



September 29, 2023

NPDES Annual MS4 Status Report Reviewer
Bureau of Clean Water
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401
Submitted via DEP's OnBase Electronic Forms Upload Tool

RE: Westtown Township Annual MS4 Status Report
NPDES Permit No. PAI130528
Westtown Township, Chester County
236-23-0007

Dear Reviewer,

On behalf of Westtown Township, Cedarville Engineering Group, LLC is pleased to provide the enclosed Annual MS4 Status Report and associated documentation for the NPDES MS4 Individual Permit (PAI130528) covering the period from July 1, 2022 to June 30, 2023.

We believe that the report adequately documents the Township's compliance with the permit and continuing effort to go above and beyond in improving their Stormwater Management Program.

Thank you in advance for your time. Please do not hesitate to contact me at 610-705-4500 or jorr-greene@cedarvilleeng.com with any questions.

Best Regards,
Cedarville Engineering Group, LLC

A handwritten signature in black ink that reads "Jennifer Orr-Greene".

Jennifer Orr-Greene
Environmental Team Lead

cc: Jon Altshul, Westtown Township
Liudmila Carter, Westtown Township
Pam Coleman, Westtown Township





ANNUAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) STATUS REPORT

FOR THE PERIOD July 1, 2022 TO JUNE 30, 2023

GENERAL INFORMATION					
Permittee Name:	Westtown Township	NPDES Permit No.:	PAI130528		
Mailing Address:	1039 Wilmington Pike	Effective Date:	12/01/2019		
City, State, Zip:	West Chester, PA 19382	Expiration Date:	11/30/2024		
MS4 Contact Person:	Jon Altshul	Renewal Due Date:	06/03/2024		
Title:	Township Manager	Municipality:	Westtown Township		
Phone:	610-692-1930	County:	Chester County		
Email:	jaltshul@westtown.org				
Co-Permittees (if applicable): N/A					
Appendix(ces) that permittee is subject to (select all that apply):					
<input type="checkbox"/> Appendix A <input checked="" type="checkbox"/> Appendix B <input type="checkbox"/> Appendix C <input type="checkbox"/> Appendix D <input type="checkbox"/> Appendix E <input type="checkbox"/> Appendix F					
WATER QUALITY INFORMATION					
Are there any discharges to waters within the Chesapeake Bay Watershed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Identify all surface waters that receive stormwater discharges from the permittee's MS4 and provide the requested information (see instructions).					
Receiving Water Name	Ch. 93 Class.	Impaired?	Cause(s)	TMDL?	WLA?
See Attachment 1					

GENERAL MINIMUM CONTROL MEASURE (MCM) INFORMATION

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

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

MCM	Entity Responsible	Contact Name	Phone
#1 Public Education and Outreach on Storm Water Impacts	Westtown Township	Pam Coleman	610-692-1930
#2 Public Involvement/Participation	Westtown Township	Pam Coleman	610-692-1930
#3 Illicit Discharge Detection and Elimination (IDD&E)	Westtown Township	Mark Gross	610-692-1930
#4 Construction Site Storm Water Runoff Control	Westtown Township	Liudmila Carter	610-692-1930
#5 Post-Construction Storm Water Management in New Development and Redevelopment	Westtown Township	Katherine Archibauld	610-692-1930
#6 Pollution Prevention / Good Housekeeping	Westtown Township	Mark Gross	610-692-1930

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

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

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

Yes No

2. Date of latest annual review of PEOP: March 2023 Were updates made? Yes No

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

- Reviewed the PEOP.
- Reviewed the target audience list.
- Reviewed the stormwater educational information on the Township website
- Published a minimum of one article relating to stormwater and one or more of the MCMs in the Township newsletter.
- Displayed stormwater educational information at the Township Building.
- Partnered with Christina Watersheds Municipal Partnership (CWMP) for public education and outreach.
- Partnered with the following watershed organizations in the Township for public education & outreach: Chester Ridley Crum (CRC) Watersheds Association, Brandywine Red Clay Alliance (BRC), Willistown Conservation Trust (WCT)

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

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

- Review the PEOP and update as necessary.
- Review the target audience list and update as necessary.
- Review the stormwater educational information on the Township website and update as necessary.
- Publish a minimum of one article relating to stormwater and one or more of the MCMs in the township newsletter.
- Display stormwater educational information at the Township Building.
- Continue to partner with CWMP for public education and outreach.
- Continue to partner with BRC and CRC for public education and outreach.

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

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

Yes No

2. Date of latest annual review of target audience lists: March 2023 Were updates made? Yes No

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

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

Yes No

2. Date of latest annual review of educational materials: March 2023 Were updates made? Yes No

3. Do you have a municipal website? Yes No (URL:
<http://www.westtownpa.org/storm-water/>)

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

The website hosts a user-friendly Stormwater Management page with ample information. The page displays the contact information for the Assistant Township Manager that is in charge of stormwater issues throughout the municipality. Special Notices are listed for updates to the Township's TMDL/PRP and Stormwater Ordinance with links to both documents. The website contains a description of stormwater and the MS4 Program, including the six MCMs. Three videos are posted and titled: Clean Water: A Long Journey from the Source to Our Tap; Homeowners Guide: Healthy, Stormwater Friendly Lawn; and Rain Barrels: Small Investment, Big Benefits. There are also links to the Township's Annual MS4 Status Report, municipal facilities inspection, and Stormwater O&M Program. The Township's TMDL and PRP are described, including specific projects being completed as part of these plans. The page details the process of reporting an illicit discharge and who to contact for what type of violation. The website contains links to the following stormwater management sites:

- CHESTER COUNTY WATER RESOURCES AUTHORITY
- CRC WATERSHEDS ASSOCIATION
- EPA STORMWATER MANAGEMENT PAGE
- NONPOINT SOURCE PA (DEP & PACD)
- PENNSYLVANIA ORGANIZATION FOR WATERSHEDS AND RIVERS
- STORMWATER PA
- STROUD WATER RESEARCH CENTER
- NATIONAL STORMWATER CALCULATOR
- EPA Watershed Academy Webcast Seminars

The website links the following resources:

- Homeowners Guide to Stormwater BMP Maintenance
- Watershed Stewardship
- Managing Small Ponds
- Reducing Stormwater and Flooding
- Water Quality Hotlines
- Rain Gardens Brochure
- Understanding the Link Between Fertilizer and Stream Health
- Ways to Protect Your Stream & Streamside Property
- Pet Waste Cleanup
- Raise Mower Height for Cleaner Water
- Keep Car Washing from Hurting our Streams
- PA DEP Stream Maintenance Booklet
- Auto Maintenance Good Practices
- Stormwater Guide for Property Managers
- Guide to Preserving Trees in Development
- Pollution Prevention at Construction Sites
- Restaurant and Food Service Good Practices

4. Describe any other method(s) used during the reporting period to provide information on stormwater to the public:
- The Spring 2023 issue of "The Westtown Gazette" contained an article titled "Stormwater Management Tips" which contained information for environmentally conscious yard upkeep. This issue also advertised the CRC tree planting event. (Appendix A)
 - The Fall 2022 issue of "The Westtown Gazette" contained a note from the township manager notify residents of PADEP changes to ordinance requirements and that a new stormwater ordinance is coming. the issue also included and EAC survey link. (Appendix A)

- The Summer 2022 issue of " The Westtown Gazette" contained an article titled " Summer Tips for Stormwater Management" which described good lawn cutting practice to improve stormwater collection by lawnspace, where to route roof drains, and what to do with grass clippings. (Appendix A)
- The Township included the pamphlet titled "Homeowners Guide to Stormwater BMP Maintenance" published by PA DEP in the welcome packets to new residents during the reporting period. (Appendix A)

5. Identify specific plans for the publication of stormwater materials for the upcoming year:
The Township will continue to publish stormwater material through multiple newsletter articles and other methods identified above, maintain/update the website, utilize social media, and coordinate other education and outreach efforts through CRC, BRC, and CWMP.

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

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

As indicated above:

- The Township had the following stormwater-related flyers on the bulletin board in their municipal building: "Hold the Stormwater, Please!" which provided residents with tips for stormwater management on their property, "Clean Water Begins with You" which educated residents about common sources of water pollution, and "Understanding the Link Between Fertilizer and Stream Health".
- A pamphlet titled: "When it Rains It Drains, Understanding stormwater and how it can affect your money, safety, health, and the environment" is available at the Township
- An advertisement was posted on the Township Facebook page for the CRC Annual Streams Cleanup on March 25, 2023 and a Yard Waste Pickup scheduled for June 9, 2023.
- Westtown Township Environmental Advisory Council pamphlet for new residents
- The Township was a cost share partner with CWMP. Refer to Appendix A for documentation.

MCM #1 Comments:

Refer to Appendix A for MCM #1 supporting documentation.

MCM #2 – PUBLIC INVOLVEMENT/PARTICIPATION

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

1. For new permittees only, was the PIPP developed and implemented within one year of permit coverage?
 Yes No
2. Date of latest annual review of PIPP: March 2023 Were updates made? Yes No

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

1. Was an MS4-related ordinance, SOP, PRP or TMDL Plan developed during the reporting period? Yes No
2. If Yes, describe how you advertised the draft document(s) and how you provided opportunities for public review, input and feedback:

Westtown Township's PRP was modified to change to the BMP type for the Thorne Drive Basin Retrofit project from a dry extended detention basin to a wet pond design. The updated PRP was made available on the Township's website for a 30-day public review period from August 4 through September 5, 2023. On August 4, 2023 the

Township published (in print and digitally) a notice for public comment regarding the PRP modification. The Township announced the PRP update at the Board of Supervisor's Meeting on August 7, 2023 and accepted public comments at a subsequent BOS Meeting on August 21, 2023. One comment unrelated to the PRP, regarding the Goose Creek Sewege Treatment Plant, was received and a reponse issued appropriately. Once the public comment period ended, the PRP update was officially accepted.

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
Pollutant Reduction Plan	8/4/2023	8/21/2022 (at BOS meeting)	9/5/2023 (submitted with Annual MS4 Status Report)
Stormwater Ordinance	7/18/22	8/15/22	9/6/22

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

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

Yes No If Yes, Date of Meeting or Event: October 3, 2022

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.

August 21, 2023: BOS meeting, one PRP comment received

August 7, 2023: BOS meeting announcement of public comment acceptance period for amendments to PRP

March 28, 2023: EAC meeting included meadow discussion and CRC Tree Planting update

Janurary 23, 2023: EAC discussed MS4 information to publish in newsletter and announced tree planting event

November 22, 2022: EAC discussed lawn to meadow conversions as a stormwater BMP.

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.

May 20, 2023: The Township participated in the Streams Learning Day with Willistown Conservation Trust (WCT) and CRC Watersheds Association.

April 22, 2023: The Township partnered with the CRC and hosted a tree planting event

April 11, 2023: The Township advertised a tree planting event in partnership with CRC.

Feburary 3, 2023: The Township advertised and participated in a highway clean up with Craig Williams

September 13, 2022: The Township hosted an electronics recycling event.

MCM #2 Comments:

Refer to Appendices B for MCM #2 supporting documentation.

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

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

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

Yes No

2. Date of latest annual review of IDD&E program: March 2023 Were updates made? Yes No

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

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

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

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

2. Date of last update or revision to map(s): May 2023

3.	Total No. of Outfalls in MS4: 203	Total No. of Outfalls Mapped: 203
4.	Total No. of Observation Points: 58	Total No. of Observation Points Mapped: 58
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?	
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, select: <input type="checkbox"/> Existing Outfall(s) Identified <input type="checkbox"/> New Outfall(s) Proposed	

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

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

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

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

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

3. Date of last update or revision to map(s): May 2023

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? 77

2. Indicate the percentage of all outfalls screened in the past five years. 71.4%

3. Indicate the percent of outfalls screened during the reporting period that revealed dry weather flows: 2.4%

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

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

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

Yes No

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

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

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

If Yes, indicate the date of the ordinance or SOP: 9/6/2022

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

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

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

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

Violation Date	Nature of Violation	Responsible Party	Enforcement Taken
3/15/2023	Sewage overflow at lateral clean-out. Small amount of sewage identified flowing into storm sewer system	1527 Johnny Way Property owner	Homeowner was notified and the issue was resolved within 48 hours.
07/5			

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

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

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

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

If Yes, what was distributed? Educational IDD&E-related information is posted on the Township website. In addition, articles were published in the Township's newsletter relating to IDD&E as referenced in MCM #1 and Appendix A for documentation.

2. Is there a well-publicized method for employees, businesses and the public to report stormwater pollution incidents? Yes No

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

MCM #3 Comments:

CEG performed routine dry weather screenings of 55 outfalls on behalf of the Westtown Township. Results are documented in a report, See Appendix C.

Westtown Township's Public Works Department completed dry weather screenings of 22 outfalls that drain priority areas. The inspection reports and photos are included in Appendix C.

One incident of illicit flow was observed and quickly resolved in Westtown Township. The violation is documented and reported in Appendix C.

On the Township's 'Stormwater Management' webpage, examples and indicators of illicit discharges are described as well as how to report potential illicit discharges when observed. Water Quality Hotlines are listed to contact.

The Township maintains a map with all stormwater infrastructure, outfalls, and BMPs by hosting a live ArcGIS Online web map application. The web application was made in addition to the pdf map (Appendix G) and is publicly accessible via the Township website here:

<https://cedarvilleeng.maps.arcgis.com/apps/webappviewer/index.html?id=838f05722dc747659ea1ca9537766dcb>

MCM #4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

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

Yes No

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

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

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

Yes No Not Applicable (no building permit applications received)

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

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

Yes No Not Applicable (no building permit applications received)

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

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

If Yes, indicate the date of the ordinance or SOP: 9/6/2022

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

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

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

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

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:

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:

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:

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

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

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

MCM #4 Comments:

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

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

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that requires implementation and maintenance of post-construction stormwater management (PCSM) BMPs? Yes No
If Yes, indicate the date of the ordinance or SOP: 9/6/2022
2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? Yes No
3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

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

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that encourages and expands the use of LID in new development and redevelopment? Yes No
If Yes, indicate the date of the ordinance or SOP: 9/6/2022
2. If Yes to #1, is the ordinance or SOP consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j)? Yes No
3. If Yes to #2 and the ordinance or SOP has not been submitted previously, attach a copy of the ordinance or SOP.

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

1. Do you have an inventory of all PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003? Yes No
If Yes to #1, complete Table 1 on the next page.
2. Has proper O&M occurred during the reporting period for all PCSM BMPs? Yes No
3. If No to #2, explain what action(s) the permittee has taken or plans to take to ensure proper O&M.

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

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

1. Specify the number of PCSM Plans reviewed during the reporting period for projects disturbing greater than or equal to one acre (including projects less than one acre that are part of a larger common plan of development or sale):
2. Has a tracking system been established and maintained to record qualifying projects and their associated BMPs?
 Yes No

PCSM BMP INVENTORY

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

BMP No.	BMP Name	DA (ac)	Entity Responsible for O&M	Latitude	Longitude	Date Installed	O&M Requirements	NPDES Permit No.
1	Refer to Appendix D.			o ' "	o ' "			
2				o ' "	o ' "			
3				o ' "	o ' "			
4				o ' "	o ' "			
5				o ' "	o ' "			
6				o ' "	o ' "			
7				o ' "	o ' "			
8				o ' "	o ' "			
9				o ' "	o ' "			
10				o ' "	o ' "			
11				o ' "	o ' "			
12				o ' "	o ' "			
13				o ' "	o ' "			
14				o ' "	o ' "			
15				o ' "	o ' "			
16				o ' "	o ' "			

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

1. During the reporting period have you inspected all qualifying development and redevelopment projects during the construction phase to ensure proper installation of approved structural BMPs?
 Yes No Not Applicable (no qualifying projects during reporting period)
2. Has a tracking system been established and maintained to record results of inspections?
 Yes No

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

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

MCM #5 Comments:

BMP #3:

CEG performed inspections of 69 PCSM BMPs on behalf of Westtown Township in March-April 2023. Inspection results were compiled into a report and submitted to the Township. Action items were recommended for 28 of the BMPs inspected. Notice of non-compliance and violation letters were sent to the responsible parties informing them that maintenance is needed to ensure proper O&M of the PCSM BMP. Responsible parties are expected to address the violations and notify the Township to complete a follow-up inspection, if applicable. All remaining follow-up inspections will be completed in Fall 2023.

The Township also implemented a Small Projects, Less Than 1 Acre (LT1A) BMP program. CEG performed inspections of 24 LT1A BMPs on behalf of Westtown Township in April 2023. Inspection results were reported, and recommendations were suggested for 3 of the BMPs. Notice and non-compliance and violation letters were sent to responsible parties informing them of the maintenance needs required to ensure proper O&M.

Westtown Township's PSCM and LT1A BMP Inventories are included in Appendix D.

MCM #6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

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

1. Have you identified all facilities and activities owned and operated by the permittee that have the potential to generate stormwater runoff into the MS4? Yes No
2. When was the inventory last reviewed? March 2023
3. When was it last updated? May 2020

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

1. Have you developed a written O&M program for the operations identified in BMP #1? Yes No
2. Date of last review or update to written O&M program: Updated May 2020

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

1. Have you developed an employee training program? Yes No
2. Date of last review or update to training program: March 2020 Date of latest training: March 28, 2023

3. Training topics covered:
 Overview of the NPDES MS4 Program
 MCM 3- Illicit Discharge Detection and Elimination
 MCM 6- Pollution Prevention and Good Housekeeping
4. Name(s) of training presenter(s):
 Karen Cerenzia, CEG
 Amanda Reitbauer, CEG
5. Names of training attendees:
 Refer to the employee training sign-in sheet in Appendix E.

MCM #6 Comments:
 Refer to Appendix E for MCM #6 supporting documentation.

POLLUTANT CONTROL MEASURES (PCMs)

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

Task	Date Completed	Attached	Anticipated Completion Date
Storm Sewershed Map(s)	6/10/2019	<input type="checkbox"/>	
Source Inventory	8/5/2022	<input type="checkbox"/>	
Investigation of Suspected Sources	8/15/2023	<input checked="" type="checkbox"/>	
Ordinance/SOP for Controlling Animal Wastes	2/01/2021	<input checked="" type="checkbox"/>	

PCM Comments:
 The Township is required to implement Pollutant Control Measures because Chester Creek is impaired for pathogens.
 The PCM Source Investigation was completed during this reporting period. Three outfalls were identified as suspected sources of pathogens in the 2022 PCM Source Inventory review; therefore these sites were targeted for the 2023 investigation. Samples of dry and wet weather flow were collected and sent to the lab for pathogen analysis. Results are documented in the PCM Source Investigation Report (Refer to Appendix F).
 Westtown Township also enacted an ordinance that addresses requirements for proper disposal of animal waste as part of the PCM requirement for pathogen impairment. The ordinance is appended to the PCM Source Investigation Report included in Appendix F.

POLLUTANT REDUCTION PLANS (PRPs) AND TMDL PLANS

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

Type of Plan	Submission Date	DEP Approval Date	Surface Waters Addressed by Plan
--------------	-----------------	-------------------	----------------------------------

<input type="checkbox"/> Chesapeake Bay PRP (Appendix D)			Chesapeake Bay
<input type="checkbox"/> Impaired Waters PRP (Appendix E)			
<input type="checkbox"/> TMDL Plan (Appendix F)			
<input type="checkbox"/> Combined Chesapeake Bay / Impaired Waters PRP			Chesapeake Bay,
<input checked="" type="checkbox"/> Combined PRP / TMDL Plan	6/11/2019 (resubmission date)	12/1/2019	Goose Creek, Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek.

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

Joint Plan Participants:

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

Type of Plan	TSS Load Reduction (lbs/yr)	TP Load Reduction (lbs/yr)	TN Load Reduction (lbs/yr)
<input type="checkbox"/> Chesapeake Bay PRP (Appendix D)			
<input type="checkbox"/> Impaired Waters PRP (Appendix E)			
<input type="checkbox"/> TMDL Plan (Appendix F)			
<input type="checkbox"/> Combined Chesapeake Bay / Impaired Waters PRP			
<input type="checkbox"/> Combined PRP / TMDL Plan			

3. Date Final Report Demonstrating Achievement of Pollutant Load Reductions Due: November 30, 2024

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

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

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

If Yes to #4, describe the plan modifications.

