



2024 Annual MS4 Report - General Information

Report Status: **Submitted**

Permittee: **CAPITAL REG WATER** | NPDES Permit No.: **PAI133524**

Facility Name: **MS4 CITY OF HARRISBURG**  
Facility Address: **Facility Address:**  
Facility ID: **661965**  
County: **Dauphin**  
Municipality: **Harrisburg City**  
Effective Date: **08/01/2020**  
Expiration Date: **07/31/2025**  
Renewal Due Date: **08/01/2025**

MS4 Contact: **CLAIRE MAULHARDT**  
Title: **PROGRAM MANAGER**  
Phone: **717-216-5269**  
Email: **claire.maulhardt@capitalregionwater.com**

MS4 Report (Current Version)

Appendix Selection

You must review each appendix and select the appropriate appendices below.

- Appendix A  Appendix B  Appendix C  Appendix D  Appendix E  Appendix F

Water Quality Information Module



Are there any discharges to waters within the Chesapeake Bay Watershed? **Yes**

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

Receiving Water Name	Ch. 93 Class	Impaired	Cause(s)	TMDL	WLA
Susquehanna River	WWF	Yes	Pathogens, pH	No	No
Paxton Creek	WWF	Yes	DO/BOD, Other Habitat Alterations, Pathogens, Suspended Solids	Yes	Yes
Spring Creek	CWF	Yes	Other Habitat Alterations, Siltation, Water/Flow Variability	No	No
UNT to Spring Creek	CWF	Yes	Other Habitat Alterations, Siltation, Water/Flow Variability	No	No
Asylum Run	WWF	Yes	Pathogens, Siltation	Yes	Yes
Wildwood Lake	WWF	Yes	Siltation	Yes	Yes

General Minimum Control Measure (MCM) Information Module



Have you completed all MCM activities required by the permit for this reporting period? **Yes**

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

MCM	Entity Responsible	Contact Name	Phone Number
#1 Public Education and Outreach on Stormwater Impacts	CRW	Tanya Dierolf	717-216-5259
#2 Public Involvement / Participation	CRW	Tanya Dierolf	717-216-5259
#3 Illicit Discharge Detection and Elimination (IDD&E)	CRW	Michael Joseph	717-216-5259
#4 Construction Site Stormwater Runoff Control	DCCD/CRW	Claire Maulhardt	717-216-5259
#5 Post-Construction Stormwater Management in New Development and Redevelopment	DCCD/CRW	Claire Maulhardt	717-216-5259
#6 Pollution Prevention / Good Housekeeping	CRW	Claire Maulhardt	717-216-5259

**MCM #1 – Public Education & Outreach on Stormwater Impacts Module**



**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**

2. Date of latest annual review of PEOP: **07/10/2024** Were updates made? **No**

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

**Continue implementation of the PEOP with emphasis on community outreach, specifically litter cleanups as a forum for pollution prevention and positive action, as well as website improvements.**

4. Did the MS4 achieve its goal(s) for the PEOP during the reporting period? **Yes**

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

**Continued implementation of the PEOP with emphasis on website enhancements, community events, and a coordinated stormwater week.**

**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**

2. Date of latest annual review of target audience lists: **07/30/2024** Were updates made? **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**

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2. Date of latest annual review of educational materials: **07/30/2024** Were updates made? **No**

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3. Do you have a municipal website? **Yes**

URL: **https://capitalregionwater.com/**

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

**Stormwater Introduction, City Beautiful H2O Program Plan, Street Sweeping, Joint Pollutant Reduction Plan**

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

**Refer to attachments "MS4 Public Outreach and Education Update 08-01-2023 thru 07-31-2024", which summarizes the education/outreach publications and activities.**

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

**Refer to Attachment section for annual PEOP target activities and plan.**

**BMP #4: 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).**

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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).

**Bill inserts, e-newsletters, social media, and earned media. Refer to Attachments for more details.**

**MCM #1 Comments:**

**CRW's annual update on PEOP activities is included in Attachment. CRW's PEOP is included in Attachment section.**

**MCM #1 Attachments:**

File Name	Document Type	Short Description
<b>Public Outreach and Education Program (PEOP) Plan.pdf</b>	<b>Public Education and Outreach Program Plan</b>	<b>CRW PEOP Plan</b>
<b>MS4 Public Outreach and Education Update 08-01-2023 thru 07-31-2024.pdf</b>	<b>Stormwater Educational Materials</b>	<b>Publication and Distribution of Stormwater Education Information for the reporting period</b>

**MCM #2 – Public Involvement/Participation Module**

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

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

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2. Date of latest annual review of PIPP: **07/30/2024** Were updates made? **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? **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
No data available in table			

**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**

If **Yes**, Date of Meeting or Event: **05/30/2024**

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.

**Capital Region Water's City Beautiful H2O Stormwater Carnival, held on May 30th, 2024, successful engaged the community in exploring the Municipal Separate Storm Sewer System (MS4) and its environmental impacts. The event fostered a fun, family-friendly atmosphere while providing valuable education on the MS4, green stormwater infrastructure, litter prevention, and stormwater runoff reduction techniques—including information on the CBH2O Alternatives Analysis and Financial Capabilities Assessment. Attendees participated in interactive activities and games, toured rain gardens, and witnessed CCTV robotics demonstrations. CRW experts were available to answer questions and gather community feedback on current and future projects.**

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.

**CRW assists in various events and cleanups throughout the year. During these event CRW provided stormwater material and educates resident on CRW stormwater activities and project implementation.**

**MCM #2 Comments:**

**CRW's PIPP is included in Attachments.**

**MCM #2 Attachments:**

File Name	Document Type	Short Description
<b>Public Involvement and Participation Program (PIPP) Plan.pdf</b>	<b>Public Involvement/Participation Program Plan</b>	<b>CRW PIPP Plan</b>

**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**



2. Date of latest annual review of IDD&E program:

07/30/2024

Were updates made?

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**

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): **09/02/2024**

3. Total No. of Outfalls in MS4: **84** Total No. of Outfalls Mapped: **84**

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**

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

**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**

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**

3. Date of last update or revision to map(s): **09/02/2024**

**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? **0**

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: **15 %**

4. Did any dry weather flows reveal color, turbidity, sheen, odor, floating or submerged solids? **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**) (<https://greenport.pa.gov/elibrary/GetFolder?FolderID=2740>), provided in the permit? **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**

If **Yes**, indicate the date of the ordinance or SOP:

Date of the Ordinance	Borough/Township Name?
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<b>02/01/2020</b>	<b>Capital Region Water Wastewater and Stormwater Rules and Regulation</b>
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2. If **Yes** to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PMBCW0100j) with respect to authorized non-stormwater discharges? **Yes**

If **Yes** to #1 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? **No**

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

Violation Date	Nature of Violation	Responsible Party	Enforcement Taken
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No data available in table

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? **No**

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

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

1. Was IDD&E-related information distributed to public employees, businesses, and the general public during the reporting period? **Yes**

If **Yes**, what was distributed?

**Refer to Attachment section of MCM#1 - "MS4 Public Outreach and Education Updates 08-01-2023 thru 07-31-2024" for further details on FOG and IDDE educational outreach activities.**

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

3. Do you maintain documentation of all responses, action taken, and the time required to take action? **Yes**

**MCM #3 Comments:**

CRW's IDDE program is integrated within the Operation and Maintenance Manual, Nine Minimum Controls Plan, and Cityworks. The Cityworks IDDE workflow is included in the Attachment section. CRW has a map of the MS4 area and outfalls, which is included in the Attachments. CRW has incorporated an outfall inspection procedure in their Operations and Maintenance Manual (March 2021) and also developed Cityworks based on the DEP inspection form. Refer to Attachments for workflow documentation. Refer to attachment CRW MS4 Maps (Sept 2024). CRW mapping is as complete as possible as we continue to refine and update our catchments as we discover new outfalls.

**MCM #3 Attachments:**

File Name	Document Type	Short Description
<b>Appendix B and C - Pathogen and PCB Source Investigation Plan.pdf</b>	<b>PCM Source Investigation</b>	<b>CRW Appendix B and C - Pathogen and PCB Source Investigation Plan</b>
<b>Storm Control Measure and Compliance Cityworks Templates.pdf</b>	<b>MS4 Outfall Field Screening Report</b>	<b>Stormwater outfall and illicit discharge Cityworks inspections templates</b>
<b>CRW MS4 Maps Sept 2024.pdf</b>	<b>MS4 Map</b>	<b>Capital Region Water MS4 Maps</b>

**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**

(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: Develop, implement and maintain a written Public Involvement and Participation Program (PIPP)**

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)? Note: If no building permit applications were received you may select Not Applicable. **Yes**

**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)? Note: If no building permit applications were received you may select Not Applicable. **Yes**

**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**

If **Yes**, indicate the date of the ordinance or SOP:

Date of the Ordinance	Borough/Township Name?
<b>02/01/2020</b>	<b>Capital Region Water Wastewater and Stormwater Rules and Regulation</b>

2. If **Yes** to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PMBCW0100j)? **Yes**

3. If **Yes** to #1 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:

**Not Applicable**

**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:

**Not Applicable**

**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:

**Not Applicable**

**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:

**Not Applicable**

**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. **Not Applicable**

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

**Not Applicable**

**MCM #4 Comments:**

**CRW has a Memorandum of Understanding with Dauphin County Conservation District and an updated Memorandum of Understanding with Dauphin County and the City of Harrisburg is in draft form and awaiting final execution.**

**MCM #4 Attachments:**

File Name	Document Type	Short Description
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**No attachments in the table.**

**MCM #5 – Post-Construction Stormwater Water Management in New Development & Redevelopment Module**  

**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**

If **Yes**, indicate the date of the ordinance or SOP:

Date of the Ordinance	Borough/Township Name?
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<b>02/01/2020</b>	<b>Capital Region Water Wastewater and Stormwater Rules and Regulation</b>
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2. If **Yes** to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? **Yes**

3. If **Yes** to #1 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**

If **Yes**, indicate the date of the ordinance or SOP:

Date of the Ordinance                      Borough/Township Name?

**01/01/2020                                      Capital Region Water Wastewater and Stormwater Rules and Regulations**

2. If **Yes** to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PMBCW0100j)? **Yes**

3. If **Yes** to #1 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**

If **Yes** to #1, complete Table 1 in the next module.

2. Has proper O&M occurred during the reporting period for all PCSM BMPs? **Yes**

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

**(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).

**Not Applicable**

2. Has a tracking system been established and maintained to record qualifying projects and their associated BMPs? **Not Applicable**

**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? **Not Applicable**

2. Has a tracking system been established and maintained to record results of inspections? **Not Applicable**

**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?

**Not Applicable**

**MCM #5 Comments:**

**CRW has a Memorandum of Understanding with Dauphin County Conservation District and an updated Memorandum of Understanding with Dauphin County and the City of Harrisburg is in draft form and awaiting final execution. As a new Permittee, CRW is coordinating with the City of Harrisburg and DCCD to obtain historical records on additional existing PCSM BMPs prior to 2017.**

**MCM #5 Attachments:**

File Name	Document Type	Short Description
No attachments in the table.		





