Acres Treated
Amount	1.8



Site Name	Year Installed	Latitude/Longitude	NPDES Permit Number
DC - High St. Residence Hall	2018	40°13'02.5"N 77°11'31.3"W	N/A

Site Description	BMP Operations & Maintenance Activities / Frequencies
Site runoff is captured by permeable pavement and raingardens before entering the underground detention basin on the northern side of the site. Basin outflow is conveyed to an existing inlet located at the corner of W. High Street and Cherry Street.	- Inspect all stormwater management facilities every 6 months and/or after storm events greater than 1 inch. Perform maintenance as necessary. - Permanently seed and mulch any disturbed areas or areas showing signs of accelerated erosion

APPENDIX I: Proposed Stormwater BMP Project Schedule

CBPRP Project	Receiving Water(s)	Non-Structural BMPs	Structural BMPs	Tentative Project Schedule
Valley Meadows	Conodoguinet Creek	Tree Planting	None	Completed Spring 2019
Carlisle Green Streets	Letort Spring Run	None	Rain Garden	Completed September 2019
Thornwald Park	Letort Spring Run	None	Vegetative Channel(s), Bioswale(s)	Design: Summer/Fall 2024 Permitting: Winter 2025 Bidding: Spring 2025 Construction: Summer– Fall 2025
Orange Street Retrofit	Letort Spring Run	None	Rain Garden(s), Vegetative Channel(s), Bioswale(s)	Design: Summer/Fall 2024 Permitting: Winter 2025 Bidding: Spring 2025 Construction: Summer– Fall 2025
Tiger Streetscape	Letort Spring Run	Plantings	Rain Gardens, Bioswales	Completed Fall 2022
Louther Lot Stormwater Improvements	Letort Spring Run	None	Infiltration Strips	Design: Spring 2025 Construction: Summer 2025
Pomfret Lot Stormwater Improvements	Letort Spring Run	None	Infiltration Strips	Completed Summer 2021
N Hanover Streetscape	Letort Spring Run	Plantings	Rain Gardens, Bioswales	Design & Permitting: completed Bidding: completed Construction: 2024 to Spring 2026
Biddle Mission Park	Letort Spring Run	Protect sensitive features, Protect/enhance riparian buffer	Streambank Restoration	Design: Summer/Fall 2024 Permitting: Winter 2025 Bidding: Spring 2025 Construction: Summer– Fall 2025
Factory Street Stormwater Improvements	Letort Spring Run	Plantings, pavement reduction	Vegetative Channel(s)	Completed Summer 2022
Willow Street Stormwater Improvements	Letort Spring Run	Plantings, pavement reduction	Vegetative Channel	Completed Summer 2023
Wilson Street Stormwater Improvements	Letort Spring Run	Plantings, pavement reduction	Vegetative Channel(s)	Completed Summer 2023
Fairground Ave Linear Park	Letort Spring Run	Plantings, pavement reduction	None	Completed Spring 2024