See MCM #2 Above and Appendix B for documentation

5. Summary of progress achieved during reporting period.

Construction of the Sage Road Basin Retrofit project is complete and currently being maintained by the Township.

Plans for the Thorne Drive Basin Retrofit Project are in the final stages of design (90% complete). The Township applied for a Watershed Restoration & Protection Grant and Growing Greener Grant to help fund this project. Funding is currently pending approval.

The PRP was updated to reflect a change in BMP type for Thorne Drive Basin from a dry detention basin to a wet pond design. The Township followed the appropriate public participation requirements and adopted the update in August 2023 (See Appendix B)

In partnership with the Brandywine Red Clay Alliance (BRC), Westtown Township was awarded a Growing Greener Grant with \$50k match for the Radley Run Stream Restoration Project.

6. Anticipated activities for next reporting period.

Finalize the design plans for the Thorne Drive Basin Retrofit Project. NPDES Permit approval is expected by end of 2023 with construction starting 2024.

Construction for the Radley Run Stream Restoration Project is expected to begin in 2024.

Participate in the CRC tree planting event scheduled to happen on 10/28/2023 along Goose Creek.

PRP/TMDL Plan Comments:

Westtown Township is dedicated to reducing pollutant loadings to surface waters from their MS4 and completing the objectives of the PRP.

NEW BMPs FOR PRP/TMDL PLAN IMPLEMENTATION

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

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed or Implemented	Planning Area?	Ch. 102?	Annual Sediment Load Reduction (lbs/yr)
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	
						o ' "	o ' "		<input type="checkbox"/>	<input type="checkbox"/>	

BMP INVENTORY FOR PRP/TMDL PLAN IMPLEMENTATION

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

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed	Annual Sediment Load Reduction (lbs/yr)	Date of Latest Inspection	Satisfactory?
1	Tyson Park Bioswale	41.4	17	1.59	acres	36°56'46"	75°33'46"	2015	13,595.28	9/2021	<input checked="" type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>
						o ' "	o ' "				<input type="checkbox"/>

CERTIFICATION

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

For All Permittees: I certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

JONATHAN ALTSHUL

Name of Responsible Official

610-692-1930

Telephone No.



Signature

9/29/23

Date



Annual MS4 Status Report

ATTACHMENT 1

Water Quality Information



ceg

Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



RECEIVING WATER TABLE

Receiving Water Name	Ch. 93 Class.	Impaired	Cause(s)	TMDL	WLA
Hunters Run	HQ-TSF	Yes	Water/Flow Variability; Cause Unknown; Siltation	No	No
UNT to Hunters Run	HQ-TSF	Yes	Water/Flow Variability; Cause Unknown	No	No
UNT to Ridley Creek	HQ-TSF	Yes	Water/Flow Variability; Cause Unknown; Siltation; Pathogens	No	No
UNT 1 to East Branch Chester Creek	TSF	Yes	Cause Unknown; Urban Water/Flow Variability; Siltation; Habitat Alterations; Pathogens	No	No
UNT 2 to East Branch Chester Creek	TSF	Yes	Cause Unknown; Urban Water/Flow Variability; Siltation; Habitat Alterations; Pathogens	No	No
UNT 3 to East Branch Chester Creek	TSF	Yes	Cause Unknown; Urban Water/Flow Variability; Siltation; Habitat Alterations; Pathogens	No	No
UNT 4 to East Branch Chester Creek	WWF	Yes	Cause Unknown; Urban Water/Flow Variability; Siltation; Habitat Alterations; Pathogens	No	No
UNT to Chester Creek	TSF	Yes	Cause Unknown; Urban Water/Flow Variability; Siltation; Habitat Alterations; Organic Enrichment; Pathogens	No	No
East Branch Chester Creek	TSF	Yes	Cause Unknown; Urban Water/Flow Variability; Siltation; Habitat Alterations; Pathogens	No	No
Chester Creek	TSF	Yes	Flow Alteration; Water/Flow Variability; Cause Unknown; Pathogens; Siltation	No	No
Goose Creek	TSF	Yes	Flow Alteration; Water/Flow Variability; Cause Unknown; Pathogens; Organic Enrichment; Siltation	Yes	Yes
UNT to Goose Creek	TSF	Yes	Flow Alteration; Water/Flow Variability; Cause Unknown; Pathogens; Organic Enrichment; Siltation	Yes	Yes
UNT 1 to Radley Run	WWF	Yes	Water/Flow Variability; Siltation	Yes	No
UNT 2 to Radley Run	WWF	Yes	Water/Flow Variability; Siltation	Yes	No
Radley Run	WWF	Yes	Water/Flow Variability; Siltation	Yes	No
UNT 1 to Plum Run	WWF	Yes	Water/Flow Variability; Siltation	Yes	No
UNT 2 to Plum Run	WWF	Yes	Water/Flow Variability; Siltation	Yes	No



Annual MS4 Status Report

APPENDIX A

MCM #1

Public Education & Outreach



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

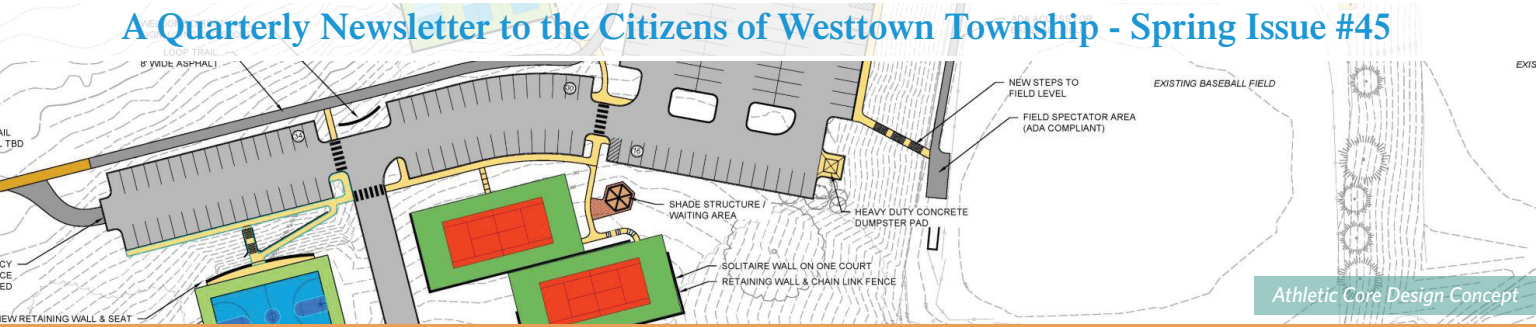
P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



WESTTOWN GAZETTE

A Quarterly Newsletter to the Citizens of Westtown Township - Spring Issue #45



Athletic Core Design Concept

Hello Westtown Neighbors!

In early February, Punxsutawney Phil saw his shadow, predicting six more weeks of winter. Since then, we have experienced days with temperatures in the 60's and nights with temperatures in the 20's. Still, signs of spring are beginning to show up everywhere.

With the coming spring, we will see the start of construction for the much-needed improvements to the Oakbourne Park athletic area off East Pleasant Grove Road. This season will be a little different for young baseball and soccer players and for those who use the Oakbourne basketball and tennis courts, but, ultimately, the completion of the long overdue, upgraded facilities will prove to be a welcome addition to our community. The Township's plans include new tennis courts, a new basketball court, pickleball courts, restrooms, a pavilion, a playground, and new parking facilities, among other things. Please check the Township website for the current plans, with construction hopefully being completed by the end of 2023.

The other areas of Oakbourne Park, including the Oakbourne Mansion, pavilion, playground, community garden, scout fire circle, and most trails will remain open and available for use while construction is underway. I also will take this opportunity to remind everyone of the availability of two smaller Township parks: Tyson Park, which has a small pavilion, playground, paved walking circuit, and natural meadow; and the recently improved Larchbourne Park, which has a climbing structure, swings, open space for creative play, and picnic tables.

Any discussion of parks at this time would not be complete without a brief update regarding Crebilly Farm. At the time of writing, the Township has received significant commitments for grant awards toward the agreed upon purchase price, and based upon the results of the Open Space Referendum during the last general election, the Township is in a position to fund its required portion of the purchase price. The parties all remain committed to

fulfilling their respective obligations under the various agreements with the hope that one day our Township residents and our community, in general, will have another 200+ acres to use for trails, passive recreation, and open space.

As always, if you have questions or any suggestions regarding any matter within the Township, please do not hesitate to contact the Board of Supervisors or Township administration at 610-692-1930 or supervisors@westtown.org. Or better yet, please attend a Board meeting or meetings of our Township's commissions to express your views in person.

Scott E. Yaw, Esq.

Scott E. Yaw, Esq.
Westtown Township Supervisor

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Westtown Township, County of Chester

Commonwealth of Pennsylvania



Board of Supervisors: Tom Foster, Dick Pomerantz, Scott Yaw

Street Address: 1039 Wilmington Pike • West Chester, Pennsylvania 19382

Mailing Address: P.O. Box 79 • Westtown, PA 19395-0079

Phone: 610-692-1930 • Fax: 610-692-9651 • www.westtownpa.org

CHESTER COUNTY USEFUL CONTACTS & PHONE NUMBERS

Chester County Government Services Center:

601 Westtown Road, West Chester, PA 19382
 Information: 610-344-6000
 Aging Services: 610-344-6350
 Children, Youth, & Families: 610-344-5800
 Emergency Services: 610-344-5000
 Health Department: 610-344-6225
 Septic Systems: 610-344-6526
 Recycling/Hazardous Waste: 610-273-3771
 License Bureau (Dog, Fishing, Hunting): 610-344-6370
 Marriage License Bureau: 610-344-6335
 Passports: 610-344-6310
 Recorder of Deeds: 610-344-6330
 Tax Assessment: 610-344-6105
 Tax Claim/Lien Bureau: 610-344-6360
 Voters Services: 610-344-6410

Chester County Court House:

313 W. Market Street, West Chester Borough, PA 19380

Chester County Conservation District:

610-925-4920

West Chester Area School District:

782 Springdale Drive, Exton, PA 19341
 Main Number: 484-266-1000 / School Tax: 484-266-1035

State Senate - 9th District:

John Kane: Local: 610-436-3320 / State: 717-787-4712
www.legis.state.pa.us

State House - 156th District:

Craig Williams: Local: 610-358-5925
www.pahouse.com/williams

U. S. Senators:

Robert Casey: Local: 215-405-9660 / Federal: 202-224-6324
www.casey.senate.gov
 John Fetterman: Local: 215-241-1090 / Federal 202-224-4254
www.fetterman.senate.gov

Congress - 6th District:

Chrissy Houlahan (D): Local: 610-883-5050 /
 Federal 202-225-4315
www.houlahan.house.gov

For Police, Fire, & Medical Emergencies, DIAL 911.

For Non-Emergencies:

610-692-5100

BULLETIN BOARD

Full-Time Skilled Laborer

This position is responsible for maintenance and repair of roadways, trails, parks, right-of-ways, Township maintained properties, snow removal, storm and sanitary sewer. Additional job requirements, and application information can be found on the Township website.

Parks & Recreation Commission Vacancies

If you enjoy P&R programs, please consider volunteering your time to help plan and run events at Oakbourne Park. Interested residents should submit their resume and brief letter of interest to jaltshul@westtown.org. Commission applicants must be current in all municipal obligations.

Crimewatch

This online tool gives the public direct access to crime and public safety related information happening in their community. Residents are encouraged to download the CRIMEWATCH mobile app. For more information visit www.chester.crimewatchpa.com/wegopd/ or to learn more about CRIMEWATCH Pennsylvania visit www.CrimeWatchPA.com.

Ready Chesco

This service is used to notify you during a major crisis or emergency, and delivers important emergency alerts, such as weather, road closures, health, or community alerts. To sign up for Chester County's electronic notification system for emergency information go to <http://www.readychesco.org>.



Stay Informed

To receive information about meetings, special events, and public service announcements via email, please go to the Township website and click on the blue Get Email Alerts button at the top of any page.

Pay Sewer and Trash Bills Online

Residents can use Visa, Master Card, or Discover to pay utility bills online at www.westtownpa.org. There is no fee for this service.

Save paper!

If you would like to receive the *Westtown Gazette* electronically, send an email to administration@westtown.org and we will remove you from the mailing list. Newsletters are archived on the Township website.

Manager's Message

On behalf of all Township staff, I'd like to wish all Westtown residents a very happy spring! There's a lot going on in the Township that I'd like to bring you up to speed on.

On March 6, the Board of Supervisors awarded the construction contract for improvements in Oakbourne Park to MECO Construction. The project calls for a substantial renovation of the Athletic Complex off East Pleasant Grove Road, including adding a comfort station, pavilion, playground, three pickleball courts, and a paved parking lot, and upgrading the basketball and tennis courts. The project will also improve the trail system throughout the Park. More detailed project plans can be found on the Township website on the Parks, Trails, and Open Space page.

The work will get underway this spring and is expected to be completed prior to the end of the year. We have notified East Side Little League and West Chester United Soccer Club that, unfortunately, the sports fields will not be available for use once the work gets underway. While this year-long interruption will certainly create logistical challenges, we are confident that the improvements, once complete, will benefit Township residents and our youth sport league partners for decades to come.

There is also a lot to report about developments with Township staff! First, I am pleased to report that Liudmila (Mila) Carter has been appointed as the Township's new Assistant Township Manager and Director of Planning and Zoning, replacing Maggie Dobbs. In this role, Mila is the Township's main point of contact for all property owners wishing to make improvements to their properties. Mila is a Westtown resident who brings a wealth of experience to her role, including having served as the Township's Planner from 2017 to 2021. She has previously worked in progressively responsible positions with the Lycoming County Planning Commission, the Delaware Department of Transportation, and Brandywine Conservancy. Welcome Mila!



Mila Carter



Cindi King

I am also delighted to report that Cindi King has been promoted to the position of Director of Finance, replacing long-time Finance Director JoAnne Grube, who has served the Township with remarkable distinction since 2002. Cindi joined the Township's Finance Department in February 2020 and brings 21 years of accounting experience, with 13 of those years in a local government setting. Please join me in wishing JoAnne a very happy retirement, and Cindi great success as she transitions into her new role.

Public Works will also be losing two extraordinary long-term employees after decades of tireless service. Please join us in wishing Road Crewman Dave Brown and Wastewater Treatment Plant Operator Chris Cullerson very long and relaxing retirements after 35 and 21 years of service, respectively. Dave and Chris have both left indelible marks on the smooth operation of the Township and will be missed by all!

As always, I am happy to discuss anything going on in the Township. Please don't hesitate to give me a call or drop me a line!

Sincerely,

Jonathan Altshul
Township Manager

Crebilly Farm Update

As of early March, the Township has received \$10.2 million in grant commitments for the acquisition of Crebilly Farm. \$6 million has been awarded by the Pennsylvania Department of Conservation and Natural Resources, and another \$4.2 million has been awarded by the Chester County Commissioners. In addition, the County Commissioners have also awarded Natural Lands \$2.15 million to pay for conservation easements over 102 acres along the southwestern section of the property. These conservation easements will prevent the parcels that will remain under private ownership from being subdivided or developed in the future. Westtown Township is extraordinarily grateful to our County and state partners who see the value in protecting and preserving Crebilly Farm!



Chester County Commissioners present grant awards to the Westtown Board of Supervisors.

Documenting a Former Slave's Life

Westtown Resident, First Black Person In The County To Have A Will Probated

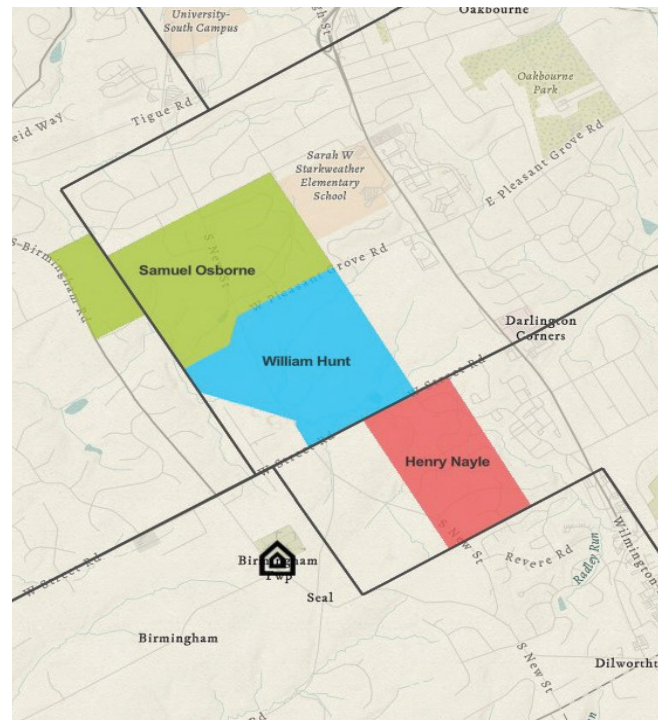
By Gail O. Guterl, Former Member, Westtown Township Historical Commission

When we think of historic events and Crebilly Farm, we think of it as the place where action occurred before and during the Battle of Brandywine. But Crebilly Farm has what one could call "small" history, everyday events that are just as interesting and significant. The story of Bilha, a freed slave from Thornbury Township, is significant for what we have learned about her life, and for the fact this Westtown resident was the first identified Black person in Chester County to have a will probated, way back in 1769.

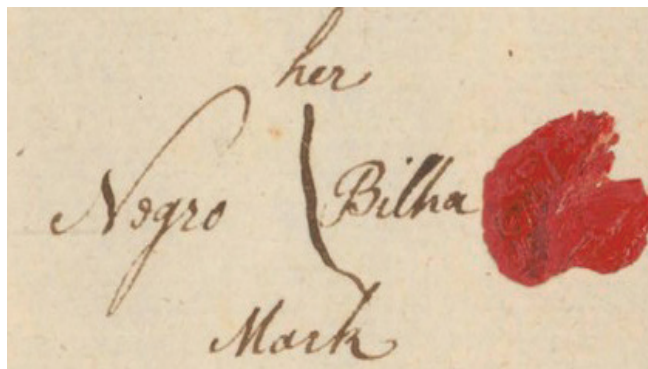
To learn more, let's go back to the 1700s. Slavery was legal in Pennsylvania until 1780 when it was abolished by the Gradual Abolition Act. You would think that because Pennsylvania abolished slavery in 1780, we would know about any slaves freed by the act who lived in Westtown Township. We know very little.

So, it is notable that because she left a will, we know about one former slave named Bilha (sometimes referred to as Bella) who lived on the Hunt property, now part of Crebilly Farm. We know things about her through implications or interpretation of her will, according to research conducted by the Chester County Archives and Record Services. We know what property she owned during her lifetime and who her neighbors and friends were. We also know she was literate because she owned several books. However, we also know that rather than sign her name to her will just before her death, instead she made her mark.

We know Bilha stayed in the area, possibly because her brother, Jack - who it is believed was free - and her cousin Jacob and his wife Sarah (owned by Joseph Hunt, who lived on 60 acres of what is now part of Crebilly Farm) were local. The 60 acres Joseph Hunt lived on was owned by his son, William.



This map shows the location of the Nayle, Hunt and Osborne properties. After Bilha was freed, she lived on the Hunt property, which is now part of what we know of as Crebilly Farm, on the western end of Westtown Township. Map, courtesy Chester County Archives & Records Services.



It is believed Bilha was literate, but because she was so ill at the time of her death, she made her mark on her will, rather than sign her name. Document, courtesy of Chester County Archives & Records Services.

Bilha belonged to Henry and Deborah Nayle of Thornbury Township, just south of what is Route 926 today. Henry died in June 1726 and left Bilha, whose age we do not know, to his wife. His will specified that when Deborah died Bilha was to be sold and proceeds from that sale were to become part of the estate. Bilha remained Deborah's slave for the next 24 years, but when Deborah, a Quaker who belonged to nearby Birmingham Meetinghouse, died in 1750 her will freed Bilha.

Bilha lived in a small cottage on William Hunt's property (also part of what is now Crebilly Farm) and because she did not bequeath anything to children, it is believed she may have been widowed but childless. It is notable that the executors of her will when she died in 1768 were, "Trusty friends William Hunt & Peter Osborn," two Quakers. Osborn (modern-day maps list the name as Osborne) owned the property just north of Crebilly Farm, where Dunvegan Road, Niels Lane, and John Anthony Drive are now.