**PCSM BMP Inventory Table** 



**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.

**Note:** Any BMP data entered/uploaded will be prepopulated in the next reporting year.

**You may enter your BMPs manually or upload them using our template.**

BMP No.	BMP Name	Date Installed	Date of Latest Inspection	Satisfactory	Active	Latitude	Longitude	Drain Area
1	<b>Bioretention - Raingarden (A/B soils w/o underdrain)</b>	<b>10/15/2018</b>	<b>07/24/2024</b>		<b>Yes</b>	<b>40.295357</b>	<b>-76.888006</b>	<b>16.5</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:		Description:		
<b>HACC Facilities Department 717-780-1126</b>		<b>yes</b>				<b>BMP types: Rain Gardens, berms, basins Drainage: MS4</b>		
2	<b>Bioretention - Raingarden (A/B soils w/ underdrain)</b>	<b>11/05/2018</b>	<b>07/17/2024</b>		<b>Yes</b>	<b>40.254222</b>	<b>-76.852469</b>	<b>1.61</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:		Description:		
<b>Paxton Ministries 717-236-5508</b>		<b>yes</b>				<b>BMP types: Rain Gardens, Bioretention basins Drainage: Combine</b>		
3	<b>Dry Detention Basin</b>	<b>08/04/2018</b>	<b>07/17/2024</b>		<b>Yes</b>	<b>40.264478</b>	<b>-76.865524</b>	<b>3.35</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:		Description:		
<b>Terese M. Delaplaine, J.D. CEO 717-230-3910</b>		<b>yes</b>				<b>BMP types: Rain Gardens, subsurface basins Drainage: Combine</b>		
4	<b>Bioretention - Raingarden (A/B soils w/ underdrain)</b>	<b>04/05/2018</b>	<b>07/24/2024</b>		<b>Yes</b>	<b>40.299113</b>	<b>-76.894725</b>	<b>1.65</b>

BMP No.	BMP Name	Date Installed	Date of Latest Inspection	Satisfactory	Active	Latitude	Longitude	Drain Area
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>WHTM - Keith Blaidell 717-236-2727</b>	<b>yes</b>		<b>BMP types: Rain Gardens Drainage: Combine</b>				
<b>5</b>	<b>Bioretention - Raingarden (C/D soils w/ underdrain)</b>	<b>11/05/2018</b>	<b>07/24/2024</b>	<b>✓</b>	<b>Yes</b>	<b>40.300556</b>	<b>-76.890131</b>	<b>7.4</b>
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>3300 Industrial Road Associates 717-645-2254</b>	<b>yes</b>		<b>BMP types: Rain Gardens, subsurface basins Drainage: Combine</b>				
<b>6</b>	<b>Other</b>	<b>05/15/2019</b>	<b>07/24/2024</b>	<b>✓</b>	<b>Yes</b>	<b>40.258498</b>	<b>-76.86173</b>	<b>0.99</b>
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>PA Counseling Services Inc. (717) 695-7919</b>	<b>yes</b>		<b>BMP types: Subsurface Detention Basin Drainage: Combine</b>				
<b>7</b>	<b>Bioretention - Raingarden (A/B soils w/ underdrain)</b>	<b>12/10/2019</b>	<b>07/17/2024</b>	<b>✓</b>	<b>Yes</b>	<b>40.267163</b>	<b>-76.841589</b>	<b>6.83</b>
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>Major John Griner 717-233-6755</b>	<b>yes</b>		<b>BMP types: Rain Gardens Drainage: MS4</b>				
<b>8</b>	<b>Infiltration Practices</b>	<b>11/18/2020</b>	<b>07/24/2024</b>	<b>✓</b>	<b>Yes</b>	<b>40.280751</b>	<b>-76.888466</b>	<b>0.73</b>
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>The Buonarroti Truts 3605 Vartan Way, Suite 301 Harrisburg, PA 17110 717-657-0110 ext.244</b>	<b>yes</b>		<b>BMP types: Infiltration Basin Drainage: Combine</b>				
<b>9</b>	<b>Vegetated Open Channels (A/B soils)</b>	<b>09/08/2020</b>	<b>11/18/2020</b>	<b>✓</b>	<b>Yes</b>	<b>40.282879</b>	<b>-76.88301</b>	<b>12.52</b>
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>Farm Show Complex (717) 787-5373</b>	<b>yes</b>		<b>BMP types: Swale Drainage: Combine</b>				
<b>10</b>	<b>Bioretention - Raingarden (A/B soils w/o underdrain)</b>	<b>11/01/2020</b>	<b>07/17/2024</b>	<b>✓</b>	<b>Yes</b>	<b>40.264893</b>	<b>-76.863472</b>	<b>0.85</b>
	Entity Responsible for O&M:	O&M Requirements:	Permit Number:	Description:				
	<b>White Haven Capital LLC 2675 Baltybunion Road Center Valley, PA 19034 917-535-3534</b>	<b>yes</b>		<b>BMP types: Detention Basin Drainage: Combine</b>				
<b>11</b>	<b>Other</b>	<b>12/15/2021</b>	<b>11/05/2021</b>	<b>✓</b>	<b>Yes</b>	<b>40.275855</b>	<b>-76.876187</b>	<b>1.65</b>

BMP No.	BMP Name	Date Installed	Date of Latest Inspection	Satisfactory	Active	Latitude	Longitude	Drain Area
	Entity Responsible for O&M: <b>426 S. 3rd Street Suite 101 Iemoyne, PA 17043</b>	O&M Requirements: <b>yes</b>	Permit Number:	Description: <b>BMP types: Infiltration Beds Drainage: Combine</b>				
<b>12</b>	<b>Infiltration Practices</b>	<b>08/10/2022</b>	<b>07/17/2024</b>		<b>Yes</b>	<b>40.27534</b>	<b>-76.862359</b>	<b>0.43</b>
	Entity Responsible for O&M: <b>Cindy Mallow Director of Development 717-257-4442 x233 or cmallow@bethesdamission.org</b>	O&M Requirements: <b>yes</b>	Permit Number:	Description: <b>BMP types: Rain Gardens, Permeable Pavement Drainage: Combine</b>				
<b>13</b>	<b>Other</b>	<b>06/26/2021</b>	<b>08/10/2021</b>		<b>Yes</b>	<b>40.287113</b>	<b>-76.889263</b>	<b>11.35</b>
	Entity Responsible for O&M: <b>Jonathan Hudson The Hudson Companies 2450 Shenango Valley Freeway Hermitage, PA 16148 724- 981-1204</b>	O&M Requirements: <b>yes</b>	Permit Number:	Description: <b>BMP types: SWM Facility Drainage: Combine</b>				
<b>14</b>	<b>Other</b>	<b>10/28/2021</b>	<b>07/13/2021</b>		<b>Yes</b>	<b>40.278672</b>	<b>-76.873271</b>	<b>5.95</b>
	Entity Responsible for O&M: <b>Commonwealth of PA Department of General Services 717-787-3893</b>	O&M Requirements: <b>yes</b>	Permit Number:	Description: <b>BMP types: SWM Facility Drainage: MS4</b>				
<b>15</b>	<b>Bioretention - Raingarden (C/D soils w/ underdrain)</b>	<b>05/10/2022</b>	<b>07/24/2024</b>		<b>Yes</b>	<b>40.30125</b>	<b>-76.889728</b>	<b>7.7</b>
	Entity Responsible for O&M: <b>Randy Mower Director Operations 717-231-4040 x305</b>	O&M Requirements: <b>yes</b>	Permit Number:	Description: <b>BMP types: Basin Drainage: Combine</b>				
<b>16</b>	<b>Filter Strip Runoff Reduction</b>	<b>02/05/2022</b>	<b>07/17/2024</b>		<b>Yes</b>	<b>40.248444</b>	<b>-76.86827</b>	<b>2.57</b>
	Entity Responsible for O&M: <b>Breanna McCoy PMI Division Manager, Commercial 717-635-2427</b>	O&M Requirements: <b>yes</b>	Permit Number:	Description: <b>BMP types: Infiltration Beds Drainage: Combine</b>				
<b>17</b>	<b>Permeable Pavement w/ Sand or Veg (C/D soils w/ underdrain)</b>	<b>05/25/2022</b>	<b>07/24/2024</b>		<b>Yes</b>	<b>40.271066</b>	<b>-76.883372</b>	<b>0.382</b>



BMP No.	BMP Name	Date Installed	Date of Latest Inspection	Satisfactory	Active	Latitude	Longitude	Drain Area
Entity Responsible for O&M: <b>Deacon Tom Hewitt Director Facilities Phone: 717-720-2342</b>		O&M Requirements: <b>yes</b>		Permit Number:		Description: <b>BMP types: Permeable Pavement Drainage: MS4</b>		
<b>18</b>	<b>Infiltration Practices</b>	<b>01/08/2022</b>	<b>06/20/2022</b>		<b>Yes</b>	<b>40.308744</b>	<b>-76.887694</b>	<b>28.48</b>
Entity Responsible for O&M: <b>Beth Freymiller Environmental Manager 11840 Valley View Rd Eden Prairie, MN 55344 952-914- 5229</b>		O&M Requirements: <b>yes</b>		Permit Number:		Description: <b>BMP types: Infiltration Beds, Swales Drainage: MS4</b>		
<b>19</b>	<b>Other</b>	<b>10/24/2023</b>	<b>06/20/2024</b>		<b>Yes</b>	<b>40.282578</b>	<b>-76.889872</b>	<b>0.24</b>
Entity Responsible for O&M: <b>Camp Curtain YMCA Jamien Harvey 2135 N. 6th Street 717-238-9622</b>		O&M Requirements: <b>yes</b>		Permit Number:		Description: <b>BMP types: Control Structure with weir Drainage: Combine</b>		
<b>20</b>	<b>Infiltration Practices</b>	<b>07/26/2023</b>	<b>06/20/2024</b>		<b>Yes</b>	<b>40.282062</b>	<b>-76.890044</b>	<b>0.8</b>
Entity Responsible for O&M: <b>Camp Curtain YMCA Jamien Harvey 2135 N. 6th Street 717-238-9622</b>		O&M Requirements: <b>yes</b>		Permit Number:		Description: <b>BMP types: Green walls, Infiltration Basin, Bumpouts Drainage: Combine</b>		
<b>21</b>	<b>Infiltration Practices</b>	<b>01/18/2023</b>	<b>07/24/2024</b>		<b>Yes</b>	<b>40.276179</b>	<b>-76.886539</b>	<b>1.51</b>
Entity Responsible for O&M: <b>PHMC Archives Building (717) 783-3281</b>		O&M Requirements: <b>yes</b>		Permit Number:		Description: <b>BMP types: Infiltration Basin Drainage: Combine</b>		
<b>22</b>	<b>Bioretention - Raingarden (C/D soils w/ underdrain)</b>	<b>11/26/2023</b>	<b>07/17/2024</b>		<b>Yes</b>	<b>40.274766</b>	<b>-76.885558</b>	<b>3.61</b>
Entity Responsible for O&M: <b>Division Supervisor Shawna Cihak 717-221-3959 (f) Harrisburg Systems Manager Jeff Groff   717-221- 3933</b>		O&M Requirements: <b>yes</b>		Permit Number:		Description: <b>BMP types: Rain Gardens, Infiltration bed, green roof, water reuse Drainage: Combine</b>		
<b>23</b>	<b>Other</b>	<b>08/20/2024</b>	<b>07/30/2024</b>		<b>Yes</b>	<b>40.279683</b>	<b>-76.88851</b>	<b>5</b>
Entity Responsible for O&M: <b>William Wos P.O. Box 830, Hershey, PA 17033 717-520- 3413 WosW@mhs-pa.org</b>		O&M Requirements: <b>yes</b>		Permit Number: <b>PAC220328</b>		Description: <b>BMP types: Underground Storage Drainage: Combine</b>		