It is believed that Bilha came to know Peter Osborn because of Peter's frequent visits to the property to court Joseph Hunt's daughter Elizabeth, whom he married in 1767.

Again, the will tells us things in a roundabout way. In this case, we know two things about Bilha: that she had friends in the community, and that she probably attended Birmingham Meetinghouse. Her first bequests in the will are not to her

brother, cousin, or cousin's wife. They are to 7-year-old Deborah Darlington and her 11-year-old sister Elizabeth. Deborah received a green "grazatt" apron (grazet is a silk or worsted lightweight dress material, often with a warp of one color and a weft of another), Bilha's best pair of silk mittens and a pair of small silver shoe buckles. Elizabeth was bequeathed another green "grazatt" apron and another pair of silk mittens. The Darlington's lived just north of the stadium and sports fields that are now West Chester University. They attended Birmingham Meetinghouse and that's probably how they knew Bilha. It is thought that Bilha attended Birmingham Meeting with Deborah Nayle and continued to attend when Deborah died. She would not have been a full member of the meetinghouse, probably because she was Black.

In those days, when a person died every single possession was inventoried. Clothing, bedding, pillows, tools, livestock; everything had value. They were itemized, and all were bequeathed to someone. Bilha's will, filed March 26, 1768, listed linens, a side saddle, pottery, books, furniture, a spinning wheel, iron pot hooks, blankets, knives, spoons, silver buckles, and much more. Her will tells us that she lived a domestic lifestyle.

Her will also shows her care of her possessions. In 1750 when Deborah died, Bilha inherited £55 and an assortment of household goods and clothing, such as books, a bed bolster, armchair, chest, spinning wheel, clock reel, round table, tea kettle, teapot, dough trough, and a mare. Bilha still owned some of these items upon her death 18 years later, including six books. The fact that she kept the books, which had value, implies she knew how to read. If she couldn't read, she probably would have sold them.

The final record of Bilha's estate was filed in 1769, when all her debts were settled. This too tells us a lot about Bilha. Her brother received 10 shillings for four days' travel to the doctor for Bilha. Also, a Catherine Pain received 1 pound 5 shillings for nursing. These two payments tell us that Bilha must have been sick at the time of her death, probably too sick to sign her name to her will, so therefore she made a mark. From this final record, we know Bilha was buried in a coffin because William Johnson was paid for constructing that coffin, and William Dilworth for digging her grave.

What is known makes any lover of history want to know more. Who were Bilha's parents? Who gave her the name Bilha and was it significant? Was she born into the Nayle's household or was she purchased? Was she well treated during her lifetime? Where exactly was her dwelling on what is now Crebilly Farm? What did she do during the 18 years of her freedom? So many questions.



The Township Historical Commission recently placed an interpretive sign along the walking trail at the site of the historic Maple Shade Farm. Now the site of Bayard Rustin High School and Rustin Walk residential community, the farm had a prominent place in Township history.

Memorial Monument Dedication

SATURDAY, MAY 20, 2023 | 10 A.M.

1147 S. Concord Road

Mark your calendar to attend Westtown Township's dedication of a memorial monument to Westtown's Revolutionary War Militia soldiers. The new monument is located on Township property at the pumping station at 1147 S. Concord Road. The public is cordially invited to the brief ceremony. The monument is sponsored by Westtown Township and the Historical Commission, local businesses, descendants of the Taylor family, patriotic and veterans' organizations, and citizen donations.

Environmental Advisory Council (EAC)

The EAC would like to thank those who took part in our Environmental Survey conducted last year. Close to 200 households responded to the survey. Below are the Top 10 environmental issues that respondents would like to see the Township pursue in the coming year:

1. Cleaning and Protecting Waterways
2. Tree Preservation for Shade and Carbon Capture
3. Protecting Open Space and Natural Resources
4. Environmentally Managing Storm Water Runoff
5. Roadside Cleanup
6. Community and Backyard Flower and Vegetable Gardens
7. Environmental Home Landscaping
8. Extreme Weather Preparedness
9. Reducing Single Use Plastics
10. Improving Residential Recycling

Thank you to those that participated in the survey. We will use these recommendations to guide our work in 2023 and beyond.

Considering a New or Used Electric Vehicle?

New federal legislation is making subsidies and tax credits available for both. To see if the car you are interested in qualifies, visit the IRS website. Look under the heading Inflation Reduction Act of 2022.

CRC Tree Planting in Pleasant Grove

SATURDAY, APRIL 22, 2023

The Environmental Advisory Council (EAC) is excited to be partnering with the Chester Ridley Crum Watershed Association (CRC) on a tree planting event in Westtown Township on the morning of Saturday, April 22, also known as Earth Day! CRC will be providing 75 native trees, at no expense to the Township, to be planted by volunteers along the southern bank of the creek in the Township open space between Blenheim Road and South Concord Road in the Pleasant Grove neighborhood. Planting native shrubs and trees helps stabilize streambanks, improve water quality, add habitat for creatures near the streams, and provide shade to cool the water in the creeks.

To learn more about the CRC or how you can register to volunteer for this event (or other CRC tree plantings), please visit www.crcwatersheds.org.



Stormwater Management Tips

In addition to municipal and commercial stormwater management efforts, Township residents can take steps to improve water quality in our community. Although many properties are under 1/2 acre, collectively they can produce significant stormwater runoff. Below are several simple yard care practices that encourage the absorption of rainfall and water runoff into the soil in residential landscapes. These actions benefit your community by preventing flooding, soil erosion, and polluted runoff that threaten our streams, drinking water, and ecosystems.

- **Spring is a great time to plant a tree.** At maturity, a large tree can intercept over 1000 gallons of rainwater each year. Their foliage reduces runoff by intercepting rain, and their canopies reduce the force of rain hitting the soil, reducing erosion.
- **Consider creating new focal points in your yard.** Replace grass with a rain garden or pocket meadow. Learn more at www.westtownpa.org/storm-water
- **Leave grass clippings.** Mow often enough so that clippings are not longer than one-third (1/3) of the grass blade, so they can decompose easily into the soil. Grass clippings supply up to 50% of nitrogen and phosphorus needs, reducing the need for fertilizer which can pollute streams.
- **Mulch properly.** Mulch beds help retain water and prevent weeds, but avoid volcano mulching. Remove old excess mulch before adding fresh mulch. Too much mulch prevents roots from getting sufficient oxygen, and underlying roots can rot or girdle. Wet mulch against the tree bark can damage the bark and underlying tissue, leading to fungus, disease, and eventual death of the tree.
- **Test your soil.** Healthy soil grows healthy turf, which can absorb more rainwater. Visit the Penn State Agricultural Sciences website for soil fertility testing information and fees: <https://agsci.psu.edu/aasl/soil-testing/fertility>

Thank you for helping to protect clean water!

Parks & Recreation Commission (P&R)

Parks & Rec has a great lineup of events and activities planned in 2023. We kicked off the new year with a chilly Owl Prowl at Oakbourne Park in January, led by Township resident and naturalist, Lon Myers. Although we were not successful in seeing any of these elusive creatures, we learned a lot about their behavior! Upcoming events include:

Egg Hike

Sat, April 8, 10 AM to noon. Register for this popular event on the Township website.

West Chester Swing Kings

Wed, June 14 (raindate June 15), 6:30 - 8:30 PM.

Movie Night

Thurs, August 24 at dusk - feature TBD.

Email parkrec@westtown.org with movie suggestions!

West Chester Community Band

Wed, September 13 (raindate Sept. 14), 6-7:30 PM.

Westtown Day

Sunday, October 8, 11 AM to 3 PM.

P&R is also planning an amateur photography contest this summer. Pictures must be taken in Westtown Township. Winners will be recognized on Westtown Day, and their work will be featured in Township media. More information will be posted on the Township website.



Resident Input Sought on Adult Recreation

Spring has sprung, so it's time to liven up your routine. Want to start a running group that meets at Oakbourne Park? How about a hiking group? Interested in more cerebral activities such as local history lectures by noted authors and speakers? The list of activities and topics is limited only by your imagination.

Your Township wants to support resident interest groups to bring the community together and encourage residents to use our wonderful facilities. These interest groups would be self-operated. Once the affiliation group is formed, it is up to them to make it work.

Join your Westtown neighbors for an open discussion about adult recreation activities you would like to participate in.

We will be hosting two meetings in the Stokes Hall at the Township Building to hear your ideas:



**Saturday, April 1 at 10 AM &
Thursday, April 6 at 6:30 PM**

Eagle Scout Recognition

The next time you walk the yellow trail at Oakbourne Park you will appreciate the hard work of Troop 222 Eagle Scout Kevin Brink. Kevin and his team built and installed a 100' bog bridge along the creek, several benches, and additional trail signage.



Westtown-East Goshen Regional Police Department News

Meet Rustin High School's School Resource Officer, Kenneth Frascella

As the West Chester Area School District (WCASD) continues to prioritize the safety and security of their staff and students and looks for ways to strengthen our community, we are excited to share the hiring of Officer Kenneth Frascella as Rustin High School's first full-time School Resource Officer (SRO). This role is in addition to the existing Campus Security Officers employed in the WCASD. Officer Frascella has been a police officer with the Westtown East Goshen Regional Police Department for the past 10 years. During that time, Officer Frascella has served as a patrol officer and a Community Service Officer (CSO). As a CSO, Officer Frascella taught the Life Skills program in local parochial schools and assisted the WCASD with many special events.



Officer Frascella is looking forward to this new opportunity as Rustin's SRO to work with students, families, and staff.

Officer Frascella is a resident of the WCASD community and a parent to two recent graduates of Rustin High School and two children currently in the district. In his role as Rustin's SRO, Officer Frascella hopes to accomplish the following:

- Ensure all students and staff feel safe and protected at school
- Help students understand the role of police in the community
- Show students how the police can help them if they are ever the victim of a crime
- Teach lessons on driver safety, the harmful effects of drugs and alcohol, and understanding the judicial system
- Provide an example to students of the importance of being a good citizen and giving back to their community

New Hires

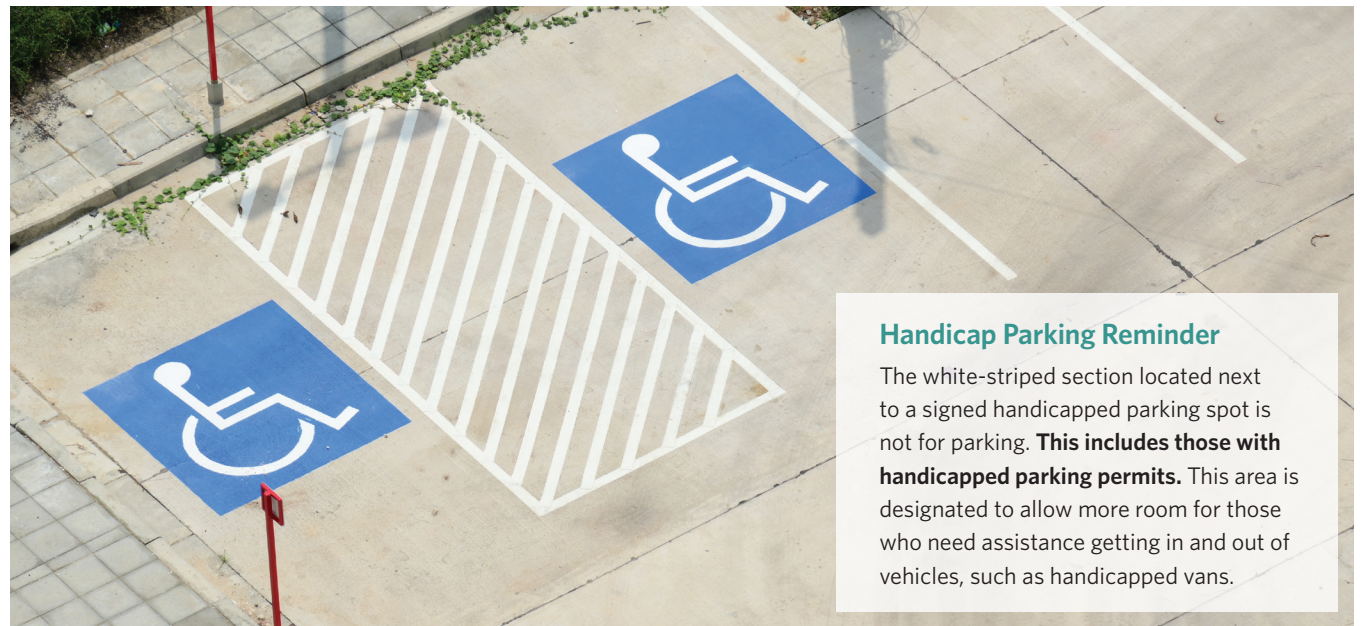
Please join WEGO in welcoming their newest part-time officers, Devon Hindman and Nicholas Ruggeri. Both officers have master's degrees in criminal justice from West Chester University, and received certifications from the Delaware County Municipal Policy Academy in December 2022.



Devon Hindman



Nicholas Ruggeri



Handicap Parking Reminder

The white-striped section located next to a signed handicapped parking spot is not for parking. **This includes those with handicapped parking permits.** This area is designated to allow more room for those who need assistance getting in and out of vehicles, such as handicapped vans.

Safe Trade Zone

WEGO offers a Safe Trade Zone for residents at 1041 Wilmington Pike, West Chester, PA.



SAFE TRADE ZONE

Residents are encouraged to conduct transactions for online sales that were completed through websites such as Facebook Market Place, Craigslist, and eBay at the police department.

The police department has designated two parking spaces in front of the building as "Safe Trade" locations. These marked spaces are subject to twenty-four-hour video recording.

Additionally, the lobby of the police department, which is also under 24-hour video recording, will be open to persons wishing to conduct online transactions Monday - Friday, 9:00am to 3:00pm.

610-692-9600



Safe Digging Awareness Month

Digging into some home improvement projects this summer such as installing a fence or building a deck, replacing your mailbox post, or rebuilding your retaining wall? All of these projects require you to notify utility companies of your intent to dig.

8-1-1 is the PA One Call System (POCS) telephone number. The call is toll-free and the service is no cost for homeowners digging on their property. Dial 8-1-1 or submit your request online at www.pa1call.org. The 8-1-1 call center is available 24/7.

The person who is doing the digging should place the PA One Call notification. If you are a homeowner and you've hired a contractor to do the work, the contractor is required by law to call to have lines located. Each utility company with underground lines nearby will send a professional locator to your home to mark the approximate location of buried utilities with colored paint, flags, or stakes.

The color of the marking indicates the type of utility.

- **White** - proposed excavation
- **Pink** - survey marks
- **Red** - electric
- **Yellow** - gas/oil
- **Orange** - communications
- **Blue** - water
- **Green** - sewer

The call before you dig process helps to prevent injuries, property damage, and inconvenient utility outages.

Call811.com



Important Dates

APRIL, 2023

1, 6 - Adult Recreation Input Meeting
3, 17 - Board of Supervisors
5, 19 - Planning Commission
7 - Office Closed
8 - Yard Waste Collection
8 - P&R Egg Hike
11 - Historical Commission
18 - Parks & Recreation
20 - Friends of Oakbourne
22 - Pleasant Grove Tree Planting
25 - EAC

MAY, 2023

1, 15 - Board of Supervisors
3, 17 - Planning Commission
9 - Historical Commission
13 - Yard Waste Collection
16 - Parks & Rec Commission
20 - Monument Dedication
24 - EAC
29 - Office Closed

JUNE, 2023

5, 19 - Board of Supervisors
7, 21 - Planning Commission
10 - Yard Waste Collection
13 - Historical Commission
14 - P&R Summer Concert
20 - Parks & Recreation
27 - EAC

JULY, 2023

3, 17 - Board of Supervisors
5, 19 - Planning Commission
11 - Historical Commission
15 - Yard Waste Collection
18 - Parks & Recreation
25 - EAC

BOARD OF SUPERVISORS - 7:30 pm
ENVIRONMENTAL ADVISORY - 7:00 pm
PLANNING COMMISSION - 7:00 pm
HISTORICAL COMMISSION - 7:00 pm
Township Municipal Building
1039 Wilmington Pike, Westtown

**PARKS AND RECREATION AND
FRIENDS OF OAKBOURNE** - 7:00 pm
Oakbourne Mansion
1014 S. Concord Road, Westtown

Community Warehouse Project

Do you have gently used furniture and/or housewares you no longer need or use? Do you want to avoid throwing these things in the trash? Community Warehouse Project might be the place for you. We collect gently used furniture items and housewares at our warehouse in West Chester. Working with other local agencies that identify clients in need, we help families and veterans affected by homelessness, domestic violence, and other crises

We believe our mission is to turn empty houses into homes of hope. We give furniture and housewares to an average of 6 to 10 Chester County households each week. We need more help than ever before and you can help by simply donating a piece of furniture.

What are families need most right now:

- Dressers
- Kitchen tables & chairs
- Sofas
- Coffee tables & end tables
- Lamps
- Microwaves
- Mattresses & box springs with no stains
- Sheets & blankets



Donations must be pre-approved by sending photos to donations@communitywarehouseproject.com or to our phone at 484-473-4360.



Household Waste Disposal

Please follow these guidelines on the preparation and disposal of household waste and recyclables:

TRASH

Household trash must be securely contained in plastic bags or lidded receptacles. Construction debris, hazardous waste, and electronics are not accepted.

RECYCLING

Recyclable materials (glass, plastics #1-7, aluminum, steel, paper, and cardboard) must be in the recycle bin, or other clearly marked recycling containers. **Do not put recyclables in plastic bags.** Rinse food debris and dispose of lids. Flatten cardboard boxes and place in the recycle bin or another cardboard box, or bundle with twine or string (do not use duct tape) and place beside the bin. **Loose cardboard will not be collected.**

YARD WASTE

Yard waste is collected on scheduled days posted on the Township website. It must be in paper bags or containers that can be dumped. Branches no more than 3" in diameter and 3' in length must be bundled & tied. Logs, stumps, rocks, dirt, and ashes will not be collected. Pickup reminders are emailed to residents who subscribe to the Township listserv. The Township strongly encourages residents to compost yard waste and mulch grass clippings.

BULK ITEMS

On the last pick up of each month, A.J. Blosenski will collect up to three bulk items per house. Holiday collection make-ups include bulk items. A mattress and/or box spring is accepted on bulk item day. Construction debris, TV's, safes, and auto parts cannot be accepted for collection.

HAZARDOUS WASTE

Visit <http://www.chestercountywa.org> for hazardous waste collection events scheduled throughout the county.

MEDICAL WASTE

There is a medication return box at the Westtown East Goshen Police Dept. Additional information on the disposal of home healthcare waste is available on the Township website.

ELECTRONIC WASTE

TV's, computer monitors, appliances, and other electronics may be disposed of at the Lanchester Landfill for FREE (7224 Division Highway, Narvon, PA). Residents may bring up to three items per day visit, including one TV (no projection TV's). Retailers and E-Waste collection events charge for TV's and computer monitors, so take advantage of this service.

Recycle Right. When in Doubt, Throw it Out!

Recycling RIGHT is more important than recycling MORE. Many people are still operating under the misconception that recycling every possible scrap of paper, metal, plastic, and glass is the most environmentally sound practice. Clean, uncontaminated recyclable material improves marketability.

Here's a guide for what **NOT** to put in the recycling bin:

- Anything with food waste in it - You don't have to wash containers, but rinse to remove food scraps and residue.
- Plastic bags and film - These items get stuck in the processing machinery, resulting in expensive repairs and downtime. Recycle CLEAN plastic bags and plastic film packaging at the grocery store.
- Empty snack bags
- Greasy pizza boxes
- Used paper plates, napkins, paper towels, tissues, or diapers
- Paper cups (e.g. coffee cups, fast food drink cups) - The thin plastic lining that helps prevent cups from leaking makes it difficult to process.
- Plastic straws, plastic utensils, or takeaway cup lids
- Shredded paper
- Styrofoam
- Scrap metal, hangers, aluminum siding, or metal cookware
- Mirrors, ovenware, flower pots, and window glass
- Oil cans or bottles, aerosol, or paint cans
- Drinking glasses, ceramic dishware

If you want to do something positive for the planet by recycling, then do it right. When in doubt, throw it out!





Westtown Township
1039 Wilmington Pike
P.O. Box 79
Westtown, Pennsylvania 19395

Prsrtd Std
U.S. Postage
PAID
West Chester PA
Permit #50



CRC's 25th Annual STREAMS CLEANUP

COME JOIN US AT ONE OF OUR 33 SITES!

Saturday, March 25th
from 9-11:30am

Followed by a volunteer picnic at
Rita Reves Park until 1pm

FIND YOUR LOCAL SITE & REGISTER AT:



crcwatersheds.org


CRC
Watersheds
Association
Chester • Ridley • Crum



WESTTOWN GAZETTE

A Quarterly Newsletter to the Citizens of Westtown Township - Fall Issue #43



photo by Pam Coleman

“WHAT DOES A WESTTOWN SUPERVISOR DO?”

...is a question I have been asked frequently since my election to the Board of Supervisors three years ago this coming November. Also, “Is it interesting?” “Do you enjoy it?” “In retrospect, are you happy you ran, and won?” As well as, “if you knew then what you know now, would you do it all over again?”

Those questions have crossed my mind. A lot! Not just because fellow residents, friends and Township supervisors of other municipalities have asked me. Rather due in part to the fact that the past almost three years have been as intellectually challenging, at times as physically tiring, on occasion as frustrating as heck, yet also as fully self-actualizing (a term from my college days) than I could have ever imagined. Every day often different from the previous.

The subject matters to review and read, and the issues to opine on and to decide are wide rangingly diverse. Here’s a sampling:

Over the past few months, my colleagues have voted to approve a veterinarian’s new practice specializing in small animals; okayed Crebilly Farm to be put on the ballot for a referendum vote in November; approved a new housing development (Sawmill Court), whilst seeking more information of another.

We said yes to a survey being conducted by the Environmental Advisory Council whilst still deliberating on requests for significant budgetary increases from the likes of emergency services to libraries and sites of historical interest. We are increasingly confronted with complex unfunded mandates such as stormwater management; updating the relevancy of ordinances often decades old; and always being fully apprised of our fiscal and financial wherewithal.

All the while we continue to pay careful attention to progress related to the Oakbourne Park initiative, while bading farewell and gratitude to those leaving our employ and welcoming newcomers just joining.

Whilst sharply cognizant of the political and social and socio economic policy tensions so prevalent throughout the country, and what if any of its implications are on Westtown Township.

And that does not even begin to touch on our responsibilities as financial partners with East Goshen Township with the Westtown East Goshen Police Department (WEGO) with whose officers we are presently involved in the collective bargaining process.

In closing, while I may have not answered all the questions posed, I trust you have a little better sense of what your Board of Supervisors does. And whether it be by phone, snail mail, email, text, or when making certain to cast your choice on the referendum in November, always feel free to reach out to me...

And as always, stay well.

Dick Pomerantz

Dick Pomerantz

Board of Supervisors

WEGO Police Commission (Chair)

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Westtown Township, County of Chester

Commonwealth of Pennsylvania



Board of Supervisors: Scott Yaw, Richard Pomerantz, Tom Foster

Street Address: 1039 Wilmington Pike • West Chester, Pennsylvania 19382

Mailing Address: P.O. Box 79 • Westtown, PA 19395-0079

Phone: 610-692-1930 • Fax: 610-692-9651 • www.westtownpa.org

CHESTER COUNTY USEFUL CONTACTS & PHONE NUMBERS

Chester County Government Services Center:

601 Westtown Road, West Chester, PA 19382
 Information: 610-344-6000
 Aging Services: 610-344-6350
 Children, Youth, & Families: 610-344-5800
 Emergency Services: 610-344-5000
 Health Department: 610-344-6225
 Septic Systems: 610-344-6526
 Recycling/Hazardous Waste: 610-273-3771
 License Bureau (Dog, Fishing, Hunting): 610-344-6370
 Marriage License Bureau: 610-344-6335
 Passports: 610-344-6310
 Recorder of Deeds: 610-344-6330
 Tax Assessment: 610-344-6105
 Tax Claim/Lien Bureau: 610-344-6360
 Voters Services: 610-344-6410

Chester County Court House:

313 W. Market Street, West Chester Borough, PA 19380

District Justice for Westtown:

Martin Goch (District Court 15-2-03): 610-436-5757

Chester County Conservation District:

610-925-4920

West Chester Area School District:

782 Springdale Drive, Exton, PA 19341
 Main Number: 484-266-1000 / School Tax: 484-266-1035

State Senate - 9th District:

John Kane: Local: 610-436-3320 / State: 717-787-4712
www.legis.state.pa.us

State House - 156th District:

Dianne Herrin (D): Local: 610-696-4990 / State: 717-705-2075
www.pahouse.com/herrin

U. S. Senators:

Robert Casey: Local: 215-405-9660 / Federal: 202-224-6324
www.casey.senate.gov
 Pat Toomey: Local: 215-241-1090 / Federal 202-224-4254
www.toomey.senate.gov

Congress - 6th District:

Chrissy Houlahan (D): Local: 610-883-5050 /
 Federal 202-225-4315
www.houlahan.house.gov

For Police, Fire, & Medical Emergencies, DIAL 911.

For Non-Emergencies:

610-692-5100

BULLETIN BOARD

Open Space Tax Referendum Meeting

The Township will host an informational meeting at the Rustin High School auditorium at 7 PM, September 12. Residents will have an opportunity to listen to guest speakers and ask questions from panelists to better understand the open space tax referendum question that will be on the November 8, 2022 general election ballot. In the meantime, answers to many of the questions that residents have already raised can be found on the Township website: <https://www.westtownpa.org/parks-trails-crebilly/>.

Crimewatch

This online tool gives the public direct access to crime and public safety related information happening in their community. Residents are encouraged to download the CRIMEWATCH mobile app. For more information visit www.chester.crimewatchpa.com/wegopd/ or to learn more about CRIMEWATCH Pennsylvania visit www.CrimeWatchPA.com.

Ready Chesco

This service is used to notify you during a major crisis or emergency, and delivers important emergency alerts, such as weather, road closures, health, or community alerts. To sign up for Chester County's electronic notification system for emergency information go to <http://www.readychesco.org>.



Stay Informed

To receive information about meetings, special events, and public service announcements via email, please go to the Township website and click on the blue Get Email Alerts button at the top of any page.

Pay Sewer and Trash Bills Online

Residents can use Visa, Master Card, or Discover to pay utility bills online at www.westtownpa.org. There is no fee for this service.

Save paper!

If you would like to receive the *Westtown Gazette* electronically, send an email to administration@westtown.org and we will remove you from the mailing list. Newsletters are archived on the Township website.

Manager's Message

Westtown Township Staff Wishes You a Happy Fall!

On behalf of Township staff, I'd like to wish everyone a very happy fall! Between Westtown Day on Sunday, October 2, and the Open Space Tax Referendum on the November 8 general election ballot (see page 4 for more information), there's a lot going on!

Westtown Day, in particular, promises to be the highlight of the Township's social calendar. A mix of food trucks, family-friendly games and activities, artisans, vendors, music, and fun, Westtown Day is a celebration of the community bonds that tie us all together, and I look forward to seeing as many of you as possible on October 2 at Oakbourne Park! The Township is especially grateful to Pam Boulos, Chair of the Township's Historical Commission, and Jennifer Jacobs, Chair of the Township's Parks & Recreation Commission, for their work in coordinating the event. They, along with all the Township residents who serve on Township commissions, are truly the engines that make Westtown run.



New Stormwater Requirements Coming to Pennsylvania

The Pennsylvania Department of Environmental Protection (DEP) is requiring that all municipalities throughout the Commonwealth update their stormwater ordinances in order to reduce flooding and erosion and better protect water quality in our watersheds. To that end, Westtown Township, like all the other townships and boroughs in Chester County, has been discussing amendments to our ordinance for the past few months, with the goal of adopting a new ordinance before the September 30 deadline mandated by the DEP.

Currently, all projects that result in over 1,000 square feet of impervious surface being added to a property require that stormwater controls (also known as "best management practices" or "BMPs") be installed so that there is less stormwater runoff post-construction than there was pre-construction. The new ordinance would subject all BMPs to a regular inspection cycle, conducted by the Township's engineer, to ensure that they continue to operate as designed. The new ordinance would also impose more stringent stormwater requirements for redevelopment projects, prohibit specific discharges into the Township's stormwater system, including chlorinated swimming pool discharges, and encourage developers and property owners to use "green infrastructure" designs for stormwater projects, whenever possible.

To learn more about the new stormwater ordinance, please visit the Township's stormwater management page at <https://www.westtownpa.org/storm-water/>.

Environmental Advisory Council (EAC) Survey and Contest

Environmental protection begins in each of our own homes. We know many Township residents have taken action in these five essential sustainability areas:

- Household Energy
- Transportation
- Waste Reduction
- Natural Resources
- Food Production



To recognize these efforts, the EAC is hosting a **Residential Sustainability Contest**. Township residents may submit one entry per household. Three of highest scores and two randomly selected contest entries will be awarded gift certificates to local sustainable businesses such as Roots Café, Thornbury Farms CSA, Harvest Restaurant, Wedgewood Garden Center, and Pete's Produce. In addition, the winners will be announced at Westtown Day on October 2, 2022. Simply scan the QR code to complete the contest questionnaire.



To help guide the activities the EAC pursues in the future, the EAC also requests that residents complete the **Westtown Environmental Survey**. We thank those of you have already participated in the survey, and encourage those who have not to weigh in on what you feel is important! The survey only takes about 5 minutes.

Sustainable practices promote a healthier Westtown and can save you money! For more information about steps you can take, visit the EAC page on the Township website: <https://www.westtownpa.org/eac/>.

We hope you'll find something you can do to enhance the quality of your life while protecting our shared home.

Everything You Need to Know About the Open Space Tax Referendum *but were afraid to ask...*

On November 8, voters in Westtown Township will be asked whether they are in favor of raising the earned income tax rate by 0.08% and the real estate tax rate by 0.42 mills to acquire and maintain open space. These tax increases would pay for the Township to acquire and maintain 208 acres of the 322-acre Crebilly Farm, and acquire conservation easements over an additional 104 acres of Crebilly Farm to protect it from further development.

Needless to say, this issue has elicited numerous questions, and this article will attempt to make sense of the issue so that voters can make an informed decision at the ballot booth.

How we got here...

In April, the Township Board of Supervisors entered into an agreement of sale with the Robinson family to purchase 208 acres of Crebilly Farm for \$20.8 million or \$100,000 per acre. This sales price was based on a property appraisal conducted in late 2021. The agreement of sale is contingent upon two key conditions being satisfied:

- 1) The passage of an open space tax referendum on the November 8 ballot; and
- 2) The Township securing approximately 75% of the purchase price from outside sources, including grants.

If the referendum is unsuccessful or the Township does not receive a sufficient amount of grant funding, the Township can terminate the agreement of sale, and the property owner would be able to remarket the property, including to developers. If the referendum is successful and the Township receives sufficient grant funding, then the Township would acquire the property and convert it into a passive recreation area with walking trails and a parking lot. It is not envisioned that the property would be used for "active" recreation, such as ball fields for youth sports leagues. In addition, farming or any revenue-generating activity on the property would not be permitted, pursuant to the terms of the open space grants that the Township is applying for. Some of the specific plans for the 208 acres, including the location of trails, the maintenance plan and permitted uses are currently being discussed by the Board of Supervisors. We encourage you to visit the "Crebilly Farm" page on the Township website at <https://www.westtownpa.org/parks-trails-crebilly/> to learn more about the Township's options for owning and maintaining the 208 acres of new open space, should the sale close.

In addition to selling the 208 acres of proposed Township open space to the Township, the property owner intends to secure conservation easements over four parcels covering 104 acres

along the western portion of the property. These conservation easements would limit further development to one new home per parcel, plus regular accessory uses such as a pool or barn. These large parcels would then be sold to private property owners. However, further subdivision of these parcels would not be permitted.

If the open space referendum is successful, the Township intends to use some of the new tax revenue to pay for up to 50% of the cost of these conservation easements. The remaining 50% of the cost of the easements would be paid for from Chester County grant funds, should that grant application be successful. As part of the property appraisal conducted in late 2021, the appraiser calculated the value of the conservation easements over 104 acres at \$4.368 million. In other words, because potential future development of the parcels would be substantially restricted, the properties would collectively be worth \$4.368 million less than without the easements in place. Therefore, the Township's share of the conservation easements would be about \$2.2 million.

The map of Crebilly Farm below depicts the location of the 208 acres that the Township would purchase ("Purchase Area") and the four parcels that would remain as private property but with conservation easements in place ("Existing Lot", "Easement 1", "Easement 2" & "Easement 3").

Brass taxes, and dollars and sense...

As noted above, the referendum would ask Township residents whether they are in favor of raising the earned income tax by 0.08% and the real estate tax by 0.42 mills to pay for the acquisition and maintenance of open space. If the referendum is successful, the financial impact on your household will be a function of a) your earned income and b) the assessed value of your home.

Currently, Township residents pay a 1% tax on earned income. This 1% is split 50/50 between the Township and the West Chester Area School District. Therefore, if the referendum is successful, the earned income tax rate would increase to 1.08%, meaning that a household with \$100,000 in earned income would pay an additional \$80 per year in taxes. Importantly, local earned income tax is only levied on income that is earned from a job. Therefore, Social Security, pension income, 401ks, and capital gains are generally exempt from earned income tax, although we encourage you to contact a tax professional if you have questions about your personal tax situation.

Meanwhile, property owners in Westtown currently pay a Township mill rate of 3.5 mills per \$1,000 of assessed value.



Exhibit B

CREBILLY FARM/ROBINSON PROPERTY
 Tax ID: p/o 67-4-29, 67-4-29.4, p/o 67-4-29.2,
 p/o 67-4-29.3, 67-4-33.1, 67-4-33, 67-4-32,
 67-4-31, and 67-4-30
 Westtown Township, Chester County, PA

- Municipal Boundaries
- Parcel Boundaries
- Waterways
- Crebilly Farm/Robinson Property**
- Purchase Area (+/- 208 acres)
- Easement Areas

Natural Lands
 1001 Palmers Mill Road, Media, PA 19063
 610-353-5487 | natlands.org

1. Parcels, waterways, roadways, and municipal boundaries from Chester County.
 2. Purchase and Easement areas from Natural Lands.
 3. 2020 aerial imagery from DroneMap/NeatMap.
- Compiled By: MEB 03/29/2022

Disclaimer: This map is not a survey. The information imparted with this map is meant to assist Natural Lands Trust, Inc., describe the placement of certain retained, reserved, or excluded rights and to calculate acreage figures. Property boundaries, while approximate, were established using the best available information, which may have included: surveys, tax maps, field mapping using G.P.S., and/or orthophotos. Natural Lands Trust, Inc., makes no representation as to the accuracy of said property lines (or any other lines), and no liability is assumed by reason of reliance hereon. Use of this map for other than its intended purpose requires the written consent of Natural Lands Trust, Inc.

Under the proposed real estate tax increase, the mill rate would increase to 3.92 mills. In other words, if your home has an assessed value of \$250,000—which corresponds with a fair market value or current sales price of about \$555,000 (remember that in Chester County, the last assessment was conducted in 1998, based on 1996 sales prices)—your property taxes would increase by \$105. Of course, every home in Westtown has a different assessed value. You can find yours on a recent Township, County, or School District real estate tax bill or by searching for your home on the County’s “ChescoViews” website at <https://arcweb.chesco.org/CV4/>.

By splitting the tax increase between earned income tax and real estate tax, the Township can ensure that residents on fixed incomes are not overburdened by new taxes, while also not putting the entire tax burden solely on working residents.

All total, the Township expects that the new taxes would raise approximately \$681,000 in new taxes annually. Of that amount, it is expected that about \$545,000 would be used to pay for principal and interest payments on \$7.5 million in new borrowing to finance the Township’s share of the acquisition cost of the 208

acres and the conservation easements over the other 104 acres. It is expected that the remaining \$136,000 would be used for operations and maintenance of the new 208 acre park.

Final thoughts...

Whether municipalities should impose open space taxes is one of the very few public policy questions that Pennsylvania law permits to be on ballot referendums. This is therefore a rare example of direct democracy in action. Importantly, the Township collectively takes no position on this ballot referendum, and encourages all residents to let their voices be heard at the ballot box on November 8.

In the meantime, please do not hesitate to contact me at jaltshul@westtown.org or 610-692-1930 if you have any questions about the open space referendum that are not addressed in this article or on the Township’s Crebilly Farms page at <https://www.westtownpa.org/parks-trails-crebilly/>

Westtown Day – Sunday, October 2

The Township Historical and Parks and Recreation Commissions are making final preparations for Westtown Day.

This annual community celebration will take place:

Sunday, OCTOBER 2ND	11:00 AM – 3:00 PM OAKBOURNE PARK
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As usual, the event will feature carnival games, food trucks, live bands, Civil and Revolutionary War re-enactors, local vendors, crafts for the kids, and more!

Take a tour of the historic Oakbourne Mansion. Let the kids “dig” for archaeological artifacts. Shop from local businesses and artisans. Tour a police car, ambulance, and fire truck. There’s something for all ages.

For more information, visit www.westtownday.com. If you are interested in sponsoring this event, or volunteering to assist the day of the event, please contact Pam Boulos at PBoulos@cvmprofessional.com.



Fundraiser Cornhole Tournament



INAUGURAL JOSH MICUN CORNHOLE TOURNAMENT SEPT 17TH, 2022

Location:
Goshen Fire Company
1320 Park Ave, West Chester, PA 19380



ALL PROCEEDS GO TO THE MICUN FAMILY

TEAM REGISTRATION & GENERAL ADMISSION TICKETS CAN BE OBTAINED AT:

[HTTPS://PHILLYBURBS.LEAGUEAPPS.COM/TOURNAMENTS/3282481-2022-INAUGURAL-OFFICER-JOSH-MICUN-CHARITY-CORNHOLE-TOURNAMENT--RECCOMP-DIVISIONS](https://phillyburbs.leagueapps.com/tournaments/3282481-2022-inaugural-officer-josh-micun-charity-cornhole-tournament--recomp-divisions)

Friends of Oakbourne

By Tom Bare, President, Friends of Oakbourne

The Friends of Oakbourne (FoO) are continuing to work on completing and filling in empty spaces in the new Oakbourne Water Tower Garden that we designed and started last year. This garden is located at the rear entrance of the Oakbourne Water Tower. In addition to the serviceberry that we planted in this garden last Fall, this Spring/Summer we planted 6 Otto Luyken Cherry Laurels (*Prunus laurocerasus* 'Otto Luyken'), 6 Glossy Abelias (*Abelia x grandiflora* 'Kaleidoscope'), a Rising Sun Redbud (*Cercis Canadensis* 'JN2'PP21451), a selection of perennials (including Meadow Sage, Phlox, and Coreopsis), and annuals (many marigolds to provide some instant color for the late summer and early Fall). FoO plans to continue to develop this garden to provide a beautiful area attractive not only to park visitors, but also to all kinds of pollinators including butterflies.



Water Tower Garden with newly installed trees/shrubs/flowers

An interesting Eastern redbud tree (*Cercis Canadensis* 'Alley Cat'), prized for its variegated leaves, was planted as a memorial tree. Like other redbuds, this variety produces pink/purple flowers on bare branches in the spring, and after blossom drop, foliage emerges as copper-pink and soft green heart-shaped leaves; however, unlike all other redbuds, these leaves become variegated with white speckles and striations as they mature. This tree was dedicated by Rob Spiron to his long gone parents, Claude and Sissy Spiron, and can be viewed in a grouping of other Eastern redbuds adjacent to a planting of oriental grasses along the park's entry drive.



Alley Cat Eastern Redbud dedicated to Claude and Sissy Spiron

One of our large ornamental cherry trees in the Cherry Tree Grove along South Concord Road died and was replaced with an identical variety, a Yoshino Cherry (*Prunus x yedoensis* 'Akebono') during late spring. There are 18 cherry trees in this grove, made up of 6 groupings of three trees, each grouping being a different variety of tree. Each grouping has a slightly different bloom time so that in the spring there is a wide range of blooming times and colors. These trees were planted in 2006 and 2007 as a Friends of Oakbourne project to celebrate Earth Day; the plantings were done with the help of numerous Penn State Master Gardeners, a large group of Girl Scouts, and the 2nd and 5th grade classes from Westtown Thornbury Grade School.