BMP No.	BMP Name	Date Installed	Date of Latest Inspection	Satisfactory	Active	Latitude	Longitude	Drain Area
24	<b>Bioretention - Raingarden (C/D soils w/ underdrain)</b>	<b>03/18/2024</b>	<b>07/30/2024</b>		<b>Yes</b>	<b>40.243636</b>	<b>-76.863725</b>	<b>5</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:	Description:			
<b>Thomas Zimmerman Veterans Outreach of Pennsylvania 717-215-0305 tom.zimmerman@ebg-us.com</b>		<b>yes</b>		<b>PAC220319</b>	<b>BMP types: Rain Garden Infiltration Basin, Infiltration Trench Drainage: MS4</b>			
25	<b>Other</b>	<b>10/20/2022</b>			<b>Yes</b>	<b>40.280944</b>	<b>-76.889814</b>	<b>0.71</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:	Description:			
<b>Mighty Group Holdings, LLC Adam Maust 1591 Stoney Mountain Way Dauphin, PA 17018 717-307-5501</b>		<b>yes</b>			<b>BMP types: SW Conveyance Drainage: Combine</b>			
26	<b>Infiltration Practices</b>	<b>05/25/2024</b>			<b>Yes</b>	<b>40.268664</b>	<b>-76.885675</b>	<b>0.49</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:	Description:			
<b>Ava Goldman Bethel Village Associates 856-296-0670 avagoldman28@gmail.com</b>		<b>yes</b>			<b>BMP types: Underground Infiltration Facility Drainage: Combine</b>			
27	<b>Other</b>	<b>06/26/2024</b>			<b>Yes</b>	<b>40.252091</b>	<b>-76.861869</b>	<b>0.29</b>
Entity Responsible for O&M:		O&M Requirements:		Permit Number:	Description:			
<b>George Fernandez 717-963-7218 GFernandez@LatinoConnection.org</b>		<b>yes</b>			<b>BMP types: Underground Storage Drainage: Combine</b>			

**MCM #6 - Pollution Prevention / Good Housekeeping Module**

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**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.**

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1. Have you identified all facilities and activities owned and operated by the permittee that have the potential to generate stormwater runoff into the MS4? **Yes**

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2. When was the inventory last reviewed? **07/31/2024**

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3. When was it last updated? **01/20/2021**

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**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.**

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1. Have you developed a written O&M program for the operations identified in BMP #1? **Yes**

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2. Date of last review or update to written O&M program: **03/28/2024**

**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**

2. Date of last review or update to training program: **06/03/2024**

Date of latest training: **06/20/2024**

3. Training topics covered:

**1. Quarterly Meetings - Capital Region Water has company wide Quarterly Meetings, where topics are presented, resources and tools are shared, and regulatory obligations are shared with the whole company. Quarterly meetings are also used for company wide trainings, discussing development projects and upcoming regulations. During the March 26th, 2024 meeting an overview was provided on the City Beautiful H2O Program Plan's Alternatives Analysis long-term solutions to address combined sewer overflows and the MS4 system requirements. 2. Stormwater Operations and Maintenance Training - June 20th, 2024. Staff training and development is centered around CRW's growing Stormwater department, the MS4 permits regulations, SCMs and O&M of SCMs facilities throughout the City of Harrisburg. During this training we discussed surface and subsurface maintenance, inlet cleaning, share combine/MS4 requirements, outfall inspections, and outfall testing.**

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

**Claire Maulhardt - City Beautiful H2O Program Manager Micaela Swart - Project Engineer Sandy Batunkyi - Senior Landscape Architect at AKRF Ken Freysinger - Field Operations Supervisor**

5. Names of training attendees:

**1. Most CRW employees training (see attached) 2. Operations and manager staff (see attached)**

**MCM #6 Comments:**

**Capital Region Water uses various forms like our internal news letter to discuss and train our employees about illicit discharge and reporting a problem if they see it in the City of Harrisburg. It is important for CRW to train our employees to report a problem no matter if it is in the combined or MS4 system, due to CRWs proactive approach in both systems to prevent and investigate pollution and illicit discharges.**

**MCM #6 Attachments:**

File Name	Document Type	Short Description
<b>Training attendance Sheets.pdf</b>	<b>Stormwater Training Program</b>	<b>Training sign in sheets for the March 26, 2024 and the June 20, 2024 trainings.</b>
<b>CRW MS4 Maps Sept 2024.pdf</b>	<b>MS4 Map</b>	<b>Capital Region Water MS4 Maps</b>

**Pollutant Control Measures (PCMs) Module** 



**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	Attached	Date Completed	Anticipated Completion Date
Storm Sewershed Map(s)	<input checked="" type="checkbox"/>	<b>09/02/2024</b>	
Source Inventory	<input checked="" type="checkbox"/>	<b>07/31/2023</b>	

Task	Attached	Date Completed	Anticipated Completion Date
Investigation of Suspected Sources	<input type="checkbox"/>		<b>07/31/2025</b>
Ordinance/SOP for Controlling Animal Wastes	<input type="checkbox"/>	<b>02/02/2020</b>	

**PCM Comments:**

**Refer to the attached CRW MS4 Maps (Sept 2024). Per Appendix B&C requirements Capital Region Water developed a Pathogen and PCB Source Investigation plan in 2023 (attached). Over the next year we will be implementing the Source Investigation Plan by gathering samples and testing the 15 identified outfalls.**

**PCM Attachments:**

File Name	Document Type	Short Description
<b>Appendix B and C - Pathogen and PCB Source Investigation Plan.pdf</b>	<b>PCM Source Inventory</b>	<b>CRW Appendix B and C - Pathogen and PCB Source Investigation Plan.</b>
<b>CRW MS4 Maps Sept 2024.pdf</b>	<b>MS4 Map</b>	<b>Capital Region Water MS4 Map</b>

**Pollutant Reduction Plans (PRPs) and TMDL Plans Module**  

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	Pending Approval	Submission Date	DEP Approval Date	Surface Waters Addressed by Plan
Chesapeake Bay PRP (Appendix D)		<b>12/27/2019</b>	<b>07/22/2020</b>	<b>Chesapeake Bay, Paxton Creek, Wildwood Lake, UNT to Spring Creek</b>
Impaired Waters PRP (Appendix E)		<b>12/27/2019</b>	<b>07/22/2020</b>	<b>Wildwood Lake, UNT to Spring Creek</b>
TMDL Plan (Appendix F)		<b>12/27/2019</b>	<b>07/22/2020</b>	<b>Paxton Creek</b>
Combined Chesapeake Bay / Impaired Waters PRP (include Chesapeake Bay in your entry)		<b>12/27/2019</b>	<b>07/22/2020</b>	<b>Chesapeake Bay, Paxton Creek, Wildwood Lake, UNT to Spring Creek</b>
Combined PRP / TMDL Plan		<b>12/27/2019</b>	<b>07/22/2020</b>	<b>Chesapeake Bay, Paxton Creek, Wildwood Lake, UNT to Spring Creek</b>

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: **Capital Region Water (16% share); Lower Paxton Township (57% share); Susquehanna Township (27% share). The share percentage represents the proportional coverage of the watershed from each municipal entity.**

2. Identify the pollutants of concern and pollutant load reduction requirements under the permit.

Type of Plan	Select	TSS Load Reduction (lbs/yr)	TP Load Reduction (lbs/yr)	TN Load Reduction (lbs/yr)
Chesapeake Bay PRP (Appendix D)	<input checked="" type="checkbox"/>	<b>271,104</b>		
Impaired Waters PRP (Appendix E)	<input checked="" type="checkbox"/>	<b>45,927</b>		
TMDL Plan (Appendix F)	<input checked="" type="checkbox"/>	<b>271,104</b>		

Type of Plan	Select	TSS Load Reduction (lbs/yr)	TP Load Reduction (lbs/yr)	TN Load Reduction (lbs/yr)
Combined Chesapeake Bay / Impaired Waters PRP	<input checked="" type="checkbox"/>	<b>271,104</b>		
Combined PRP / TMDL Plan	<input checked="" type="checkbox"/>	<b>271,104</b>		

3. Date Final Report Demonstrating Achievement of Pollutant Load Reductions Due: **09/30/2025**

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

- If **Yes** to #4, was the updated plan(s) submitted to DEP?
- If **Yes** to #4, did you comply with the public participation requirements of the applicable appendix?
- If **Yes** to #4, describe the plan modifications.

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5. Summary of progress achieved during reporting period.

**CRW continued to implement street sweeping, GSI, CSS optimization, and streambank restoration projects. Refer to the attached Joint PRP Supplement.**

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6. Anticipated activities for next reporting period.

**CRW will continue to implement street sweeping, GSI, CSS optimization, and streambank restoration projects. Refer to the attached Joint PRP Supplement.**

**PRP/TMDL Comments:**

**JPRP Sediment Reduction for all three participants is 1,694,398 lbs/yr. The 16% share portion for Capital Region Water as reported above is 271,104 lbs/yr.**

**PRP/TMDL Plan Attachments:**

File Name	Document Type	Short Description
<b>Joint_PRP_Supplement_2024_Final_REV1.pdf</b>	<b>PRP Update/Revision</b>	<b>JPRP Supplemental Info</b>

**BMPs For PRP/TMDL Plan Implementation Module Tables** ^

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**New BMPs For PRP/TMDL Plan Implementation Table**




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**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.

**If you are a member of a regional PRP, report only those BMPs implemented within your municipal boundary. If you are reporting a joint BMP in which credit is shared with another permittee(s), report only your portion of the BMP credit.**

**Note:** Any new BMP data entered will be prepopulated in the next reporting year.

BMP No.	BMP Name	Date Installed	Annual Sediment Load Reduction (lbs/year)	Satisfactory	Active	Latitude	Longitude	Drain Area
<b>1</b>	<b>Other</b>	<b>08/01/2020</b>	<b>1,920</b>		<b>Yes</b>	<b>40.269722</b>	<b>-76.875556</b>	<b>2556</b>
	% Impervious:	BMP Extent:		Units:		BMP in Planning Area:		
	<b>61</b>	<b>2556</b>		<b>Acres</b>		<b>Yes</b>		
	Bmp Completed for Chapter 102:	Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
	<b>No</b>	<b>Yes</b>		<b>No</b>		<b>09/29/2024</b>		
	List MS4 Collaborators:			Description:				
	<b>CSS Rehab/Optimize - Capital Region Water, Lower Paxton Township, Susquehanna Township</b>			<b>Combined Sewer Rehab &amp; Optimization</b>				
<b>2</b>	<b>Street Sweeping - Default (25 passes/yr)</b>	<b>08/01/2020</b>	<b>4,778</b>		<b>Yes</b>	<b>40.269722</b>	<b>-76.875556</b>	
	% Impervious:	BMP Extent:		Units:		BMP in Planning Area:		
		<b>166</b>		<b>Acres</b>		<b>Yes</b>		
	Bmp Completed for Chapter 102:	Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
	<b>No</b>	<b>Yes</b>		<b>No</b>		<b>08/30/2024</b>		
	List MS4 Collaborators:			Description:				
	<b>Capital Region Water, Lower Paxton Township, Susquehanna Township</b>							
<b>5</b>	<b>Stream Restoration - Default Rate</b>	<b>10/15/2021</b>	<b>22,135</b>		<b>Yes</b>	<b>40.28929</b>	<b>-76.84123</b>	
	% Impervious:	BMP Extent:		Units:		BMP in Planning Area:		
		<b>121.6</b>		<b>Acres</b>		<b>Yes</b>		
	Bmp Completed for Chapter 102:	Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
	<b>No</b>	<b>Yes</b>		<b>No</b>		<b>08/05/2024</b>		
	List MS4 Collaborators:			Description:				
	<b>Pine Apartment - Capital Region Water, Lower Paxton Township, Susquehanna Township</b>							
<b>6</b>	<b>Stream Restoration - Default Rate</b>	<b>08/05/2024</b>	<b>20,870</b>		<b>Yes</b>	<b>40.311682</b>	<b>-76.872630</b>	

BMP No.	BMP Name	Date Installed	Annual Sediment Load Reduction (lbs/year)	Satisfactory	Active	Lattitude	Longitude	Drain Area
% Impervious:		BMP Extent:		Units:		BMP in Planning Area:		
		<b>108.8</b>		<b>Acres</b>		<b>Yes</b>		
Bmp Completed for Chapter 102:		Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
<b>No</b>		<b>Yes</b>		<b>No</b>		<b>08/05/2024</b>		
List MS4 Collaborators:				Description:				
<b>Shutt Mill/Walker Rd - Capital Region Water, Lower Paxton Township, Susquehanna Township</b>								
<b>3</b>	<b>Bioretention - Raingarden (C/D soils w/ underdrain)</b>	<b>11/01/2018</b>	<b>15</b>		<b>Yes</b>	<b>40.251765</b>	<b>-76.856778</b>	<b>7.5</b>
% Impervious:		BMP Extent:		Units:		BMP in Planning Area:		
<b>35</b>				<b>Acres</b>		<b>Yes</b>		
Bmp Completed for Chapter 102:		Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
<b>No</b>		<b>Yes</b>		<b>No</b>		<b>08/30/2024</b>		
List MS4 Collaborators:				Description:				
<b>Clovery Heights - Capital Region Water, Lower Paxton Township, Susquehanna Township</b>								
<b>4</b>	<b>Stream Restoration - Default Rate</b>	<b>01/20/2022</b>	<b>87,040</b>		<b>Yes</b>	<b>40.29292</b>	<b>-76.86083</b>	
% Impervious:		BMP Extent:		Units:		BMP in Planning Area:		
		<b>102.4</b>		<b>Acres</b>		<b>Yes</b>		
Bmp Completed for Chapter 102:		Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
<b>No</b>		<b>Yes</b>		<b>No</b>		<b>08/05/2024</b>		
List MS4 Collaborators:				Description:				
<b>Veterans Park - Capital Region Water, Lower Paxton Township, Susquehanna Township</b>								
<b>7</b>	<b>Stream Restoration - Default Rate</b>	<b>06/08/2022</b>	<b>26,680</b>		<b>Yes</b>	<b>40.301103</b>	<b>-76.823866</b>	

BMP No.	BMP Name	Date Installed	Annual Sediment Load Reduction (lbs/year)	Satisfactory	Active	Latitude	Longitude	Drain Area
% Impervious:		BMP Extent:		Units:		BMP in Planning Area:		
		<b>1510</b>		<b>Feet</b>		<b>Yes</b>		
Bmp Completed for Chapter 102:		Collaborative BMP:		Retrofit:		Date of Latest Inspection:		
<b>No</b>		<b>Yes</b>		<b>No</b>		<b>05/13/2024</b>		
List MS4 Collaborators:				Description:				
<b>Stonebridge Apts - Capital Region Water, Lower Paxton Township, Susquehanna Township</b>								

**BMP Inventory For PRP/TMDL Plan Implementation Table**

**Table 3.** 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

BMP No.	BMP Name	Date Installed	Annual Sediment Load Reduction (lbs/year)	Satisfactory	Active	Latitude	Longitude	Drain Area
No data available in table								

**Certification** 



- 1 Login to GreenPort and go to launch the MS4 Annual Reporting System.**
- 2 Review this MS4 Report.**
- 3 Sign the Report.**

**After the report is signed by all responsible officials, you will be able to submit the report.**

**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).

**CAPITAL REG WATER - Signature**

Name of Responsible Official:

**Claire Maulhardt**

Signature:



**Document Signed**



Telephone No.:

**7177566694**

Date Signed:

**09/30/2024 12:50 PM**

---

## Publication & Distribution of Stormwater Education Information:

### Bill inserts & e-newsletters:

- October 2023, included information regarding proper leaf collection and ways to keep debris out of the sewer system; included details on internal street sweeping maintenance.
- December 2023, included educational information on Fats, Oils, and Grease (FOG), and provided customer guidance for proper disposal.
- December 7, 2023, contributed to a paid advertisement, along with other Dauphin County partners, in the Patriot News specific to MS4 pollution prevention and FOG.
- March 2024, included information and invitation to sign up for CSO alerts via Everbridge. Combined Sewer Overflow Updates will alert customers when and where there is an overflow event into the Susquehanna River or Paxton Creek.
- April 2024, included information regarding the publication of two documents related to CRW's agreement with DOJ, USEPA & PADEP on the Modification to the Partial Consent Decree. Also included invitation to an April Public Feedback Session
- May 2024, included invitation to a Public Feedback Session/Stormwater Carnival held in May.
- June 2024, included education on the combined sewer system and referenced the recommended plan updates to achieve clean water goals in both the Susquehanna River and Paxton Creek.

### Social media:

- August 1-4, 2023, CRW Stormwater Week; educational, social campaign about the combined and separate sewer system, GSI, and opportunity to provide public feedback.
- October 17, 2023, Front Street Interceptor Open House coverage; plus education on the importance of this interceptor in the system.
- December 6, 2023, Lt. Gov. Austin Davis visits Boys and Girls Club because of Stormwater Features; discusses infrastructure investment through PENNVEST.
- January 9, 2024, Upcoming storm forecast and stormwater mitigation techniques for residents.
- January 23, 26, & 31, 2024, Emergency Alert campaign to gain subscribers for the CSO Alert feature.
- April 2, 2024, Flood mitigation tips and information about storm season and the importance of clearing debris and leaves from storm drains.
- April 22, 2024, Earth Day post dedicated to the progress of the City Beautiful H2O Program since 2015.
- April 24, 2024, Invitation to our first of four public feedback sessions dedicated to the Alternatives Analysis and Financial Capabilities Assessment (revised City Beautiful H2O Program Plan).

- May 13, 28, and 30, 2024, Announcement and invitation to CRW Sponsored Stormwater Carnival/MS4 Event.
- July 15-19, 2024, CRW Sponsored Stormwater Week.
- July 22, 2024, Stormwater Infrastructure Tour for residents and community. Participants had the opportunity to tour GSI throughout the city and learn more about the CBH2O program plan updates.

Earned media:

- November 2, 2023, "[Community Comment: Capital Region Water marks 10 years of infrastructure, community improvements - TheBurg \(theburgnews.com\)](#)" – Theburgnews.com
- December 5, 2023,
  - "[Lt. Gov. Davis pushes for cleaner drinking water | WHP \(local21news.com\)](#)" – CBS 21
  - "[Lt. Gov. Davis highlights \\$17.5M Harrisburg stormwater infrastructure project – Pennsylvania Capital-Star \(penncapital-star.com\)](#)" -Pennsylvania Capital-Star
  - "[Raw sewage is flowing into the Susquehanna, but this Harrisburg project will help stop that - pennlive.com](#)" – PennLive
- May 20, 2024, Sen. Casey Event: Paxton Creek Rehab Project & Grant Funding
  - [Paxton Creek rehabilitation project receives federal funding to help reduce flooding - TheBurg \(theburgnews.com\)](#)
  - [\\$1.25M in grants target Harrisburg's Paxton Creek flooding problem | StateImpact Pennsylvania \(npr.org\)](#)
  - [Federal funding will help advance plan to restore Paxton Creek \(wgal.com\)](#)
  - [Senator Casey proposes federally-funded project to fix Paxton Creek flooding issues \(local21news.com\)](#)
  - [Federal funding for Paxton Creek redesign will help replace sewer line, reduce flooding - pennlive.com](#)

Website link: <https://capitalregionwater.com/what-we-do/cbh2o/>

## Outreach & Events, including Community Partnerships:

Community events:

- August 15, 2023, community litter cleanup with Midtown Action Council
- August 26, 2023, community litter cleanup with Harrisburg Young Professionals
- September 15, 2023, community litter cleanup with Giant Company
- January 15, 2024, Martin Luther King Day of Service community litter cleanup with Friends of Midtown neighborhood group