Variegated leaves of the Alley Cat Redbud

FRIENDS OF OAKBOURNE

Contact Tom Bare (tmbare@hotmail.com or 610-399-1572) if you are interested in donating a park bench or tree to be planted in Oakbourne Park to honor a special person or loved one or to commemorate an important occasion.

The Vietnam War Era's Local Voices: Let's Listen

by Robert J. Kodosky, *Historical Commissioner*, and Madelyne Maychak, *WCU history major*

So, there we stood. Officer Jimenez and me. As we eyed one another warily, I could only imagine the headline: "West Chester University (WCU) Professor bailed out by students after a run in with the United States Capitol Police. Story at 11." That never transpired. Good thing. I am not sure my students would have bailed me out. They appeared a little too amused by it all.

"Dr. K's Capitol Confusion," as it quickly became known on campus, occurred during a field trip to Washington, DC in April 2022. Three generations of military veterans accompanied a group of WCU students to visit the Vietnam Veterans Memorial before meeting with United States Representative Chrissy Houlahan.

The journey proceeded accordingly as it neared the time to meet at the Capitol. Like many a professor, I misplaced my students. Frantically, we texted to locate one another and, it turned out, I went to the wrong side of the building. With a tight window to meet with Rep. Houlahan, I sprinted to find my students, oblivious to the barricaded area I cut through. I failed to notice the motorcade idling in my path as well.

As officer Jimenez stopped me to point these things out, my cell phone rang. I answered my phone carefully to hear the voice of Rep. Houlahan's aide on the other end of the line. Sensing officer Jimenez's skepticism, I handed him the phone. Surprisingly, he took it. Rep. Houlahan soon joined us and officer Jimenez's colleague offered to drive her to find my students. After they pulled out, my students, looking for me, came around the corner. Seinfeld could not script it better.

Officer Jimenez radioed his colleague and Rep. Houlahan's squad car soon reappeared. All ended as well as it began that morning at the Vietnam Veterans Memorial. There, a representative from the United States of America Vietnam War Commemoration, a national program established in 2012 under the secretary of defense, greeted the group when it arrived. He presented each Vietnam veteran with a Vietnam Veteran Lapel pin as an official token of the nation's gratitude.

This ceremonial gesture offered a welcome home that eluded many Vietnam veterans when they initially returned. Instead, they received scrutiny. As one veteran recalled to a student, "I was told if you had any brains, you wouldn't have gone to Vietnam. And my answer to that was, you don't understand how the army works." Another remembered, "I was two or three years younger than you and they put you in a situation where you don't know how you are getting out of it."

For students like Madelyne Maychak, a history major, such firsthand accounts generate historical insights not located in textbooks. Every story matters. Each perspective is unique and promotes an understanding of the era's complexity. One veteran

observed, "There were people pro-war and anti-war, but a bunch of people like me in the middle, trying to figure out what to do with it." Such testimony enables students to grasp the confusion, the ambiguity of the time. It further establishes a personal connection to the past, illuminating the individual impact of sweeping events.

As the group in D.C. worked to reconcile past and present, it ventured across the Mall to the World War II Memorial, a significant space for Vietnam War veterans as well. One veteran made clear the connection, "Some were kind of dreading the draft and others, I guess because the greatest generation is the one that raised us. You know, we felt a calling to duty."

For many veterans, that call to duty brought sacrifices that remain ongoing. One reflected about the chemical defoliant Agent Orange, "They didn't know anything about this stuff." They just said, "it will kill the foliage and expose the enemy so we said 'Let's go! You know, they didn't tell you that this stuff was going to kill you, your kids, your grandkids, your great grandkids.'"

The exchanges that took place that day on the National Mall proved invaluable. For many of the era's participants, the war's aftermath rendered an uncomfortable silence. According to the acclaimed combat psychiatrist Jonathan Shays, trauma survivors require for healing the knowledge that "enough of the truth of their experience is understood, remembered and retold with enough fidelity to carry some of this truth." The excursion to Washington, D.C. capped the first part of an oral history project at WCU that aims to do just that.

Students spent the first part of the spring semester (2022) learning about the Vietnam War era and considered how the events of the time resonated locally. This aimed to prepare them to conduct oral history interviews with individuals who volunteered to share their experiences. Participants included WCU retired faculty and former students, members of the American Helicopter Museum and Education Center, local Vietnamese, the Chester County Marine Corps League and Vietnam Veterans of America Chapter 436.

Students received training and support from several internationally renowned oral historians, including ones from the defense department's Vietnam War Commemoration. They submitted their oral histories, video recorded, to the Louie B. Nunn Center for Oral History at the University of Kentucky. This fall at WCU, students will build a website to exhibit the interviews digitally. A physical exhibit and book project are also in the works.

Students conducted forty interviews and collected over one hundred photos and artifacts from local veterans and activists. Student interns worked over the summer to prepare building



the website, continue the interviews, and further research the local history. One of them, Madelyne Maychak, notes that on October 15, 1969, a National Day of Conscience Protests, three hundred and fifty students from West Chester State College protested in front of the County Courthouse. Such activism continued in the following years.

In 1971, a delegation of students from West Chester joined forty thousand others in the nation's capital as part of the May Day protests that resulted in several getting arrested. Three years later, in an event organized by the Veterans Action Committee, a group of West Chester Students once again traveled to Washington, D.C. to demand an increase in G.I. Bill benefits. According to Maychak, her research for this project "furthers student education of local history and its connection to larger historical events." For project participants, she suggests, oral history offers the "opportunity to feel safe and speak up about their involvement during the war."

2025 will mark fifty years since America's involvement in Vietnam concluded. The sons and daughters of the country's "Greatest Generation" grow smaller. Recording their stories now is essential. They reflect lifetimes committed to President John F. Kennedy's calling, "Ask not what your country can do for you, ask what you can do for your country." They continue to inspire.

The Vietnam generation's members did not always agree about how to best serve. One veteran recalls telling a protestor, "I said, look, we have both done things that we're not going to apologize for, but we better live with it." Whichever side, though, all concurred about the need for engagement and the value of service. They repeatedly exhibited the willingness to uphold the integrity of their nation's ideals. Their stories offer lessons that remain as vital now as then. Let's listen.

Important Dates

SEPTEMBER, 2022

- 5 - Office Closed
- 6, 19 - Board of Supervisors
- 7, 21 - Planning Commission
- 13 - Historical Commission
- 17 - E-Waste Collection
- 17 - Yard Waste Collection
- 20 - Parks & Recreation
- 27 - EAC

OCTOBER, 2022

- 2 - Westtown Day
- 3, 17 - Board of Supervisors
- 5, 19 - Planning Commission
- 8 - Yard Waste Collection
- 11 - Historical Commission
- 18 - Parks & Rec Commission
- 26 - EAC

NOVEMBER, 2022

- 5, 19 - Yard Waste Collection
- 7, 21 - Board of Supervisors
- 8 - Historical Commission
- 9, 23 - Planning Commission
- 13 - P&R Night Hike
- 15 - Parks & Recreation
- 22 - EAC
- 24, 25 - Office Closed

DECEMBER, 2022

- 3, 17 - Yard Waste Collection
- 5, 19 - Board of Supervisors
- 7, 21 - Planning Commission
- 13 - Historical Commission
- 20 - Parks & Recreation
- 23, 26 - Office Closed
- 27 - EAC
- 30 - Office Closed

BOARD OF SUPERVISORS - 7:30 pm

ENVIRONMENTAL ADVISORY - 7:00

pm **PLANNING COMMISSION** - 7:00 pm

HISTORICAL COMMISSION - 7:00 pm

Township Municipal Building
1039 Wilmington Pike, Westtown

**PARKS AND RECREATION AND
FRIENDS OF OAKBOURNE** - 7:00 pm

Oakbourne Mansion
1014 S. Concord Road, Westtown

News from the West Chester Public Library

Do you have ambitions to get your writing published?

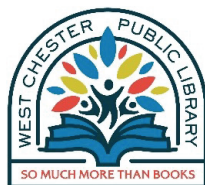
Want help managing your newborn's sleep schedule? Thinking of making changes to your Medicare coverage? Looking for children's story times and afterschool activities, both virtual and in-person? West Chester Public Library has fall programs lined up to cover all that, and more.

With your Chester County Library System (CCLS) card you have access to local and regional attractions like the Museum of the American Revolution, the Brandywine River Museum, and Mt Cuba, as well as ebooks, emagazines, specialized databases including ancestry.com (in-house use), and all the books and DVDs in the libraries across the county. If WCPL doesn't have that one book you're looking for, you can reserve it for pick-up at WCPL, and if need be we'll look outside the county for a copy you can borrow via our Inter-library Loan service.

Visit our website <https://wcpublishing.org> to register for programs, reserve a pass, access the online catalog, and find out more about the library. Don't have a library card? Stop in with your current ID and get one on the spot, or apply online and we'll mail you your card. And, yes, there is an app - available for Apple and Android devices; search for Chester County Library System.



Local ukulele group has been meeting weekly at the library, sometimes enjoying the terrace.



West Chester Public Library

 @ccls.org

415 North Church Street | West Chester, PA 19380



Household Waste Disposal

Please follow these guidelines on the preparation and disposal of household waste and recyclables:

TRASH

Household trash must be securely contained in plastic bags or lidded receptacles. Construction debris, hazardous waste, and electronics are not accepted.

RECYCLING

Recyclable materials (glass, plastics #1-7, aluminum, steel, paper, and cardboard) must be in the recycle bin, or other clearly marked recycling container. **Do not put recyclables in plastic bags.** Rinse food debris and dispose of lids. Flatten cardboard boxes and place in the recycle bin or another cardboard box, or bundle with twine or string (do not use duct tape) and place beside the bin. **Loose cardboard will not be collected.**

YARD WASTE

Yard waste is collected on scheduled days posted on the Township website. It must be in paper bags or containers that can be dumped. Branches no more than 3" in diameter and 3' in length must be bundled & tied. Logs, stumps, rocks, dirt, and ashes will not be collected. Pickup reminders are emailed to residents who subscribe to the Township listserv. The Township strongly encourages residents to compost yard waste and mulch grass clippings.

BULK ITEMS

On the last pick up of each month, A.J. Blosenski will collect up to three bulk items per house. Holiday collection make-ups include bulk items. A mattress and/or box spring is accepted on bulk item day. Construction debris, TV's, safes, and auto parts cannot be accepted for collection.

HAZARDOUS WASTE

Visit <http://www.chestercountyswa.org> for hazardous waste collection events scheduled throughout the county.

MEDICAL WASTE

There is a medication return box at the Westtown East Goshen Police Dept. Additional information on the disposal of home healthcare waste is available on the Township website.

ELECTRONIC WASTE

TV's, computer monitors, appliances, and other electronics may be disposed of at the Lanchester Landfill for FREE (7224 Division Highway, Narvon, PA). Residents may bring up to three items per day visit, including one TV (no projection TV's). Retailers and E-Waste collection events charge for TV's and computer monitors, so take advantage of this service.

Recycle Right. When in Doubt, Throw it Out!

Recycling RIGHT is more important than recycling MORE. Many people are still operating under the misconception that recycling every possible scrap of paper, metal, plastic, and glass is the most environmentally sound practice. Clean, uncontaminated recyclable material improves marketability.

Here's a guide for what **NOT** to put in the recycling bin:

- Anything with food waste in it - You don't have to wash containers, but rinse to remove food scraps and residue.
- Plastic bags and film - These items get stuck in the processing machinery, resulting in expensive repairs and downtime. Recycle CLEAN plastic bags, and plastic film packaging at the grocery store.
- Empty snack bags
- Greasy pizza boxes
- Used paper plates, napkins, paper towels, tissues, or diapers
- Paper cups (e.g. coffee cups, fast food drink cups) - The thin plastic lining that helps prevent cups from leaking makes it difficult to process.
- Plastic straws, plastic utensils, or takeaway cup lids
- Shredded paper
- Styrofoam
- Scrap metal, hangers, aluminum siding, or metal cookware

If you want to do something positive for the planet by recycling, then do it right. When in doubt, throw it out!

Discount Code: Westtown
\$25.00 off
a Roll-off Dumpster
\$10.00 off
Junk Removal
Service

AJB Trash & Recycling Service
A.J. Blosenski Inc.
www.ajblosenski.com
610.942.2707

Four Generations of Quality Service from the Blosenski Family

- 96 Gallon Carts Available
- Bulk Item Removal
- Special Cleanups
- Roll-off Dumpsters
- Storage Containers
- Commercial Compactors
- 1-40 Yard Containers
- Event & Party Boxes
- 100% Customer Satisfaction

15 cubic yards
146 long / 88 wide / 58 high

30 cubic yards
228 long / 88 wide / 68 high

Dependable Roll-Off Service

Servicing Westtown Township

MasterCard Discover American Express VISA
Discount cannot be combined with any other offer.



Westtown Township
 1039 Wilmington Pike
 P.O. Box 79
 Westtown, Pennsylvania 19395

Prsrtd Std
 U.S. Postage
PAID
 West Chester PA
 Permit #50

Recycling Day

Anything with a Plug™

September 17, 2022
 Westtown Township | 1039 Wilmington Pike
 9:00 a.m. - 12:00 p.m.

All residents must pre-register. Visit the Eventbrite link below:
<https://www.eventbrite.com/e/electronics-recycling-day-anything-with-a-plug-tickets-344819152367>

WESTTOWN TOWNSHIP

is proud to offer township residents the opportunity to responsibly recycle obsolete electronics.

This service is available to all residents and small businesses with fewer than 50 employees.

Electronics will be recycled by eForce Compliance, Philadelphia's first Certified Responsible Recycler.

We will accept all electronic devices with a plug, **NO SMOKE DETECTORS, LARGE APPLIANCES, or PROJECTION TVs** will be accepted.

Coupon of equal or greater value provided for all TVs or monitors charged.

All Data Media Will Be Destroyed or Wiped!

ACCEPTED ITEMS INCLUDE:

- | | |
|-------------|------------------|
| Laptops | Computers |
| Peripherals | Mice |
| Typewriters | Small Appliances |
| Telephones | Fax Machines |
| Cameras | Keyboards |
| Cell Phones | Printers |
| Calculators | |

\$30 fee per TV or computer monitor
\$100 per wooden console TV
\$10 per microwave, dehumidifier, air conditioner





WESTTOWN GAZETTE

A Quarterly Newsletter to the Citizens of Westtown Township - Summer Issue #42



Luck favors those who don't depend on it.

Hello Westtown Neighbors!

Summer is almost upon us. For kids, that means a well-earned summer vacation. For all of us, it means warm weather, cookouts, yard work, and much more outdoor activity.

Last year, the Board of Supervisors approved the master plan for Oakbourne Park. Over the past 12 months, the Township has moved forward with submitting applications for (and being awarded) multiple grants, retaining design consultants, and designing the improved facilities for the recreation area off East Pleasant Grove Road and the trail improvements throughout the Park. We are hopeful that final design and the public bidding process will be completed by the end of the calendar year or early 2023 with shovels in the ground later in 2023. Needless to say, these anticipated improvements are long overdue, and the Township remains committed to their completion in a fiscally prudent manner.

Of course, a brief update regarding Crebilly Farm is in order. In early April, the Township and the Robinson family entered into an agreement for the Township to purchase 208 acres of the farm for passive recreation, trails, and open space. The remaining 100+ acres are to remain privately owned and subdivided into 4 large parcels with restrictions, known as conservation easements, precluding further development of those lands. For the Township to raise its anticipated portion of the required purchase funds, the Board of Supervisors anticipates considering for approval by Township residents a referendum, at November's general election, to impose a dedicated tax increase to raise funds for open space. The Board of Supervisors will be reviewing at public meetings the required ordinance to direct that the referendum question be placed on November's ballot. Information regarding the proposed ordinance and anticipated referendum will be available

on the Township's website and further published in advance of the public meetings at which the ordinance is being considered.

Like prior years, the Township will be offering recreational and community events this summer and into the fall. Please visit the Township website for the schedule of events.

As always, if you have questions or any suggestions regarding any matter within the Township, please do not hesitate to contact the Board of Supervisors or Township administration at 610-692-1930 or supervisors@westtown.org. Better yet, please attend a Board meeting or meetings of our Township's commissions to express your views in person.

Happy Summer to all!

Scott E. Yaw, Esq.
Chair, Board of Supervisors

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Westtown Township, County of Chester

Commonwealth of Pennsylvania



Board of Supervisors: Scott Yaw, Richard Pomerantz, Tom Foster

Street Address: 1039 Wilmington Pike • West Chester, Pennsylvania 19382

Mailing Address: P.O. Box 79 • Westtown, PA 19395-0079

Phone: 610-692-1930 • Fax: 610-692-9651 • www.westtownpa.org

CHESTER COUNTY USEFUL CONTACTS & PHONE NUMBERS

Chester County Government Services Center:

601 Westtown Road, West Chester, PA 19382
 Information: 610-344-6000
 Aging Services: 610-344-6350
 Children, Youth, & Families: 610-344-5800
 Emergency Services: 610-344-5000
 Health Department: 610-344-6225
 Septic Systems: 610-344-6526
 Recycling/Hazardous Waste: 610-273-3771
 License Bureau (Dog, Fishing, Hunting): 610-344-6370
 Marriage License Bureau: 610-344-6335
 Passports: 610-344-6310
 Recorder of Deeds: 610-344-6330
 Tax Assessment: 610-344-6105
 Tax Claim/Lien Bureau: 610-344-6360
 Voters Services: 610-344-6410

Chester County Court House:

313 W. Market Street, West Chester Borough, PA 19380

District Justice for Westtown:

Martin Goch (District Court 15-2-03): 610-436-5757

Chester County Conservation District:

610-925-4920

West Chester Area School District:

782 Springdale Drive, Exton, PA 19341
 Main Number: 484-266-1000 / School Tax: 484-266-1035

State Senate - 9th District:

John Kane: Local: 610-436-3320 / State: 717-787-4712
www.legis.state.pa.us

State House - 156th District:

Dianne Herrin (D): Local: 610-696-4990 / State: 717-705-2075
www.pahouse.com/herrin

U. S. Senators:

Robert Casey: Local: 215-405-9660 / Federal: 202-224-6324
www.casey.senate.gov
 Pat Toomey: Local: 215-241-1090 / Federal 202-224-4254
www.toomey.senate.gov

Congress - 6th District:

Chrissy Houlahan (D): Local: 610-883-5050 /
 Federal 202-225-4315
www.houlahan.house.gov

For Police, Fire, & Medical Emergencies, DIAL 911.

For Non-Emergencies:

610-692-5100

BULLETIN BOARD

Full-Time Public Works Skilled Laborer

This position is responsible for maintenance and repair of roadways, trails, parks, right-of-ways, Township maintained properties, snow removal, stormwater, and sanitary sewer. The desired applicant must have a HS diploma or GED, basic knowledge of operations of a municipal Public Works Dept., and applicable construction, mechanical, and trade experience. Valid PA driver's license required, and CDL Class B driver's license with air brake endorsement required within 6 months of hire. Must have the physical ability necessary to perform Public Works related duties. Physical and drug testing is required. Starting salary DOE. Excellent benefits package. Submit a brief statement of interest and resume to pw@westtown.org.

Crimewatch

This online tool gives the public direct access to crime and public safety related information happening in their community. Residents are encouraged to download the CRIMEWATCH mobile app. For more information visit www.chester.crimewatchpa.com/wegopd/ or to learn more about CRIMEWATCH Pennsylvania visit www.CrimeWatchPA.com.

Ready Chesco

This service is used to notify you during a major crisis or emergency, and delivers important emergency alerts, such as weather, road closures, health, or community alerts. To sign up for Chester County's electronic notification system for emergency information go to: <http://www.readychesco.org>.



Stay Informed

To receive information about meetings, special events, and public service announcements via email, please go to the Township website and click on the blue Get Email Alerts button at the top of any page.

Pay Sewer and Trash Bills Online

Residents can use Visa, Master Card, or Discover to pay utility bills online at www.westtownpa.org. There is no fee for this service.

Save paper!

If you would like to receive the *Westtown Gazette* electronically, send an email to info@westtown.org and request to be put on the electronic delivery list.