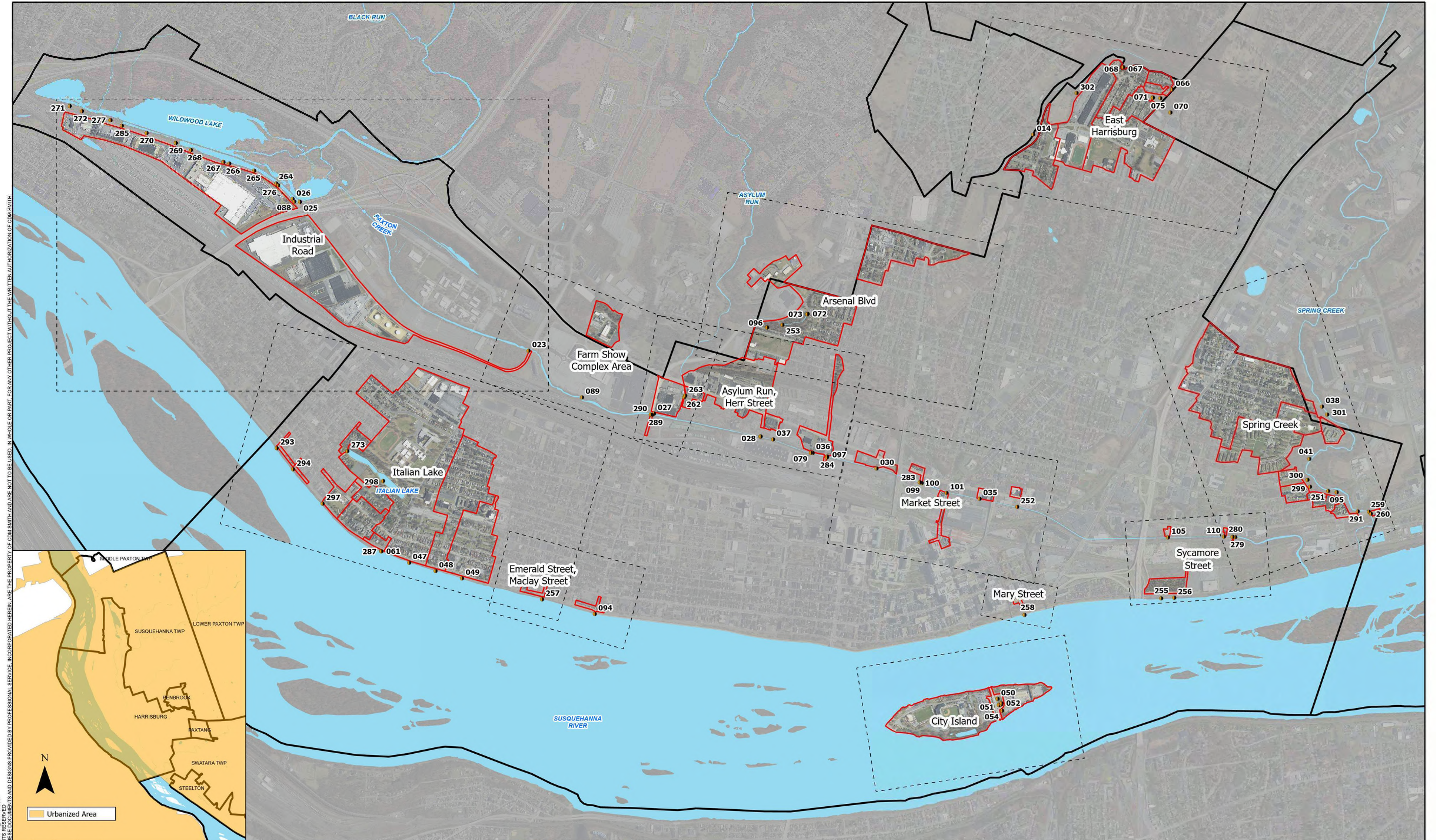
- April 13, 2024, community partner litter cleanup with Hot Spot Saturdays, a litter clean up and educational event led by Harrisburg City Councilman Ralph Rodriguez
- April 20, 2024, Great Harrisburg Litter Cleanup, community litter cleanup with Tri-county Community Action
- May 17, 2024, community litter cleanup with the Giant Company
- June 29, 2024, community partner litter cleanup with Hot Spot Saturdays, a litter clean up and educational event led by Harrisburg City Councilman Ralph Rodriguez

Community meetings/partnerships:

- August 1, 2023, Community National Night Out; information provided included educational material on pollution prevention (Fats, Oils, and Grease), CSOs, and stormwater education.
- September 16, 2023, 13<sup>th</sup> Annual LHACC Hispanic Heritage Festival; provided educational information and activities on pollution prevention (Fats, Oils, and Grease), stormwater and green infrastructure education to residents and event attendees.
- October 12, 2023, Front Street Pump Station Open House; information provided included stormwater project overview, CSOs, facility tour, and future project goals.
- October 18, 2023, Community Ambassador meeting specific to CRW green stormwater infrastructure, ongoing and upcoming green stormwater infrastructure projects.
- November 15, 2023, Facility tour with Department of Environmental Protection where stormwater management, partial consent decree, and CSO information were agenda/discussion topics.
- January 9, 2024, Paxton Creek Watershed and Education Association presentation; information on CSOs, CBH2O Program, and Adopt-a-Raingarden program.
- April 20, 2024, City of Harrisburg Earth Day Festival, an educational event hosted by the City of Harrisburg Parks and Recreation; information provided included educational material on pollution prevention (Fats, Oils, and Grease), CSOs, and CRW green stormwater infrastructure.
- April 24, 2024, City Beautiful H2O Public Feedback Session; dedicated to the Alternatives Analysis and Financial Capabilities Assessment.
- May 13, 2024, Community Council meeting; provided information on ongoing and upcoming CRW CBH2O program plan, and to encourage public feedback.
- May 15, 2024, Community Ambassador meeting; featuring a presentation on CBH2O program plan updates, including Alternatives Analysis and Financial Capabilities Assessment.
- May 30, 2024, CRW CBH2O Stormwater Carnival; featuring engaging information stations, exploration of the MS4 and permit, activities/games related to CBH2O program plan updates, including an Alternatives Analysis and Financial Capabilities information.
- June 17, 2024, Friends of Midtown meeting; presentation on CBH2O program plan updates, including Alternatives Analysis and Financial Capabilities Assessment.

- June 20, 2024, Shipoke Neighborhood Association meeting; presentation on CBH2O program plan updates, including Alternatives Analysis and Financial Capabilities Assessment.
- July 16, 2024, South Allison Hill Neighborhood Association meeting; presentation on CBH2O program plan updates, including Alternatives Analysis and Financial Capabilities Assessment.
- July 19, 2024, CRW Stormwater Week SCM Tour & Zeroday Event; event participants toured various CRW green stormwater infrastructure locations, CRW staff presented information to event participants on CBH2O program plan updates and encouraged public feedback.
- July 26, 2024, CRW Green Stormwater Infrastructure tour with Harrisburg City Council and CRW Board members where stormwater management, partial consent decree, and CSO information were agenda/discussion topics.
- July 29, 2024, CRW Green Stormwater Infrastructure tour with the Department of Environmental Protection where stormwater management, partial consent decree, and CSO information were agenda/discussion topics.





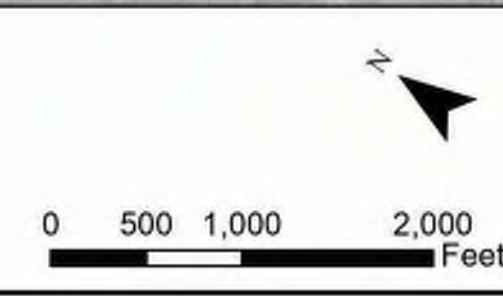
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 CROSS CHK'D BY: R. Rajan  
 APPROVED BY: R. Kirkham  
 DATE: September 2024

**CDM Smith**  
 CAPITAL REGION.  
 WATER  
 280 Granite Run Drive, Suite 160  
 Lancaster, PA 17601  
 Tel: (717) 560-7500

- CRW MS4 Outfall
- ▭ MS4 Catchments
- ▭ Municipalities



**MS4 MAPS**  
 System Overview

PROJECT NO.: 214795  
**INDEX**



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0 125 250 500 Feet

**MS4 MAPS**  
**Italian Lake**

PROJECT NO.: 214795  
**FIGURE: 1**



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- Combined/Sanitary Pipe
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- Municipalities

0 50 100 200 Feet

**MS4 MAPS**  
 Emerald Street, Maclay Street

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**FIGURE: 2**



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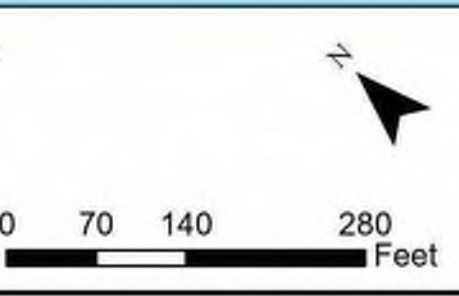


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- Combined/Sanitary Pipe
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**MS4 MAPS**  
 City Island

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**FIGURE: 3**



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0 100 200 400 Feet

**MS4 MAPS**  
**Spring Creek**

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**FIGURE: 4**





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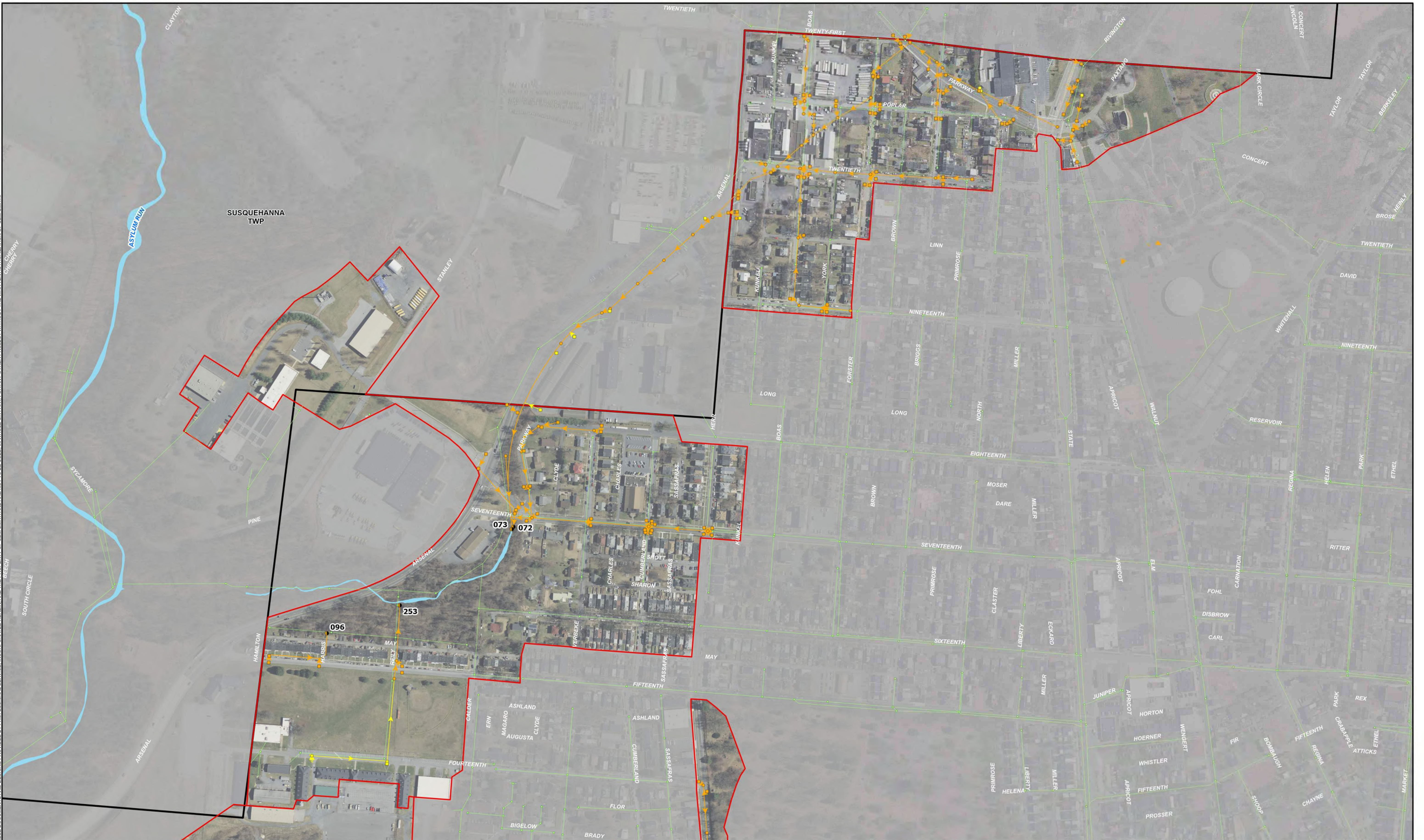


**MS4 MAPS**  
 East Harrisburg

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**FIGURE: 5**



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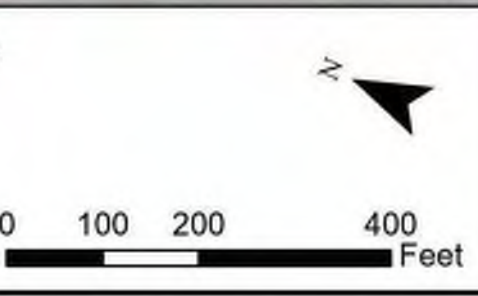


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**MS4 MAPS**  
**Arsenal Blvd**

PROJECT NO.: 214795  
**FIGURE: 6**





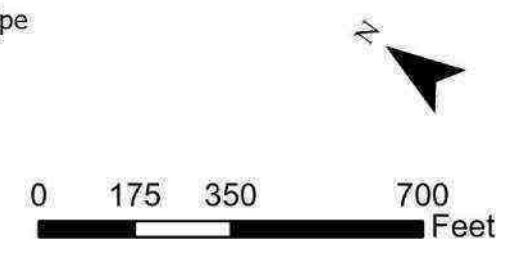
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**MS4 MAPS**  
**Industrial Road**

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**FIGURE: 7**



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- Private/Other Storm Pipe
- CRW CSO Outfall
- Combined/Sanitary Manhole
- ▭ MS4 Catchments
- ▭ Municipalities

N  
 0 70 140 280 Feet

**MS4 MAPS**  
 Farm Show Complex Area

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**FIGURE: 8**





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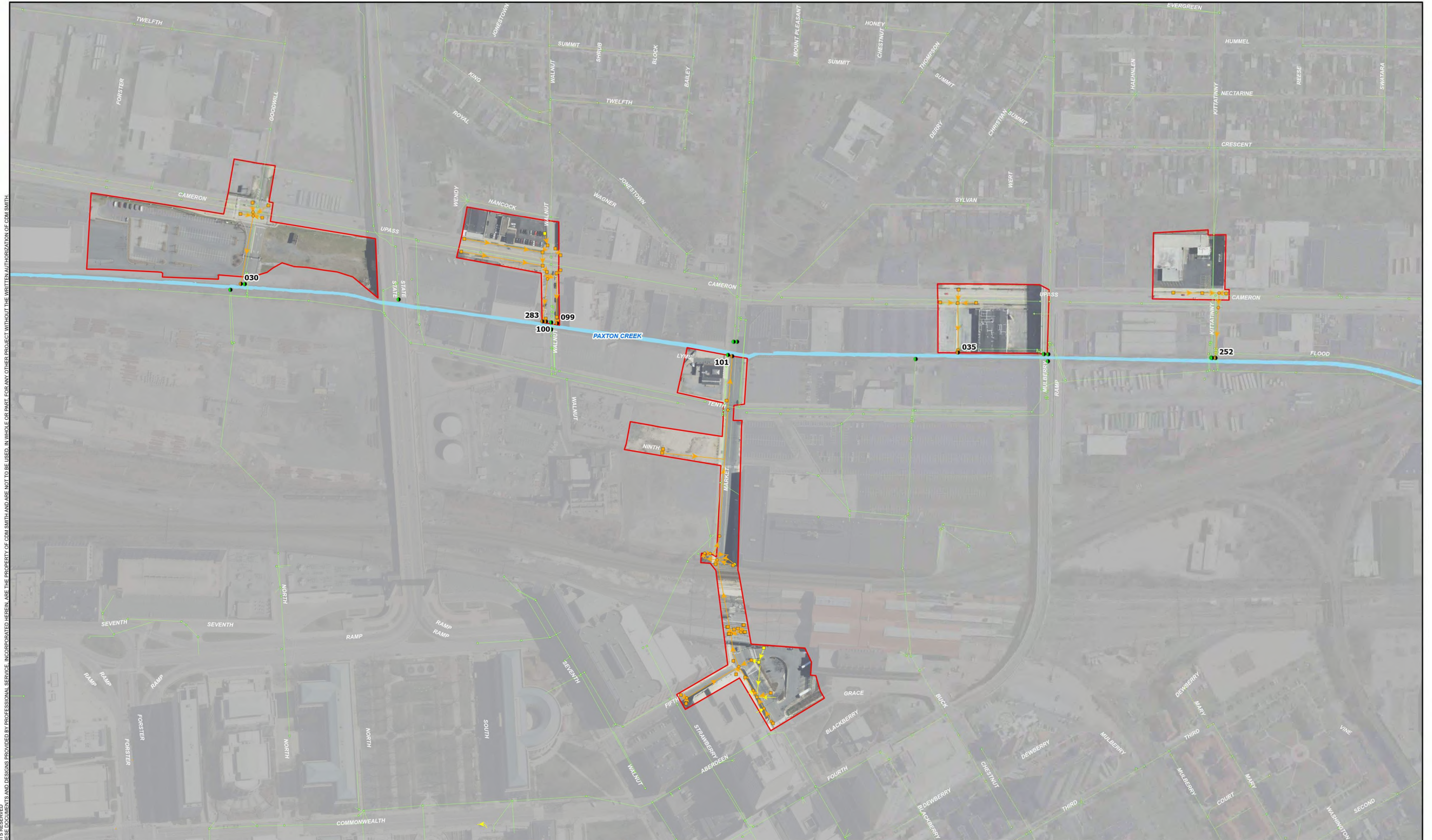


<ul style="list-style-type: none"> <li>● CRW MS4 Outfall</li> <li>● CRW Storm Inlet</li> <li>● CRW Storm Manhole</li> <li>→ CRW Storm Pipe</li> <li>● Private/Other MS4 Outfall</li> </ul>	<ul style="list-style-type: none"> <li>■ Private/Other Storm Inlet</li> <li>● Private/Other Storm Manhole</li> <li>→ Private/Other Storm Pipe</li> <li>● CRW CSO Outfall</li> <li>● Combined/Sanitary Manhole</li> </ul>	<ul style="list-style-type: none"> <li>— Combined/Sanitary Pipe</li> <li>■ MS4 Catchments</li> <li>■ Municipalities</li> </ul>
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**MS4 MAPS**  
 Asylum Run, Herr Street

PROJECT NO.: 214795  
**FIGURE: 9**





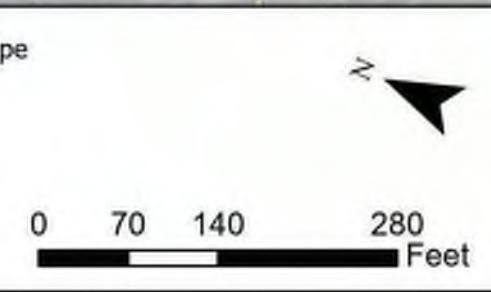
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- Municipalities



## MS4 MAPS

### Market Street

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**FIGURE:**



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**MS4 MAPS**  
**Mary Street**

PROJECT NO.: 214795  
**FIGURE:**



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 APPROVED BY: R. Kirkham  
 DATE: September 2024

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<ul style="list-style-type: none"> <li>● CRW MS4 Outfall</li> <li>■ Private/Other Storm Inlet</li> <li>● CRW Storm Inlet</li> <li>● Private/Other Storm Manhole</li> <li>● CRW Storm Manhole</li> <li>→ CRW Storm Pipe</li> <li>● Private/Other MS4 Outfall</li> </ul>	<ul style="list-style-type: none"> <li>■ Private/Other Storm Inlet</li> <li>● Private/Other Storm Manhole</li> <li>→ Private/Other Storm Pipe</li> <li>● CRW CSO Outfall</li> <li>● Combined/Sanitary Manhole</li> </ul>	<ul style="list-style-type: none"> <li>— Combined/Sanitary Pipe</li> <li>■ MS4 Catchments</li> <li>■ Municipalities</li> </ul>
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0 50 100 200 Feet

**MS4 MAPS**  
 Sycamore Street

PROJECT NO.: 214795  
**FIGURE:**



# Joint PRP Supplement

## Baseline Sediment Loads

Baseline pollutant loads for the Joint Planning Area are summarized in **Table 1** (Table 7 of the 2019 Joint Pollutant Reduction Plan<sup>1</sup>).

**Table 1. Municipal Baseline Pollutant Loading for the Joint Planning Area.**

MS4 Permittee	Percentage of Watershed	Baseline Sediment Load (lb/yr)
CRW (City of Harrisburg)	16%	3,667,006
Township of Lower Paxton	57%	9,324,542
Township of Susquehanna	27%	4,141,959
<b>Joint Planning Area Total:</b>	<b>100%</b>	<b>17,507,254*</b>

\*Total Baseline Sediment Load based on MMW results for the entire watershed, not the sum of the individual municipalities. Refer to Appendix D of this report for modeling outputs.