Manager's Message

On behalf of Township staff, I'd like to wish all Westtown residents a very happy summer! As highlighted in Scott Yaw's cover article, the Township is hard at work designing the proposed improvements at Oakbourne Park, including to the revamped athletic complex, and preparing for a referendum on the November 8 general election that would authorize tax increases for the purpose of acquiring open space, including 208 acres of Crebilly Farm.

I anticipate that the Township will start to provide more details about the referendum, including specific information on the tax rate increases, in late June or early July, after the Board of Supervisors has formally approved the ordinance authorizing the referendum. Meanwhile, information on the Oakbourne Park design can be found on the Township's website at <https://www.westtownpa.org/parks-trails/>. Please continue to check our website for more information. In addition, residents are always encouraged to sign up for the Township listserv to get the latest information on everything going on in Westtown by clicking on the "Get Email Alerts" icon at top of the Township website.



There's a lot more going on this summer in Westtown that I'd like to mention:

Aqua will be replacing its water main on Johnny's Way this summer. In order to ensure that the project is completed as quickly as possible, it will be necessary for Aqua to close sections of Johnny's Way. While residents living on Johnny's Way and adjacent streets will be allowed to access their homes while the work is ongoing, you should expect some delays during regular working hours. Thank you in advance for your understanding and patience.

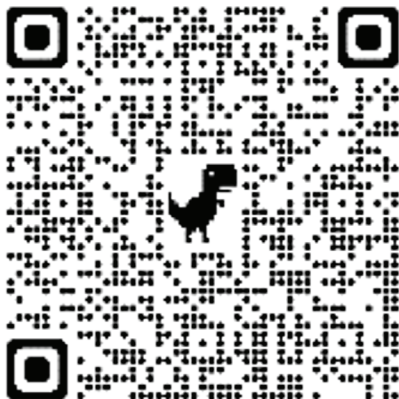
The Township recently awarded the 2022 Road Maintenance contract to Innovative Construction Services. A listing of the roads included in this year's contract is posted on the Public Works page of the Township website. The Board also awarded a contract to install new playground equipment at Larchbourne Park. Thanks to all residents who provided feedback on this project. We hope that the improvements will be completed later this year.

The Environmental Advisory Council (EAC) is working on various initiatives, and is seeking resident feedback to help guide their efforts. A link to the survey is provided below and also on the Township website.

Please do not hesitate to reach out to me at jaltshul@westtown.org or 610-692-1930 if you have questions about anything going on in the Township. The open space referendum, in particular, is a complicated issue, and I am happy to answer any questions that you may have about it.

Have a wonderful summer and go Phillies!

Jon Altshul
Jon Altshul,
Township Manager



Environmental Advisory Council (EAC) Survey

Gardens are blooming, grass is greening, and it's time to renew the conversation about our local environment. Please remember that environmental protection begins in each of our own homes.

To support this effort, the EAC requests that residents complete our "Westtown Environmental Survey" via the QR code to the left. This survey will only take about 5 minutes, and will help to shape the activities that the EAC pursues in the future. Your input is of critical importance. Thank you in advance for your participation.

Summer Tips for Stormwater Management

Stormwater runoff is generated when precipitation flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over streets, parking lots, and roofs it accumulates debris, chemicals, sediment, and other pollutants that can adversely affect water quality.

Stormwater infrastructure such as basins, swales, and storm sewer systems are designed to manage runoff, but severe weather events can overwhelm these systems. Below are several simple tips to encourage the absorption of rainfall and water runoff into the soil in residential landscapes. These actions benefit your community by preventing flooding, soil erosion, and polluted runoff that threaten our streams, drinking water, and ecosystems.

Raise your mower height to 3 - 4 inches for summer months.

Taller grass grows deeper roots, shades and protects the soil, is less prone to disease, pests, and weeds, and captures more excess rainwater on the property. Leave an unmowed edge (three feet or more in width) along streams, ponds, and drainage channels to prevent erosion.

Do not blow grass clippings or leaves into the street.

Grass and other yard debris clog storm sewer inlets, and also contain nitrogen and phosphorus which are pollutants. The Public Works crew routinely cleans these inlets, but if your property is adjacent to a storm drain, please consider helping to keep it clear of debris.

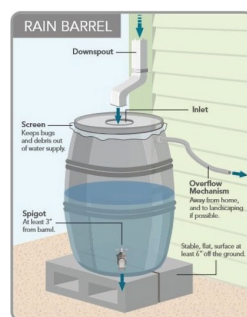


Plant flowering plants to attract pollinators and beneficial predators.

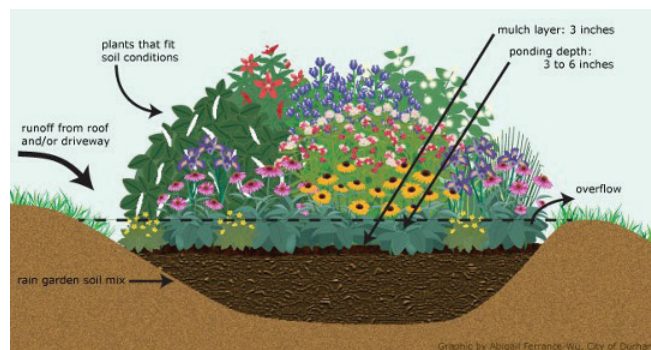
Plants of all kinds help reduce stormwater runoff from residential properties. Their roots absorb water and break up and aerate the soil as they grow. Flowering native perennials will attract beneficial predators and pollinator birds, butterflies, and other insects. Perennials also develop extensive root systems to hold and enrich the soil. Monitor plants for pests and control them with environmentally friendly applications or use plain water to avoid contaminating water runoff with chemicals that endanger streams.

Redirect roof runoff.

Consider landscape modifications to help your yard retain excess rainwater and prevent runoff. Redirect all downspouts



which drain onto paved surfaces and storm sewers to flow into a rain barrels or cisterns, rain garden, mulched bed, or grassy area located downgrade from your house. You can use the non-potable water collected in barrels and cisterns to water your garden.



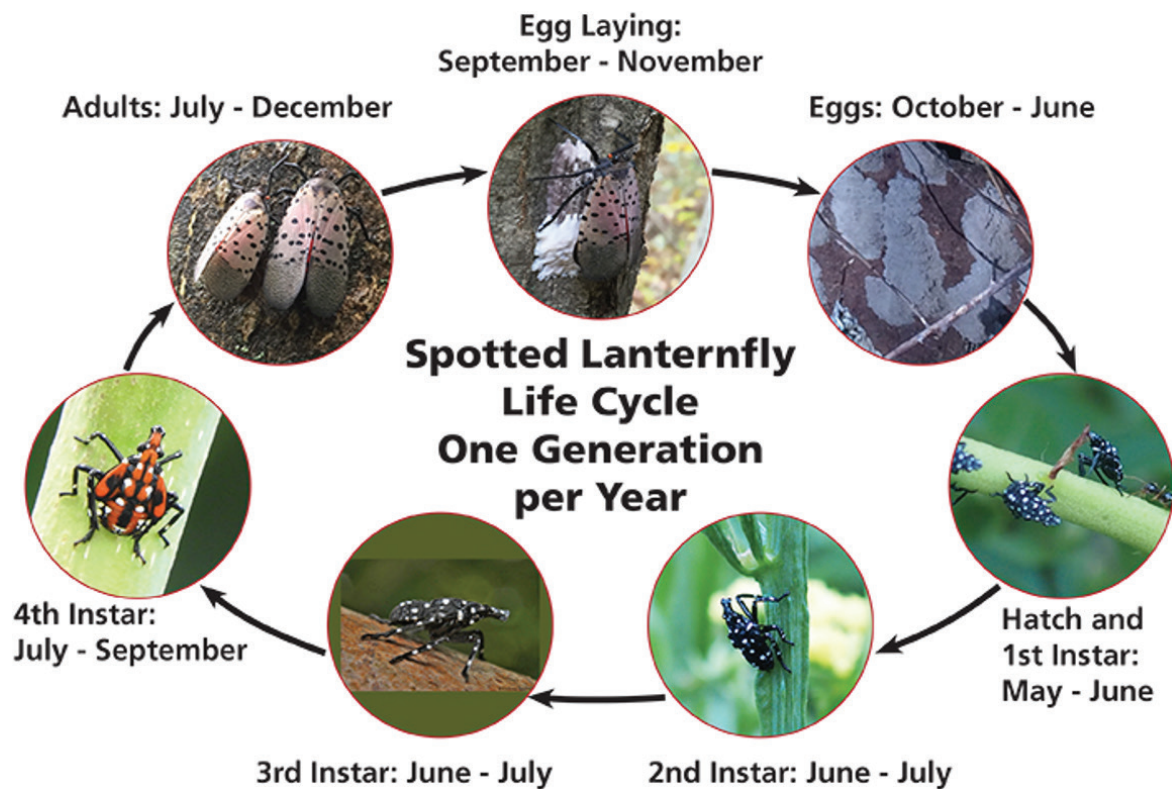
▶ We encourage residents to visit the Stormwater Management page of the Township website, which provides information and resources to assist residents with stormwater management. Together we can help reduce stormwater runoff, and help keep our streams and drinking water clean.

Spotted Lanternfly (SLF) Management

Tips for Homeowners

Spotted Lanternflies (*Lycorma delicatula*) are invasive planthoppers from Asia that use bark-piercing mouthparts to feed on sap from a wide variety of economically important trees, shrubs, and vines. As SLFs feed, they excrete honeydew (a sugary substance) that can attract bees, wasps, and other insects. The honeydew also builds up and promotes the growth for sooty mold (fungi), which can cover the plant, forest understories, patio furniture, cars, and anything else found below SLF feeding.

- 1. Kill the eggs.** The easiest way to kill large numbers of these insects is to find them at the egg stage and squish them. This can be done by applying enough force with a hard, flat object to create a popping noise as you progress from one side of the case to the other. You should see juices being exuded. An alternative is to scrape the eggs into a container filled with alcohol or hand sanitizer, or into a container that can be sealed and thrown in the trash. The important consideration here is that simply scraping them off the tree onto the ground will not kill the eggs/larvae that are inside.
- 2. Kill the nymphs and adults.** Various methods can be used to kill SLF nymphs and adults including:
 - a. Vacuuming using a cordless stick vacuum.
 - b. Placing sticky tape bands around trees.
 - c. Using bag traps.
 - d. Fill a container with soapy water and scare the nymphs into the container using the lid. Nymphs almost always launch themselves forward to escape the lid.
- 3. Eliminate host vegetation.** Tree-of-heaven (*Ailanthus altissima*) is an invasive plant and the preferred host for SLFs. One tree can attract thousands of adults. To kill a tree-of-heaven you need to chop it down and treat the stump with herbicide.



For more information on SLF management, visit <https://extension.psu.edu/spotted-lanternfly>

Westtown's Tribe Of "Red Men"

by Dave Walter, Township Historical Commissioner

Secret handshakes. Weird rituals. Elaborate regalia. Comical officer titles. Welcome to the wide world of fraternal beneficial societies in America in the 1800s and early 1900s. Writing in the "American Journal of Sociology" in 1901, B. H. Meyer observed: "These societies constitute a complex of organizations which embraces in its scope the most diverse elements with respect to race affinity, material possessions, religious beliefs, political affiliations, intellectual attainment, and social position. The thread of fraternity joins them all in one great roundtable of equality and democracy." Westtown men were part of this pervasive phenomenon which combined all of the above in service to the community, welfare for the unfortunate (most typically, their own members), political influence, and fellowship for all ranks of society.

By the latter third of the 19th century, fraternal societies were springing up in communities all over America. Some, such as the Freemasons, had long lineages. Dozens of others - the Odd Fellows, the Knights of Columbus, the Knights of Pythias, the Grange, the Elks - were of more recent establishment. The Odd Fellows, by 1900, had more than 1 million members, and it is thought that up to 40% of adult males had belonged to one of these fraternities.

The fraternal societies served a role comparable to the urban areas' saloons; however, saloons were public while fraternal societies admitted only those they deemed suitable. It was an age before radio, television, movies, the automobile, and modern entertainments. The clubhouse was a place for men in rural and suburban areas to meet after the farm chores were done or the shop swept. They got away from the family to review the events of the day, discuss the weather and crops, network, gossip, and plan political gambits. Some societies permitted drinking and gambling. The Red Men appear to have been very sober.

The "Improved Order of Red Men" (I.O.R.M.) was established in 1834; however, they claimed descent from the Sons of Liberty and the Boston Tea Party "Indians." Another predecessor was the post-Revolutionary War Tammany Societies, named for the peace-loving Lenni-Lenape Chief Tammany. The corrupt Tammany Hall political machine in New York City evolved from one of these groups too. I.O.R.M. pushed temperance and patriotism and grew to about 500,000 members by the 1930s. Local units were called "tribes" and their meeting places were "wigwams." Their officers used Native American titles. Native American regalia was worn in private settings.

Unfortunately, no known photos of the Westtown tribe have been located, but photos of other tribes show members wearing feather headdresses, fringed buckskin jackets, and holding war clubs. In 1886, tribes typically collected dues of 12 cents per

week which went into a fund from which a member who became disabled could draw \$3 per week for six months. Members would wear a lapel pin, "T.O.T.E." ("Totem of the Eagle"), to be identified by fellow Red Men all across the nation.

A news clipping, dated Dec. 21, 1872, announces, "New Tribe of Red Men—Chester County is to have a new Tribe of this order at Tanguy's Store. It will be instituted next week, when the wild men of that vicinity will smoke the pipe of peace." It was officially "Tamed Tribe No. 192, I.O.R.M" and their "wigwam" was established in the new Union School on the northeast corner of Street (Rte. 926) and S. Chester (Rte. 352) Roads. Within a year, they bade farewell to a charter member, Marshall J. Taylor, whose funeral was "25th Sun, Beaver Moon, at 2d Run-Setting of the Sun" (2pm, Nov. 25, 1873). Taylor was just one of the familiar local names associated with the Tribe over the years; Yarnall, Eachus, Osborne, Darlington, Cheney, Hoopes, Faucett, and Hickman being others.

There are 78 newspaper clippings, spanning the years 1872 to 1924, in the Chester County History Center files about Westtown's Improved Order of Red Men. Nearly every clipping concerns election of officers and initiation of "palefaces," picnics and socials, and the annual Oyster Supper. Not one clipping mentions any charitable assistance to fellow members or to the community. Of course, this isn't to say there wasn't such assistance: perhaps the Red Men didn't brag about such works, and privacy concerns kept them from publicizing them.

Various clippings enlighten us about the titles of the Tribe's officers: Prophet, Sachem, Senior Sagamore, Junior Sagamore, Chief of Records, Keeper of Wampum. In July 1873, their first of many picnics was reported as "(T)he big and little 'Injuns'... together with their squaws and papposes, will spend the day in the Fair Grounds of the Chester County Agricultural Society, on which occasion they will indulge in dancing, feasting, etc." Such events, including the annual Oyster Suppers at various West Chester hotels, regularly drew 150 or more people.

By 1888, Tamed Tribe could boast "We have 120 members, and there is not a sick one among us." Tamed's "wampum" was estimated to be about \$4,000 in 1887, making it "as rich as any other in this section of the country."

In January 1882, the Red Men purchased for \$3,200 the Tanguy Store at the northwest corner of Street and S. Chester Roads, leasing out the first floor store operation and setting up their "wigwam" on the second floor. In August 1894, the Red Men removed the pitched attic and built a new full third floor with a Mansard-style roof. The present owner of this property, Steve Maguire, has described the layout of the third floor when he acquired it in 1972: "The third floor 'meeting hall' was finished



Red Men Lodge (1549 E. Street Road)

with one very large room, for meetings and for dancing, and several smaller 'meeting' rooms. All rooms had doors with 'peep' holes and hinged covers that could be opened to see who was on the other side. The large room has a raised floor on two sides, where I assume chairs for seating would be placed, and then an even higher floor, or 'stage' centered at one end. This stage sits about 14 inches higher than the 'dance' floor. This entire third floor was accessible only by a single outside stairway, which is still there, a covered stairway, rising from the outside porch... there are 31 steps to the top with no landings."

The History Center files contain no newspaper clippings about the Westtown Red Men dated after 1924. Arthur James, in his 1973 history of Westtown, "From Farmland to Suburbia," wrote, "In 1937, the lodge was in debt and owed back taxes. It was sold

to a succession of owners, including the National Bank of Chester County and Trust Co...."

Three principal factors led to the decline in fraternal societies. The Depression of the 1930s made participation a financial burden for many men. Then, New Deal welfare programs, such as Social Security, decreased the need for private beneficial help. Finally, after World War II, young men established families and their spare time focused on their children and programs like Scouts and Little League.

Today, the Red Men have only 15,000 members nationwide. The nearest tribe to Westtown is in Tuckerton, New Jersey. No longer do their war whoops echo around the former wigwam at Street and S. Chester Roads.

Code Corner

SOLICITING

Most transient retail merchants soliciting business to individual households are required to have a solicitor's license as issued by the Township. These licenses are available at the Township office, and are issued only after the applicant pays the proper fee and passes a background check. Every person to whom a solicitor's license has been issued is subject to the regulations for their conduct of business as follows:

- The solicitor shall carry their license card at all times and exhibit it upon request to any officer or person upon whom they call or talk to in carrying on licensed activities.
- The solicitor shall not permit any other person to have possession of his license card and shall immediately report its loss to the Westtown-East Goshen (WEGO) Police. Further, the solicitor shall not cause or permit his license card to be altered or defaced.
- The solicitor shall not enter or attempt to enter any dwelling without invitation or permission of the occupant and shall immediately leave any premises upon request.
- The solicitor shall not represent his license card to be an endorsement of himself or of his goods or services or of the goods or services of their principal or employer.
- The solicitor shall immediately surrender their license card upon revocation of their license by an officer.
- The solicitor shall conduct their business between the hours of 9:00 AM and 8:00 PM.

NOTE: Political canvassing is not soliciting.

Political canvassers are legally permitted to knock on doors any day of the week to interact with voters and distribute literature without a solicitor's permit.

The only types of solicitors exempt from having to obtain a permit are:

- Persons soliciting contributions on behalf of organizations or nonprofit corporations exempted from the provisions of the Solicitation of Funds for Charitable Purposes Act.
- Farmers engaged in selling only the produce of their own farms from a truck or other vehicle.
- Persons who have been licensed by the Commonwealth of Pennsylvania to engage in regulated activities, when so engaged; including, without limitation, real estate, insurance or securities, brokers and salesmen.
- Persons engaged in the sale of goods, wares and merchandise donated by the owner thereof, the proceeds whereof are to be applied to any charitable or philanthropic purpose.

Any resident who is approached by a solicitor who violates any of the aforementioned criteria should contact the Westtown-East Goshen (WEGO) Police at their non-emergency number (610-692-5100).

Political Signage

Per section 170-1804A(1)(c) of the Township Code, temporary political campaign signs are permitted, provided they are posted only with the permission of the property owner, are not placed within any street right-of-way, and are removed within 14 days after the election. Such signs shall not be posted more than 60 days before an election. No such sign shall exceed six square feet, and only one such sign shall be allowed per candidate or issue.

KEEPING OF CHICKENS

More and more residents are considering keeping chickens, and it's no surprise why – they provide an abundant supply of delicious eggs, and are fun for kids and families! While the Township does not regulate the number of chickens that may be kept, or a minimum lot size to keep chickens, the following regulations do apply:

- Permanent shelter shall be provided for all animals. Chicken coops are considered accessory structures, and require a permit for their construction and installation. Coops may only be located in side and rear yards and - at a minimum - must be set back from property lines a distance equivalent to the height of the coop.

- A fence or designated chicken run must be provided to prevent chickens from leaving your property.
- All animals shall be kept in clean and sanitary conditions. Animal waste and soiled bedding materials must be disposed of properly, and may be bagged for household waste collection or composted. Burning of waste and bedding is NOT permitted.

While roosters are not prohibited, we strongly recommend households refrain from keeping roosters, particularly for smaller lot sizes. Contrary to popular belief, they crow all day long! If you have any additional questions, please call the Township office.

Parks and Recreation News and Events

For the first time in many months, Parks and Recreation (P&R) has a full commission! Our group consists of three seasoned commissioners, Jennifer Jacobs (Chair), Susan Alloway, and Carrie Stare, and four enthusiastic newcomers who have been on the commission fewer than four months: Isaac Thomas, Andrew Schiavello, Ken Leidheiser, and Nithya Narayan.

We kicked off our 2022 schedule of events on April 9 with the return of the hugely popular Egg Hike. Rainy skies cleared, allowing over 175 kids to enjoy a walk through the Oakbourne Park to collect eggs at stations along the park trails. We would like to thank all the volunteers who helped make this event possible!



Egg Hike participants enjoy the trails at Oakbourne.



The Sweatman family volunteered at Egg Station #6.

HERE'S THE SUMMER LINEUP OF EVENTS AND PROGRAMS AT OAKBOURNE PARK:

June 15 - Summer Concert

Enjoy a free performance by the West Chester Band from 6:30-8:30 PM.

July 13 - Night Hike

Join naturalist Lon Myers for a family-friendly program to explore nature from dusk to darkness.

Garden Lecture Series

Various lectures by Master Gardeners and industry professionals on topics such as vegetable growing and flower gardens to attract bees. Dates, times, and topics TBA.

Check the Township website for updates on these events, and for all your Township information!

Important Dates

JUNE, 2022

6, 20 - Board of Supervisors
8, 22 - Planning Commission
11 - Yard Waste Collection
14 - Historical Commission
15 - P&R Summer Concert
21 - Parks & Recreation
28 - EAC

JULY, 2022

4 - Office Closed
5, 18 - Board of Supervisors
6, 20 - Planning Commission
12 - Historical Commission
13 - P&R Night Hike
16 - Yard Waste Collection
19 - Parks & Recreation
26 - EAC

AUGUST, 2022

1, 15 - Board of Supervisors
3, 17 - Planning Commission
9 - Historical Commission
13 - Yard Waste Collection
16 - Parks & Recreation
23 - EAC

SEPTEMBER, 2022

5 - Office Closed
6, 19 - Board of Supervisors
7, 21 - Planning Commission
10 - Yard Waste Collection
13 - Historical Commission
17 - E-Waste Collection Event
20 - Parks & Recreation
27 - EAC

BOARD OF SUPERVISORS - 7:30 pm
ENVIRONMENTAL ADVISORY - 7:00 pm
PLANNING COMMISSION - 7:00 pm
HISTORICAL COMMISSION - 7:00 pm
Township Municipal Building
1039 Wilmington Pike, Westtown

**PARKS AND RECREATION AND
FRIENDS OF OAKBOURNE** - 7:00 pm
Oakbourne Mansion
1014 S. Concord Road, Westtown

Outdoor Cooking Fire Safety

With summer grilling season just around the corner, please take precautions when cooking outdoors.

General

- Check for burn bans prior to grilling/cooking outdoors.
- Propane and charcoal grills should only be used outdoors.
- Place the grill away from your home, deck, eaves, and overhead branches.
- Never leave any fire unattended.
- Remove any buildup of fats or grease from grills.
- Keep children and pets at least three feet away from the grill area.
- Have a connected water hose uncoiled and ready to turn on at a moment's notice, and a bucket of water nearby.
- Use long-handled tools made specifically for grilling.

Gas Grills

- Check for leaks on gas grills prior to use.
- Make sure the gas grill lid is open before lighting it.
- If the flame goes out, turn the grill and gas off, and wait at least five minutes before re-lighting.
- If you smell gas while cooking, get away from the grill and call the fire department. Do not move the grill.
- Never store propane gas cylinders in buildings or garages.

Charcoal Grills

- Consider using a charcoal chimney starter that allows firing up charcoal without the use of starter fluid. There are also electric charcoal starters, which do not use fire.
- If using starter fluid, use only charcoal starter fluid. Never add starter fluid or any other flammable liquids to an ongoing fire.
- Keep charcoal fluid out of the reach of children and away from heat sources.
- Let coals cool completely and dispose of them in a metal container.



Household Waste Disposal

Please follow these guidelines on the preparation and disposal of household waste and recyclables:

TRASH

Household trash must be securely contained in plastic bags or lidded receptacles. Construction debris, hazardous waste, and electronics are not accepted.

RECYCLING

Recyclable materials (glass, plastics #1-6, aluminum, steel, paper, and cardboard) must be in the recycle bin, or other clearly marked recycling container. **Do not put recyclables in plastic bags.** Rinse food debris and dispose of lids. Flatten cardboard boxes and place in the recycle bin or another cardboard box, or bundle with twine or string (do not use duct tape) and place beside the bin. **Loose cardboard will not be collected.**

YARD WASTE

Yard waste is collected on scheduled days posted on the Township website. It must be in paper bags or containers that can be dumped. Branches no more than 3" in diameter and 3' in length must be bundled & tied. Logs, stumps, rocks, dirt, and ashes will not be collected. Pickup reminders are emailed to residents who subscribe to the Township listserv. The Township strongly encourages residents to compost yard waste and mulch grass clippings.

BULK ITEMS

On the last pick up of each month, A.J. Blosenski will collect up to three bulk items per house. Holiday collection make-ups include bulk items. A mattress and/or box spring is accepted on bulk item day. Construction debris, TV's, safes, and auto parts cannot be accepted for collection.

HAZARDOUS WASTE

Visit <http://www.chestercountyswa.org> for hazardous waste collection events scheduled throughout the county.

MEDICAL WASTE

There is a medication return box at the Westtown East Goshen Police Dept. Additional information on the disposal of home healthcare waste is available on the Township website.

ELECTRONIC WASTE

TV's, computer monitors, appliances, and other electronics may be disposed of at the Lanchester Landfill for FREE (7224 Division Highway, Narvon, PA). Residents may bring up to three items per day visit, including one TV (no projection TV's). Retailers and E-Waste collection events charge for TV's and computer monitors, so take advantage of this service.

Recycle Right. When in Doubt, Throw it Out!

Recycling RIGHT is more important than recycling MORE. Many people are still operating under the misconception that recycling every possible scrap of paper, metal, plastic, and glass is the most environmentally sound practice. Clean, uncontaminated recyclable material improves marketability.

Here's a guide for what **NOT** to put in the recycling bin:

- Anything with food waste in it - You don't have to wash containers, but rinse to remove food scraps and residue.
- Plastic bags and film - These items get stuck in the processing machinery, resulting in expensive repairs and down time. Recycle CLEAN plastic bags, and plastic film packaging at the grocery store.
- Empty snack bags
- Greasy pizza boxes
- Used paper plates, napkins, paper towels, tissues, or diapers
- Paper cups (e.g. coffee cups, fast food drink cups) - The thin plastic lining that help prevent cups from leaking makes it difficult to process.
- Plastic straws, plastic utensils, or takeaway cup lids
- Shredded paper
- Styrofoam
- Scrap metal, hangers, aluminum siding, or metal cookware

If you want to do something positive for the planet by recycling, then do it right. When in doubt, throw it out!

Discount Code: Westtown
\$25.00 off
a Roll-off Dumpster
\$10.00 off
Junk Removal
Service

AJB Trash & Recycling Service
A.J. Blosenski Inc.
www.ajblosenski.com
610.942.2707

Four Generations of Quality Service from the Blosenski Family

- 96 Gallon Carts Available
- Bulk Item Removal
- Special Cleanups
- Roll-off Dumpsters
- Storage Containers
- Commercial Compactors
- 1-40 Yard Containers
- Event & Party Boxes
- 100% Customer Satisfaction

Dependable Roll-Off Service

Servicing Westtown Township

MasterCard American Express Discover Visa
Discount cannot be combined with any other offer.



Westtown Township
 1039 Wilmington Pike
 P.O. Box 79
 Westtown, Pennsylvania 19395

Prsrtd Std
 U.S. Postage
PAID
 West Chester PA
 Permit No 10

Recycling Day

Anything with a Plug™

September 17, 2022
 Westtown Township | 1039 Wilmington Pike
 9:00 a.m. - 12:00 p.m.

All residents must pre-register. Visit the Eventbrite link below:
<https://www.eventbrite.com/e/electronics-recycling-day-anything-with-a-plug-tickets-344819152367>

WESTTOWN TOWNSHIP

is proud to offer township residents the opportunity to responsibly recycle obsolete electronics.

This service is available to all residents and small businesses with fewer than 50 employees.

Electronics will be recycled by eForce Compliance, Philadelphia's first Certified Responsible Recycler.

We will accept all electronic devices with a plug, **NO SMOKE DETECTORS, LARGE APPLIANCES or PROJECTION TVs** will be accepted.

Coupon of equal or greater value provided for all TVs or monitors charged.

All Data Media Will Be Destroyed or Wiped!

ACCEPTED ITEMS INCLUDE:

- | | |
|-------------|------------------|
| Laptops | Computers |
| Peripherals | Mice |
| Typewriters | Small Appliances |
| Telephones | Fax Machines |
| Cameras | Keyboards |
| Cell Phones | Printers |
| Calculators | |


\$30 fee per TV or computer monitor
\$100 per wooden console TV
\$10 per microwave, dehumidifier, air conditioner



Stormwater-related flyers displayed at Township Building:

Hold the Stormwater, Please!

tips for stormwater management on your property




DID YOU KNOW:



- We depend on rainfall soaking into the ground to recharge our groundwater levels.
- Increased number of impervious (non-porous) surfaces, such as asphalt and rooftops, result in fewer opportunities for rainfall to soak into the ground causing flooding and increased pollution of our streams.
- Low groundwater levels result in critically low or even dry creek beds and diminished drinking water supply during periods of reduced rainfall.

Here are some ways you can help in your own backyard:


- 1 Substitute porous surfaces for impervious ones.**
Patios, walkways, driveways, and parking areas can be constructed with porous materials that reduce stormwater runoff. One option is special blocks or pavers with voids that can be filled with gravel or planted with grass that allow stormwater to soak into the soil.



- 2 Direct stormwater to areas where it can seep into the ground.**
Do any of your downspouts direct rooftop runoff down the driveway into the street or directly into a stream? Redirect those downspouts away from the foundation of your home to a grassy area, seepage pit, mulched bed, or rain garden. Use a PVC extension or pipe.



- 3 Hold stormwater for use or release later.**
Use a rain barrel to retain stormwater coming off rooftops for reuse in gardens or to release at a later time. For best results, direct overflow from your rain barrel to a more porous area such as a mulched bed or a rain garden.




- 4 Plant more trees, shrubs, and mulched beds.**
Trees, shrubs, and mulched beds with flowers will intercept and infiltrate rainwater better than mowed lawns. Consider planting one or more large canopy trees, such as maples and oaks. Each large tree will intercept over 1,000 gallons of rainwater each year.

This message is brought to you by your municipality and Chester-Valley-Crum Watersheds Association, www.crvatersheds.org
Acknowledgement to Philadelphia Water Department and Wissahickon Watershed Association


Stormwater-related flyers displayed at Township Building:

Clean Water Begins With You


What is Stormwater Runoff?



Stormwater runoff is precipitation from rain or snowmelt that flows over the ground. Impervious surfaces such as streets, sidewalks, and driveways prevent stormwater from soaking into the ground. As stormwater flows over ground, it can pick up chemicals, debris, dirt, and other pollutants that enter the storm sewer system.



Why is Stormwater Runoff a Concern?



Once pollutants from stormwater enter the storm sewer system, they are discharged **UNTREATED** into local streams and waterways. These are the same bodies of water that we use for drinking, fishing, and recreation.

What are the effects of Stormwater?

Polluted stormwater can lead to an overall decline in stream health that results in a negative impact to fish, wildlife and recreation.

- Increased volumes of stormwater entering streams due to impervious surfaces, preventing infiltration and increasing runoff, can lead to erosion of stream and lake banks. This in turn results in large amounts of sediments entering our waterways. Higher volumes of water entering our waterbodies also leads to flooding.
- Sediments cloud water, making it difficult for aquatic plants and animals to survive.
- Excess nutrients, often a result of fertilizer runoff from our lawns, causes algal blooms. When algae die and decompose, the process removes oxygen from the water. Fish and aquatic organisms can't live in water with low oxygen levels.
- Bacteria, often from dog waste left on the ground, can wash into local streams and create a health hazard.
- Debris and trash that is left on streets, sidewalks and parking lots is washed into our waterbodies degrading them aesthetically and harming wildlife that use the water as a home.
- Pollution from stormwater degrades streams and waterways used for drinking water. This can affect public health and lead to increased costs to treat the water.

What you can do to be part of the solution

Storm Drains

Never dump anything down a storm drain especially used motor oil or antifreeze. Dispose of these properly at a local service station or approved recycling center. Encourage your community to attend clean ups with "No Dumping, Grease to Clean" to others will know that everything that enters the storm sewer system also enters their local streams.

Oil Waste

Oil waste can be a major source of excess nutrients and bacteria to local waterbodies. It is important to always fill up after your car and dispose of the waste properly. When get waste is left in the ground it increases public health risk.

Kids Cars

Washing your car at home is the cheapest of the most can send dangerously high oil concentrations through the storm sewer system. It is best to wash your car at a commercial car wash where they treat and recycle the wastewater. If you do wash your car at home, do so with your yard for that water filter you into the ground.

Repair all oil leaks. Fluid not leaking from your car onto a paved surface is better than the storm sewer system.

Streambank Landscaping

Erosion of streambanks can be prevented through the use of vegetated strip along your banks. This reduces splash runoff, traps silt of soil erosion, and soil erosion and it stabilizes banks, curbs, prevents erosion and additional erosion to the stream.

Residential Landscaping

Downspouts - Direct all downspouts away from pavements and onto lawns. Rain barrels can be used to collect the rainwater from downspouts. This water can be used later on the lawn and garden.

Lawn Care - Fertilizers and Herbicides should be used sparingly. When applied in excess, these chemicals are washed off by rainwater and enter the local storm sewer system. Additionally, it is important not to sweep yard waste and leaves into the street. These add extra nutrients to streams.

Plant Hardiness or Grassy Areas - These specially designed lawns can be planted with water vegetation to provide an area for rainwater to collect and soak into the ground. Stormwater from curbs, driveways and pavement areas can be directed to these vegetated areas.


Understanding the link between fertilizer and stream health

By John Davis, PhD, PE, Associate Professor, Department of Civil Engineering, Widener University


Natural aquatic environments thrive in a fragile balance between nutrient supply and algal growth. Algae form the base of the food chain in aquatic ecosystems by utilizing sunlight and nutrients (carbon dioxide, nitrogen and phosphorus) to build algal biomass through photosynthesis. The algae then become food for other aquatic organisms including bacteria, insects, and fish. Balanced natural aquatic environments support diverse populations of beneficial organisms from algae up through fish species.

If the supply of nutrients exceeds natural conditions, a chain of complex chemical, biological and physical reactions may begin which usually degrades the natural balance of an aquatic ecosystem. Scientists refer to this process as eutrophication. Some of the localized symptoms of eutrophication are:

- Daytime pH levels may reach levels greater than 9.0, leading to toxic conditions;
- Nighttime levels of dissolved oxygen, which fish depend on for respiration, may become critically low;
- Prolonged periods of depleted oxygen may occur at the end of an algal bloom caused by the decay of dead algae; and
- Proliferous growth of filamentous nuisance algae, which degrades physical habitat and hurts beneficial algae such as diatoms.



Filamentous algae covering stream bottom.



Filamentous algae from Chester Creek in lab beaker.

Once nutrients enter a stream, they tend to remain in the aquatic environment and can be transported to estuaries and coastal waters where eutrophication can have major impacts on highly valued recreational waters, beaches, and fisheries.

Sources of excess nutrients include septic systems, farm animals, and soil erosion, but the one most easily controlled by homeowners is the amount and type of fertilization of their lawns.

What you can do to reduce the impact of fertilization on our waterways:

- Select a "slow release" form of nitrogen which takes longer to break down in the soil and is less likely to leach out in the first rain.
- Recycle your grass clippings. Leaving grass clippings on your lawn can meet between 25% and 50% of your fertilizer needs.
- Limit the frequency of your fertilization to once or twice a year, preferably in the fall, and avoid fertilization in the early spring.
- Request a fertilizer that is phosphorus-free unless a soil test determines that phosphorus is lacking in your soil. A sample of your soil can be mailed to Penn State Extension and analyzed for a nominal charge.

This message is brought to you by your municipality through the Chester-Valley-Cum Watersheds Association MS4 Stormwater Partnership.

What is Storm Water?

Storm water is water from precipitation that flows across the ground and pavement when it rains or when snow and ice melt. The water seeps into the ground or drains into what we call storm sewers. These are the drains you see at street corners or at low points on the sides of streets. Collectively, the draining water is called storm water runoff.

Why is Storm Water "Good Rain Gone Wrong?"

Storm water becomes a problem when it picks up debris, chemicals, dirt, and other pollutants as it flows or when it causes flooding and erosion of stream banks. Storm water travels through a system of pipes and roadside ditches that make up storm sewer systems. It eventually flows directly to a lake, river, stream, wetland, or coastal water. All of the pollutants storm water carries along the way empty into our waters, too, because storm water does not get treated!



Pet wastes left on the ground get carried away by storm water, contributing harmful bacteria, parasites and viruses to our water.



Vehicles drip fluids (oil, grease, gasoline, antifreeze, brake fluids, etc.) onto paved areas where storm water runoff carries them through our storm drains and into our water.



Chemicals used to grow and maintain beautiful lawns and gardens, if not used properly, can run off into the storm drains when it rains or when we water our lawns and gardens.

Waste from chemicals and materials used in construction can wash into the storm sewer system when it rains. Soil that erodes from construction sites causes environmental degradation, including harming fish and shellfish populations that are important for recreation and our economy.



Where To Go To Continue the Information Flow

Your community is preventing storm water pollution through a storm water management program. This program addresses storm water pollution from construction, new development, illegal dumping to the storm sewer system, and pollution prevention and good housekeeping practices in municipal operations. It will also continue to educate the community and get everyone involved in making sure the only thing that storm water contributes to our water is . . . water! Contact your community's storm water management program coordinator or the Pennsylvania Department of Environmental Protection for more information about storm water management.

Westtown Township	610-692-1930
Chester County Conservation District	610-696-5126
PA DEP Southeast Region	484-250-5900
DEP SE Region-Water Quality	484-250-5970

 Printed on Recycled Paper



Pennsylvania Department of Environmental Protection
www.dep.state.pa.us

1. **Ditch** – Part of the storm sewer system. Most people think that the system is just a series of underground pipes. It can also include ditches used to convey storm water from the land to a receiving lake, river, or stream.
2. **Fire Hydrant** – Not part of the storm sewer system. Water sprayed from fire hydrants is not storm water, but is allowed by law to enter the storm sewer system.
3. **Curb with Storm Drain Inlet** – Part of the storm sewer system. Many people do not realize that this is an opening leading to the storm sewer system. Anything going into this inlet (e.g., trash, leaves, improperly disposed or hazardous materials) travel directly to a receiving lake, river, or stream without being treated first. Many communities stencil storm drains with "Do Not Dump" messages to let people know.
4. **Storm Sewer Outfall** – Part of the storm sewer system. An outfall is where storm water drains from the storm sewer system into a receiving lake, stream, or river. If there is a flow from an outfall when it isn't raining, there could be a problem with the system or someone has used a storm drain for illegally disposing of materials.
5. **Toilet** – Not part of the storm sewer system. Wastewater from sinks and toilets in houses and businesses travel through a sewer system constructed to carry sanitary wastes. In some instances, older communities may have a combined sewer system designed to carry both storm water and sanitary waste.
6. **Septic System** – Not part of the storm sewer system. Homeowners use septic tanks to manage sanitary wastes on-site. Improperly maintained septic systems can leak and contribute pollutants to the storm sewer system, as well as directly to lakes, rivers, and streams.
7. **Roads and Other Paved Areas** – Not part of the storm sewer system. Roads and other hardened surfaces such as parking lots and sidewalks can accumulate pollutants (e.g., oil, grease, dirt, leaves, trash, pet wastes) that storm water eventually washes into the storm sewer system.
8. **Storm Drain Inlet** – Part of the storm sewer system. This is another example of what a storm drain may look like. Like the storm drain inlet shown in picture #3, anything that enters this drain will go directly to streams, rivers, and lakes without being treated first. It is important to recognize this as a storm drain to prevent it from being used as a trash can.

Answers to Test Your Storm Sewer System Savvy

When It Rains, It Drains

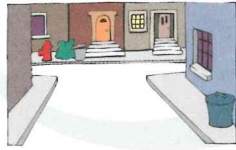
Understanding Storm Water and How It can Affect Your Money, Safety, Health, and the Environment



What Happens When It Rains?