The baseline sediment load for the CRW combined sewer system service area is summarized in **Table 2** (Table 10 of the 2019 Joint Pollutant Reduction Plan). This load reduction is comprised of a land-based sediment load (load in CSO discharge from outfalls to receiving waters) and a streambank erosion sediment load (sediment mobilized and transported downstream due to erosive wet weather velocities).

**Table 2. Summary of CRW/City of Harrisburg Paxton Creek Corrected Sediment Loads from the Combined Sewer System.**

Scenario	Land-Based Sediment Load (ton/yr)	Streambank Erosion Sediment Load (ton/yr)	Total CSS Sediment Load (ton/yr)	Total CSS Sediment Load (lb/yr)	Reduction from Existing
Sediment Load Reported in 2008 TMDL	18	364	382	764,000	---
Corrected Sediment Load from Existing Combined Sewer System	16	332	348	696,000	5%

<sup>1</sup> Joint Pollutant Reduction Plan: Paxton Creek Watershed TMDL, Chesapeake Bay PRP, Wildwood Lake PRP, and UNT Spring Creek PRP, Revised December 27, 2019

## “Existing” Loads and Load Reduction Requirements

As documented in the Joint Plan, the “Baseline” load is adjusted to account for projects completed prior to completion of the Joint Plan. The resulting load is the “Existing” load, and the Municipal Entities understand the “Existing” load to be the starting point for load reductions required under the five-year MS4 permit term beginning on August 1, 2020.

Load reduction requirements are summarized in **Table 3** (Table A of the Joint Pollutant Reduction Plan).

**Table 3. Short-Term (5-yr) Pollutant Load Reduction Requirements by PRP Planning Area.**

Planning Area	Impairment	Existing Sediment Load (lb/yr)	Required Sediment Load Reduction	Sediment Reduction Required (lb/yr)
Paxton Creek TMDL	Sediment / Siltation	3,630,159	10%	363,016
Joint Planning Area	Sediment / Nutrients	16,943,984	10%	1,694,398
Wildwood Lake	Sediment / Siltation	2,825,290	10%	282,529
UNT to Spring Creek	Sediment / Siltation	45,137	10%	4,514

## “Existing” Projects Used to Adjust Baseline Sediment Loads

As shown in **Table 4**, seven (7) existing stormwater quality projects (EX-01 through EX-07) were completed in the Paxton Creek Watershed prior to the completion of the Joint Plan and are being utilized as credit to reduce the baseline sediment loading estimates for the watershed. Pollutant load reductions associated with CRW’s CSS have also been included in the existing load calculations (Joint Pollutant Reduction Plan, p. 24).

**Table 4. Installed BMPs.**

Map Reference	BMP Name	Planning Area Credit	Sediment Load Reduction (lbs/yr)*
EX-01	Paxton Church / Reicherl Rd. Rain Garden and Stream Restoration (240 ft.)	Joint Planning Area / Paxton Creek TMDL	40,012
EX-02	Fox Hunt Rd. Stream Restoration (375 ft.)	Joint Planning Area / Paxton Creek TMDL	43,125
EX-03	UNT to Asylum Run Retention Basin and Stream Restoration (350 ft.)	Joint Planning Area / Paxton Creek TMDL	72,025
EX-04	Elmerton Ave. Bio-retention Basin	Joint Planning Area / Paxton Creek TMDL	17,191
EX-05	Black Run Stream Restoration (800 ft.)	Joint Planning Area / Paxton Creek TMDL	92,000
EX-06	Asylum Run Bio-retention and Stream Restoration (400 ft.)	Joint Planning Area / Paxton Creek TMDL	73,617
EX-07	Dowhower Rd Buffer and Stream Restoration (1,220 ft.)	Joint Planning Area	140,300
CSS-01	CRW Combined Sewer System Sediment Capture Performance to Paxton Creek Watershed Allowance	Joint Planning Area / Paxton Creek TMDL	68,000
CSS-02	CRW Combined Sewer System Sediment Capture Performance to Susquehanna River Allowance	Joint Planning Area	17,000
<b>Total Existing BMP Sediment Load Reduction:</b>			<b>563,270</b>
*BMP reduction values derived using Joint Planning Area Model My Watershed parameters			

## Sediment Load Reduction Status as of August 1, 2024: Additional Background and Calculations

For the current reporting period ending on August 1, 2024, the Municipal Entities are taking credit for projects in the operation phase. Table 8 in the Conclusion section summarizes the status of all projects in the design, construction, and operation phases. When completed and in operation, these projects are projected to achieve approximately 101% of the load reduction required by the end of the current permit term. The remainder of this section provides background information on projects that are completed and in operation.

### **BMP15: Street Sweeping**

CRW is performing street sweeping a minimum of 25 times per year as required by PADEP guidelines. As described in the Joint Pollutant Reduction Plan (**Table 5**), the annual sediment load reduction credit applied is 29,864 lb/yr.

**Table 5. Proposed Street Sweeping Reduction Credit.**

BMP #	Early Action Project	BMP Name	Managed Area (Acre)	Reduction (lbs)
BMP-15	EAP-9	CRW Street Sweeping (25 times per year)	166.0	29,864
<b>Totals:</b>				<b>29,864</b>

## **BMP16: Combined Sewer System Rehabilitation and Optimization**

Sediment removed by the CRW combined sewer system (CSS) is the sum of three components.

- First, sediment is removed by processes within green stormwater infrastructure such as settling and filtration. Stormwater released from green stormwater infrastructure is expected to have a lower sediment concentration than untreated stormwater prior to entering the combined sewer system.
- Second, sediment is captured by the combined sewer system and conveyed to CRW’s Advanced Wastewater Treatment Facility. Reduction in the volume of combined sewer overflow is expected to proportionally reduce “land based” sediment load reaching the receiving water.
- Third, instream sediment mobilization in Paxton Creek is reduced as CSO flows and velocities reduce erosive forces on the stream channel.

### **Summary of CSS Improvements and CSO Control Benefits**

CSS improvements implemented and operating as of August 1, 2024 consist primarily of early action GSI projects. Other improvements include the Front Street Pump Station upgrade, however sediment reductions (via increased capture) from this project will not be fully realized until CSO regulator modifications are complete (which cannot be fully completed until the interceptors are rehabilitated). Some regulator modifications have been completed (Hemlock Street Interceptor CSO regulators; and some Paxton Creek CSO regulator weirs have been raised to prevent creek intrusion), which has resulted in CSS improvements.

**Table 6** is a summary of completed GSI projects within CRW’s service area. These projects are located in the CSS service area with the exception of the Cloverly Heights project, which is located in the MS4 service area.

**Table 6. Summary of Completed CRW GSI Projects.**

<b>Project Name</b>	<b>Impervious Drainage Area [ac]</b>	<b>Total Storage Volume [cf]</b>
Penn and Sayford	0.34	581
Royal Terrace Playground	0.79	3,190
Summit Terrace	2.64	14,600
3rd & Emerald	0.29	1,150
3rd & Woodbine	0.09	435
3rd & Maclay	0.22	1,150
3rd and Muench	0.42	1,080
3rd and Kelker	0.12	966
3rd and Hamilton	0.06	372
3rd and Harris	0.11	430
3rd and Basin	0.04	25
3rd and Calder	0.18	1,160
3rd and Sayford	0.03	99

**Table 6. Summary of Completed CRW GSI Projects.**

Project Name	Impervious Drainage Area [ac]	Total Storage Volume [cf]
3rd and Verbeke	0.10	727
3rd and Boas	0.11	487
3rd and Union	0.13	86
3rd and Blackberry	0.12	55
Allison Hill	1.0	5,230
4th and Dauphin	0.75	5,130
Camp Curtin Big Green Block	2.78	14,421
Bellevue Park Pond	16.6	33,772
Boys & Girls Club	0.95	10,366
Midtown	4.4	27,959
Peffer Street Lots	1.8	16,376
Swatara Park	1.9	10,824
<b>CSS SUBTOTAL</b>	<b>36.0</b>	<b>150,700</b>
Cloverly Heights	2.6	15,400
<b>TOTAL</b>	<b>38.7</b>	<b>166,000</b>

With the above CSS improvements, the systemwide Typical Year CSO volume is reduced by approximately 23.7 MG per year. The Typical Year represents average annual hydrologic conditions as defined in the Partial Consent Decree between CRW, PADEP, and the USEPA.

As of 2024, CRW is now reporting CSS improvements and corresponding sediment load reductions based on an updated, more detailed version of its calibrated SWMM5 model. The updated model was necessary to comply with requirements set forth in the Modified Partial Consent Decree (MPCD) related to the development of CRW’s Long Term Control Plan, and for consistency, CRW has aligned the JPRP reporting with that version of the model. The difference in model versions explains why the reported CSO volume reduction for the 2024 update is less than what was provided for the 2023 update.

**Reduction in Sediment Concentration in Green Stormwater Infrastructure Effluent**

CRW has updated its calibrated SWMM5 model of the combined sewer service area to represent green stormwater infrastructure facilities operating within CRW’s combined sewer service area as of August 1, 2024. Green stormwater infrastructure removes runoff volume and pollutant loads through processes including infiltration to native soil, evaporation, filtration through planting media, and sorption of pollutants to soil particles. Hydraulic controls limiting the rate of effluent flow also reduce combined sewer overflows and streambank erosion occurring downstream.

For modeling purposes, green infrastructure facilities are categorized as one of three broad types – infiltration only, slow release only, and infiltration/slow release. For each facility type and within each model subshed, the SWMM5 model represents the storage volume, infiltration footprint, and



any slow-release hydraulic controls implemented. Model settings are described in more detail below.

- Storage volume and infiltration footprint were based on engineering design information available in CRW’s GIS.
- If pre-construction or post-construction infiltration rate data were available, soil hydraulic conductivity assumptions were derived from this data. If no data were available, hydraulic conductivity values from CRW’s calibrated SWMM5 rainfall-runoff response model were incorporated in GSI elements on a sewershed basis.
- For sites indicated in CRW’s GIS as having slow-release hydraulic controls, design data on orifice size and elevation were incorporated in the model if available. If design data were not available, a 0.5-inch diameter orifice was assumed.

For the Typical Year SWMM5 continuous simulation, during each CSO event, slow-release flows from GSI entering the combined sewer system were determined. The portion of total flow made up of slow release was determined, and slow release from GSI was assumed to represent the same fraction of CSO as it does of total flow. (Example: If slow release from GSI makes up 1% of the flow entering the combined sewer system for a particular event, then slow release from GSI also makes up 1% of CSO volume for that event.) The CSO volumes attributed to GSI slow release for each overflow event are summed to determine the total CSO volume attributed to GSI slow release during the Typical Year. Sediment removal percentages are applied to concentrations in slow-release volumes from GSI facilities based on PADEP’s recommended values (Table 7).<sup>2</sup>

**Table 7. BMP Effectiveness Values.**

BMP Name	BMP Effectiveness Values			BMP Description
	TN	TP	Sediment	
Infiltration Practices w/ Sand, Veg.	85%	85%	95%	A depression to form an infiltration basin where sediment is trapped and water infiltrates the soil. No underdrains are associated with infiltration basins and trenches, because by definition these systems provide complete infiltration. Design specifications require infiltration basins and trenches to be built in good soil, they are not constructed on poor soils, such as C and D soil types. Engineers are required to test the soil before approval to build is issued. To receive credit over the longer term, jurisdictions must conduct yearly inspections to determine if the basin or trench is still infiltrating runoff.
Bioretention – Raingarden (C/D soils w/ underdrain)	25%	45%	55%	An excavated pit backfilled with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants. This BMP has an underdrain and is in C or D soil.
Bioretention / Raingarden (A/B soils w/ underdrain)	70%	75%	80%	An excavated pit backfilled with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants. This BMP has an underdrain and is in A or B soil.
Bioretention / Raingarden (A/B soils w/o underdrain)	80%	85%	90%	An excavated pit backfilled with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants. This BMP has no underdrain and is in A or B soil.

<sup>2</sup> PADEP. BMP Effectiveness Values. 3800-PM-BCW0100m Rev. 6/2018.  
<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=3686>. Accessed 9/2/21.



As of August 1, 2024, the estimated sediment load removed due to decreased concentration from GSI slow release in CRW’s combined sewer areas is 15 lb/yr. Note that this value represents only the portion of load reduction from CSO outfalls due to decrease in sediment *concentration* in the CSO. The load reduction due to reducing the CSO *volume* is described in the following section.

**Land-Based Sediment Load Reductions Due to Combined Sewer Overflow Reduction**

This credit represents the sediment load that is captured and conveyed to the AWTF under current (August 1, 2024) conditions compared to the Existing Condition. This reduction is added to the sediment load removed from surface runoff by GSI slow release before the runoff enters the combined sewer system.

As described in the Joint Pollutant Reduction Plan, this load is assumed to be directly proportional to the reduction in CSO volume discharged to the receiving waters in the current (August 1, 2024) conditions compared to the Existing Condition. The calculation employed in production of the Joint Pollutant Reduction Plan has been applied in exactly the same way to calculate the reduction during the reporting period. However, the equation presented in the Joint Pollutant Reduction Plan has been corrected to produce the correct units and numerical results.

<b>2017 PRP Land-Based Runoff Sediment Load from CSS changes calculation method</b>	
$LBS_{CAP} - LBS_{CSS} = LBS_{CRW-TOT} * A_{CSS} / A_{CRW-TOT} - \frac{LBS_{CRW-TOT}}{LBS_{CSS}} * \frac{CSS_{VOL}}{CSO_{VOL}}$	
where:	
$LBS_{CAP} - LBS_{CSS}$	= Reductions in Land-Based Sediment Load from existing CSS operations (lb)
$LBS_{CRW-TOT}$	= Total Land-Based Sediment Load from CRW Harrisburg (lb)
$A_{CSS}$	= Area draining to the CRW CSS (acres)
$A_{CRW-TOT}$	= Total Area in CRW/Harrisburg (acres)
$LBS_{CSS}$	= Total Land-Based Sediment Load from CRW/Harrisburg (lbs)
$CSS_{VOL}$	= Runoff volume from CSS area (gal)
$CSO_{VOL}$	= CSO volume from existing CSS operation (gal)

**Joint Pollutant Reduction Plan: Paxton Creek Watershed TMDL, Chesapeake Bay PRP, Wildwood Lake PRP, and UNT Spring Creek PRP, Revised December 27, 2019; Exhibit 3, Corrected as Noted in Red**

Runoff and CSO volumes were calculated based on a typical year simulation of CRW’s calibrated SWMM5 model of the combined sewer collection and treatment system. As of August 1, 2024, the estimated land-based sediment load removed by CRW’s combined sewer system in the Joint Planning Area is 2,549 lb/yr.

**Instream Sediment Load Reductions Due to CSS Operations**

This credit represents the reduction in sediment mobilization due to streambank erosion. As described in the approved Joint Pollutant Reduction Plan, the reduction in streambank erosion load is assumed to be directly proportional to the reduction in CSO volume discharged to the receiving water in the current (August 1, 2024) conditions compared to the Existing Condition. The equation described in the Joint Pollutant Reduction Plan has been corrected to produce the correct units and numerical results.

<b>Joint PRP In-Stream Sediment Load Attributed to CRW CSS</b>	
$SBS_{CSS} = SBS_{CRW-TOT} - CSS_{VOL} * SBS_{Rate}$	
where:	
$SBS_{CSS}$	= Reduction In-Stream Sediment Load from CSS operation (lb)
$SBS_{CRW-TOT}$	= Total In-Stream Sediment Load attributed to CRW/Harrisburg (lb)
$CSS_{VOL}$	= Estimated Volume Captured by Existing CRW CSS Operation (gal)
$SBS_{Rate}$	= In-stream erosion rate (lb / gal), from 2015 Paxton Creek TMDL Strategy

**Joint Pollutant Reduction Plan: Paxton Creek Watershed TMDL, Chesapeake Bay PRP, Wildwood Lake PRP, and UNT Spring Creek PRP, Revised December 27, 2019; Exhibit 2**

As of August 1, 2024, the estimated instream sediment load removed by CRW’s combined sewer system in the Joint Planning Area is 9,152 lb/yr.

### **GSI Projects Outside the Combined Sewer Service Area**

Currently, one GSI project (Cloverly Heights) is located within CRW’s MS4 area. Calculation of the sediment load in runoff entering this facility is closely based on the methodology originally implemented in Mapsheds and described in the Joint Pollutant Reduction Plan. The sediment load reduction achieved in the facility is calculated using PADEP’s recommended sediment removal percentage (55% removal for bioretention with C/D soils). During the Typical Year, approximately 2.85 million gallons of runoff is captured and managed by the Cloverly Heights project, yielding a 91 lb/yr reduction at the MS4 outfall.

### **Ongoing/Upcoming JPRP Projects**

The Paxton Creek Cooperative (PCC) has completed four projects and is in progress with the fifth project within the current permit term reaching towards the group’s collective pounds of sediment removal. These projects were previously highlighted in the 2021-2022 Annual Status Report. The fifth project, bid and awarded in June 2022, is now outlined in more detail below.

To briefly recap on the previous projects completed recently where RES proposed to use a combination of stream restoration and floodplain restoration to meet sediment removal quantities. The selected locations had unstable and incised channels due to stormwater impacts and historic land uses. The proposed floodplain restorations were designed to be self-sustaining, highly functioning, floodplain systems that will reduce pollutant loadings by stabilizing eroded streambanks, reconnecting of channel restoration, floodplain grading, subsurface grade control structures, and habitat structural improvements to restore channel pattern and the floodplain. Overall, the stream complex is designed to have low bank heights and low-very low streambank erosion rates. Of the three projects completed by RES, Veterans Park – North & South received roughly 2,477 LF, Shutt Mill Park received approximately 913 LF, and Pine Apartments Complex received roughly 1,459 LF of restorations. Currently, these projects are being monitored, by RES, for additional pounds of sediment removed which will be confirmed to the PCC after one year of monitoring.

Stonebridge Apartments was also completed within the current permit term, which restored 1800 feet of Asylum Run. This stretch was previously identified as a top 5 contributor of pollutants to

Paxton Creek. The project resolved the excessive erosion occurring by reconstructing the streambed and restoring the surrounding floodplain area.

PCC and PennDOT bid, with Swatara Township, on another round of projects. The second contract was awarded to RES. The Swatara Township project is not included towards the PCC’s sediment removal amount. RES has submitted the Conceptual PRP for approval outlining the PPC project, the McIntosh BMP on Paxton Creek. The BMP is located within the Wildwood Lake sub-watershed of the Paxton Creek Watershed. Land cover within the proposed BMP limits includes lawn, degraded wetland, and shrubland. The public parcel was donated to the Township and a portion is being used as a public park. The watercourses proposed for restoration as part of this BMP include Paxton Creek and one (1) UNT to Paxton Creek. The 2,310 LF of channels within the BMP originate from underneath bridges along McIntosh Road outside of the BMP limits. The channels being proposed for restoration have high vertical banks up to 5 feet, limited bank protection, and they exhibit high levels of degradation due to stormwater runoff from the substantial urbanized drainage area. The side tributary draining from outside of the BMP limits also exhibits impairment and contributes sediment to the watershed. RES proposes to utilize floodplain restoration for the majority of the reaches to maximize sediment reduction potential. Table 8 below provides the estimated total sediment reduction.

## Conclusion

For the current reporting period ending on August 1, 2024, the Municipal Entities are taking credit for projects currently in the operation phase. Table 8 summarizes the status of all projects in the design, construction, and operation phases. When completed and in operation, these projects are projected to achieve load reduction goals prior to the end of the current permit term.

**Table 8. Completed and In Progress JPRP Projects**

Joint Planning Area Projects	JPRP BMP Name	JPRP Projection [lb/yr]	2024 Updated Projection (Work in Progress) [lb/yr]	Capital Region Water Share (16%)	Lower Paxton Township Share (57%)	Susquehanna Township Share (27%)	Percent of Overall Reduction [% of Goal]
Veterans Park - North & South <sup>(2)</sup>	BMP-04 and -05	247,250	544,003	87,040	310,082	146,881	32%
Pine Apartment Complex <sup>(2)</sup>	BMP-11	166,750	138,345	22,135	78,857	37,353	8%
Shutt Mill Rd/Walker Mill Rd <sup>(2)</sup>	BMP-06	505,171	130,437	20,870	74,349	35,218	8%
Stonebridge Apartment <sup>(2)</sup>	BMP-02	166,750	166,750	26,680	95,048	45,023	10%
CRW Street Sweeping <sup>(2)</sup>	BMP-15	29,864	29,864	4,778	17,022	8,063	2%
Cloverly Heights GSI <sup>(2)</sup>	N/A	N/A	91	15	52	25	0.01%
2022 PennDOT Contract (RES) <sup>(1)</sup>	N/A	N/A	697,378	111,580	397,505	188,292	41%
CRW CSS Rehab & Optimization <sup>(2)</sup>	BMP-16	355,000	12,000	1,920	6,840	3,240	0.7%
<b>Total Reduction</b>			<b>1,718,868</b>	<b>275,019</b>	<b>979,755</b>	<b>464,094</b>	<b>101%</b>
Planning Area Goal (JPRP, Section F)			1,694,398	271,104	965,807	457,487	-
Remaining Reduction (Excess Lbs.)			(24,470)	(3,915)	(13,948)	(6,607)	-1%

- (1) Design or construction in progress (subject to PADEP approval)
- (2) Complete and in operation