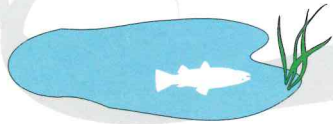
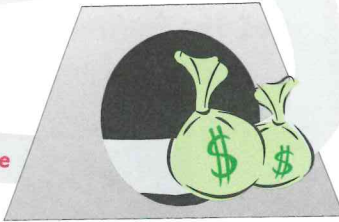


Rain is an important part of nature's water cycle, but there are times it can do more damage than good. Problems related to storm water runoff can include:



Flooding caused by too much storm water flowing over hardened surfaces such as roads and parking lots, instead of soaking into the ground.

Increases in spending on maintaining storm drains and the storm sewer system that become clogged with excessive amounts of dirt and debris.



Decreases in sportfish populations because storm water carries sediment and pollutants that degrade important fish habitat.

More expensive treatment technologies to remove harmful pollutants carried by storm water into our drinking water supplies.



Closed beaches due to high levels of bacteria carried by storm water that make swimming unsafe.

We can help rain restore its good reputation while protecting our health and environment while saving money for ourselves and our community. Keep reading to find out how...

Test Your Storm Sewer System Savvy!



What does the storm sewer system look like in your community? See if you can identify which pictures are part of the storm sewer system. (Answers are on the back.)



Restoring Rain's Reputation: What Everyone Can Do To Help

Rain by nature is important for replenishing drinking water supplies, recreation, and healthy wildlife habitats. It only becomes a problem when pollutants from our activities like car maintenance, lawn care, and dog walking are left on the ground for rain to wash away. Here are some of the most important ways to prevent storm water pollution:

- Properly dispose of hazardous substances such as used oil, cleaning supplies and paint—never pour them down any part of the storm sewer system and report anyone who does.
- Use pesticides, fertilizers, and herbicides properly and efficiently to prevent excess runoff.
- Look for signs of soil and other pollutants, such as debris and chemicals, leaving construction sites in storm water runoff or tracked into roads by construction vehicles. Report poorly managed construction sites that could impact storm water runoff to your community. (See the back of this brochure for contact information.)
- Install innovative storm water practices on residential property, such as rain barrels or rain gardens, that capture storm water and keep it on site instead of letting it drain away into the storm sewer system.
- Report any discharges from storm water outfalls during times of dry weather—a sign that there could be a problem with the storm sewer system.
- Pick up after pets and dispose of their waste properly. No matter where pets make a mess—in a backyard or at the park—storm water runoff can carry pet waste from the land to the storm sewer system to a stream.
- Store materials that could pollute storm water indoors and use containers for outdoor storage that do not rust or leak to eliminate exposure of materials to storm water.



CRC's 25th Annual STREAMS CLEANUP

COME JOIN US AT ONE OF OUR 33 SITES!

Saturday, March 25th
from 9-11:30am

Followed by a volunteer picnic at
Rita Reves Park until 1pm

FIND YOUR LOCAL SITE & REGISTER AT:



crcwatersheds.org





Westtown Township

June 9 at 12:28 PM · 🌐



Yard Waste Collection June 10

Yard waste must be in biodegradable paper bags or containers that can be dumped. Plastic bags are not accepted. Branches under 3" in diameter must be cut approximately 3 foot in length, bundled and tied, and placed at the curb by 6 AM on collection day. No rocks, logs, stumps, dirt, or ashes will be taken.

The next yard waste collection is Saturday, July 15.



👍 Like

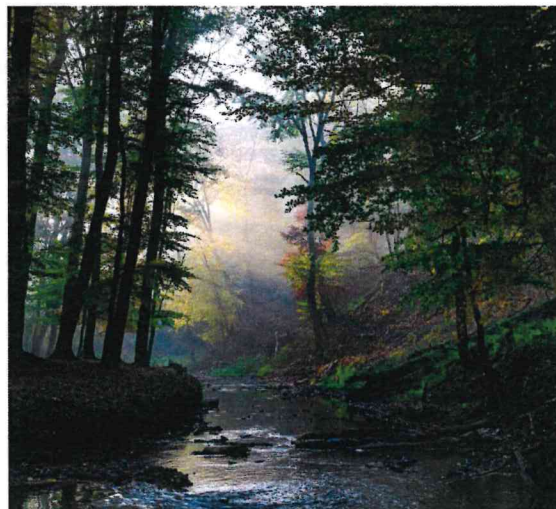
💬 Comment

➦ Share

"The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come.

As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

Pennsylvania Constitution
Article 1, Section 27



Suggested Resources

Water & Watershed: Our watershed: crcwatersheds.org and Stroud Water Research Center <https://stroudcenter.org/>

Land Conservation:

dcnr.pa.gov/Conservation/
weconservepa.org
brandywine.org/conservancy
natlands.org/

Habitat, native & invasive plants, healthy soil:

nwf.org/certify
tlcforscc.org/invasive-species-management
www.beyondpesticides.org
www.localharvest.org/west-chester-pa/csa-extension.psu.edu/programs/master-gardener/counties/chester/contact
PASA <https://pasafarming.org/>

Bringing Nature Home by Douglas W. Tallamy
Biophilia by Edward O. Wilson
The Living Landscape by Rick Darke & Douglas W. Tallamy

Clean air: *The Future We Choose* by Christiana Figueres and Tom Rivett-Carnac
Drawdown Project <https://drawdown.org/>



Contact us:
adminstration@westtown.org or
Visit:
<https://www.westtownpa.org/eac/>

Westtown Township Environmental Advisory Council (EAC)

Healthy Environment
Healthy Community

WHO IS PART OF THE EAC

The Westtown EAC is a group of seven community residents appointed by the Board of Supervisors to advise officials and educate citizens about the protection, conservation, management, promotion and use of natural resources. The Westtown EAC was established in February 2021 by Ordinance 2021-02.

WHY WE DO WHAT WE DO

We care about the conservation and preservation of our local environment. We know that there is much work needed to clean our air, water and soil. We take action so that Westtown may remain beautiful, enjoyable and an ecologically healthy place to live for generations to come.

WHAT IS AN EAC ?

EACs are officially constituted municipal boards created to advise local governments on environmental issues and policies. WeConservePA coordinates the state EAC Network.

RESPONSIBILITIES INCLUDE:

- Identifying environmental problems and recommending remedies
- Inventorying open spaces and natural features and recommending best uses and management practices
- Formulating and encouraging programs for the promotion and conservation of natural resources and environmental quality
- Identifying funding sources to protect and study natural resources and environmental quality and develop proposals to obtain funding
- Recommending uses of open space and advising the Board of Supervisors on acquisition of additional open space
- Commenting on applications for subdivision, variance or conditional use when requested to do so by the Supervisors or the Planning Commission
- Helping residents understand the impact of their decisions on the environment and the larger community



Our Priorities



- Open space protection
- Health of our streams and riparian buffers
- Effective stormwater management
- Energy efficiency and renewable energy
- Improving air quality and reducing air pollution
- Promoting biodiversity and habitat conservation
- Extreme weather and high heat resilience plans
- Encouraging local food production and pollinator and bird friendly landscaping

West Chester Council of Governments' Clean Energy Future



Westtown is a member of the West Chester Area COG. The EAC supports this effective collaboration on sustainability initiatives. Working together we can develop socially responsible, environmentally sound, and economically viable solutions that create healthy, resilient, sustainable communities. To learn more visit: <https://wcacog.org/clean-energy-future>



2022/2023 CWMP MS4 Municipal Report for Cost-Share Partners

Prepared by Brian Winslow, Watershed Conservation Director, Brandywine Red Clay Alliance

CWMP is supported through the generous cost-sharing support from the following municipalities in 2022/2023:

Avondale Borough	New London Township
Birmingham Township	Parkesburg Borough
City of Coatesville	Penn Township
Downingtown Borough	Pocopson Township
East Bradford Township	Sadsbury Township
East Brandywine Township	South Coatesville Borough
East Caln Township	Thornbury Township
East Fallowfield Township	Upper Uwchlan Township
East Marlborough Township	Uwchlan Township
East Whiteland Township	Valley Township
Franklin Township	Wallace Township
Honey Brook Borough	West Bradford Township
Honey Brook Township	West Brandywine
Kennett Square Borough	West Chester Borough
Kennett Township	West Goshen Township
London Britain Township	West Grove Borough
London Grove Township	West Pikeland Township
Londonderry Township	West Whiteland Township
Modena Borough	Westtown Township
New Garden Township	

This report summarizes activities by CWMP and its Planning Team organizations to help municipalities meet their MS4 requirements, especially MCM's 1, 2 and 6. As a cost share participant, these municipalities help to financially support these activities, and many are active participants in the meetings, events and activities listed in this report.



The municipalities listed on page 1 of this report supported CWMP activities in 2022/2023 through a cost-share contribution. CWMP provides many resources for residents, elected officials, municipal staff and consultants outlined in this report. The following is a summary of CWMP, its Planning Team Organization and scope of work.

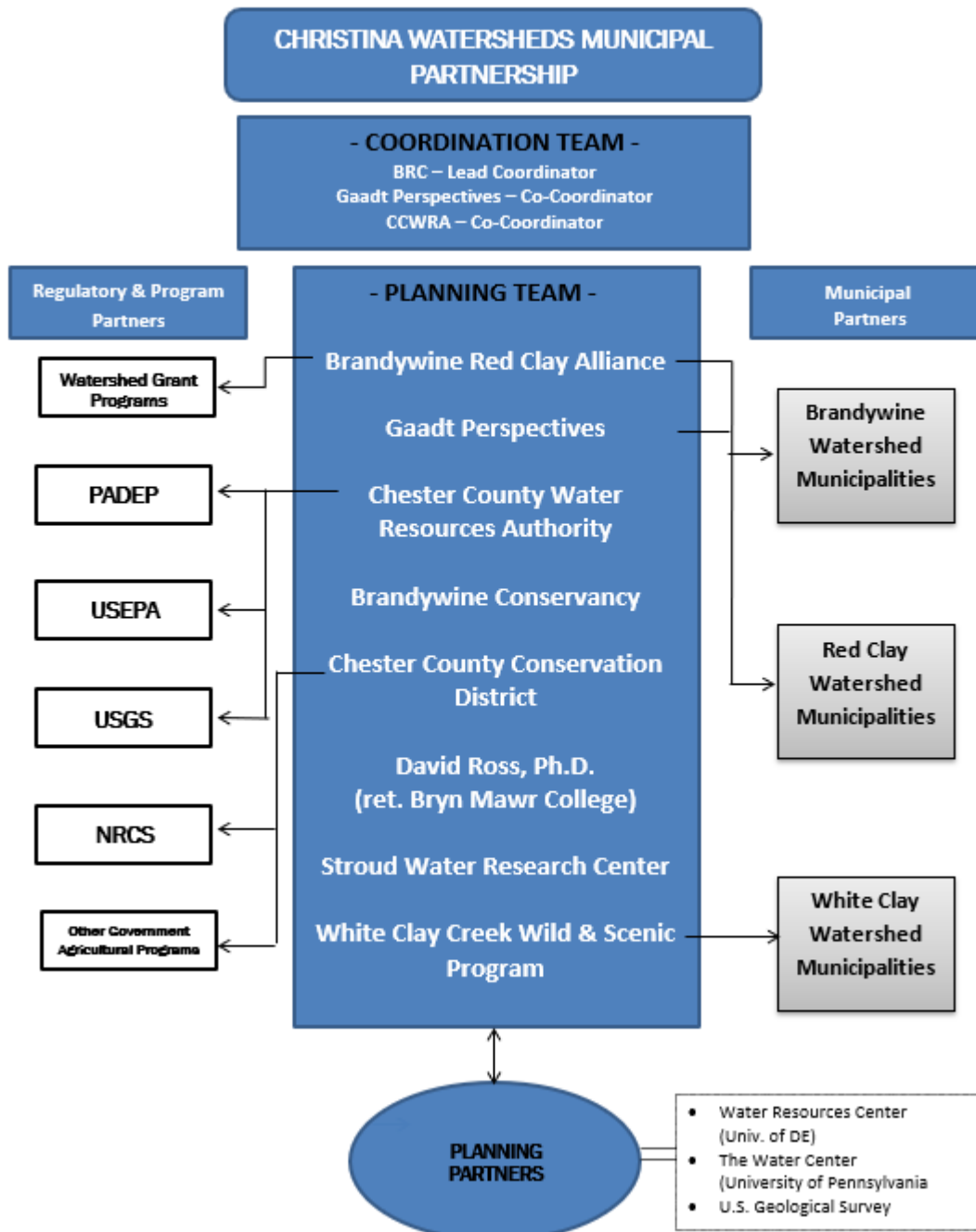
CWMP Organizations offered a Grand total of 245 stormwater related programs/events, serving 19,420, participants, including 442 volunteers and recording 1,326 volunteer hours for MCM 1, 2 and 6 between July 1, 2022 and June 30, 2023. Details for each of these activities is described under each MCM area below.

The Christina Watersheds Municipal Partnership (CWMP) is a long-term partnership of Pennsylvania municipalities, county agencies, and watershed conservation organizations. The mission of CWMP is *to facilitate and support engagement and collaboration of Pennsylvania municipalities, landowners, and other stakeholders to restore and protect the water quality of streams in the Brandywine Creek, Red Clay Creek and White Clay Creek watersheds.*

CWMP has been helping municipalities in the Chester County Pennsylvania portion of the Christina Watershed meet their MS4 requirements since the inception of Pennsylvania's MS4 program. Municipal members of CWMP participate in CWMP meetings, workshops and receive communications, technical assistance and materials from CWMP to help them meet their MS4 requirements. CWMP also provides a number of print, electronic and other resources each year to cost-share municipalities to assist with stormwater public education, outreach, staff training and technical assistance. These resources include an annual stormwater education advertisement (print and digital) and a broad array of resources and event calendar available on our website at www.cwmp.org.

The www.CWMP.org website launched in January 2021 is an example of the benefits derived from the collaboration of CWMP's planning team. Municipal members pay an annual cost share to participate in CWMP activities. This fee helps to support the time and expenses devoted to this effort by planning team members. Funding received from annual municipal member fees covers only a fraction of CWMP's total annual operating costs, with grants and in-kind donations covering the remaining expenses. Each dollar contributed by municipalities through their annual cost share is leveraged by an equal or greater value of grant dollars and in-kind contributions from planning team members.

The CWMP Planning Team meets at least 10 times a year to coordinate CWMP activities and identify opportunities to assist municipalities to improve water quality from a watershed perspective. Our Planning Team members bring the support and expertise of their organizations to this effort. Planning team members include: Brandywine Red Clay Alliance, Brandywine Conservancy, Chester County Conservation District, Chester County Water Resources Authority, David Ross Ph.D. (ret. Bryn Mawr College), Gaadt Perspectives, Stroud Water Research Center, White Clay Wild and Scenic Program, The Water Center at University of Pennsylvania and University of Delaware Water Resources Center.



7/1/2022

MCM #1- Public Education and Outreach on Stormwater Impacts

CWMP SUMMARY of MCM #1 Activities 2022/2023 Presented by CWMP Planning Team Organizations

CWMP SUMMARY of MCM #1 Activities 2022/2023 Presented by CWMP Planning Team Organizations					
PLANNED ACTIVITIES			ACCOMPLISHMENTS		
Activity	Target Audience	Planned Timeframe	Date Completed	# People Reached	
1 <u>Maintain www.cwmp.org website with stormwater resources, calendar of events and technical assistance</u>	Home owners, farmers, developers, municipal staff and elected officials	July 1, 2022- June 30, 2023	June 30, 2023- website is updated regularly and maintained with current resources	From Google Analytics: <ul style="list-style-type: none"> • 1,419 users • 1,642 sessions • 2,794 pageviews 	
2 <u>World Water Day and Earth Day Ads: “You Can Help Reduce Flooding and Improve Water Quality”</u>	Chester County Residents	Spring 2023	4 run dates in Daily Local, March 22, 26 and April 22 and 23, 4 run dates in Southern Chester County News, March 23, 30 and April 17 & 21 2 digital ads ran on April 17 and 21	Circulation for ads in Chester Couty: <ul style="list-style-type: none"> • 80,000 monthly readership of print edition • 332,000 monthly unique visitors on-line edition • 466,000 total monthly audience reached Actual digital data at cwmp.org from Google Analytics: <ul style="list-style-type: none"> • 453 page views Actual Daily Local News digital Ad analytics: <ul style="list-style-type: none"> • 47,166 Views • 1,508 Clicks to the website: https://cwmp.org/ 	

**CWMP SUMMARY of MCM #1 Activities 2022/2023
Presented by CWMP Planning Team Organizations**

PLANNED ACTIVITIES			ACCOMPLISHMENTS		
Activity	Target Audience	Planned Timeframe	Date Completed	# People Reached	
3 <u>Green Stormwater Infrastructure Guide printed</u>	Residential, commercial and organizational landowners, municipal staff and officials	July 1, 2022- June 30, 2023	June 30, 2023	600 guides printed and distributed to municipalities to share. Also created digital PDF versions and shared with municipalities and posted at https://cwmp.org/wp-content/uploads/Flyers/BRC_Guide%20to%20Green%20Stormwater%20Infrastructure_FINAL.pdf	
4 <u>Water Education Programs presented to youth through school and scout programs and Summer Camps</u>	Youth ages 4-18 in Chester County	July 1, 2022- June 30, 2023	Includes programs presented during this time	Summary of all programs: 97 School and scout programs presented to 5,162 children at Brandywine Red Clay Alliance 49 week long summer camp sessions presented to 626 youth (note summer of 2022 attendance) at Brandywine Red Clay Alliance	
6 <u>Adult/family oriented stormwater education events and programs</u>	Adults and family Chester County	July 1, 2022- June 30, 2023	Includes all programs presented during this time	Summary of all programs: 43 programs presented to family and adults, 804 participants by CWMP Planning Team organizations	

MCM 1 Details of activity provided by CWMP 2022/2023

- **CWMP website, www.cwmp.org, provides a large variety of on-line stormwater resources for homeowners, farmers, developers and municipal staff and elected officials.** Many CWMP cost-share municipalities listed on page 1 of this report, post links to these shared resources provided via the website to educate residents about stormwater related issues. This website includes:
 - Calendar of stormwater education, outreach and engagement activities
 - Stormwater resources for homeowners, developers, farmers
 - Municipal Partner resources for municipal staff and elected officials
 - Stormwater training resources for municipal staff
 - MS4 information and resources for residents, staff and elected officials
 - List of stormwater grant sources
 - Links to related stormwater resources and trainings
 - MS4 Technical Assistance/Load & Reduction Calculations
 - Stormwater articles to be re-published by municipalities (be sure to re-publish articles in your municipality)
 - Communication and Outreach Toolbox with sample social media posts on stormwater topics for municipalities to cut and paste into their social media and more.

We encourage municipalities to post the CWMP calendar via a Google Calendar link on their website and provide links to www.cwmp.org in their newsletters, websites and social media to help meet their stormwater education requirements. For information and guides on how to make these links, contact bwinslow@brandywineredclay.org.

Website Visitation Data July 1, 2022- June 30, 2023

User data From Google Analytics:

- 1,419 users
- 1,642 sessions
- 2,794 pageviews

Digital stormwater ads were purchased in Spring 2023 for World Water Day (March) and Earth Day (April) to drive residents to visit the cwmp.org website and had good results: There were an additional 453 users on the CWMP website while digital ads were running. The spring ad had 47,166 views and 1,508 clicks to cwmp.org website.

- **CWMP purchased a series of print and digital advertisements promoting stormwater education and driving readers to the CWMP.org website to see further educational materials. The following ads were run:**
 - **Spring 2023 CWMP Stormwater Advertisement-** Ad was titled “You Can Help Reduce Flooding and Improve Water Quality”, ads ran around World Water Day (March 20) And Earth Day, April 22 (see copy of ads in appendix)
 - 4 run dates in Daily Local, March 22, 26 and April 22 and 23,
 - 4 run dates in Southern Chester County News, March 23, 30 and April 17 & 21
 - 2 digital ads ran on April 17 and 21

Circulation for ads in Chester Couty:

- 80,000 monthly readership of print edition
- 332,000 monthly unique visitors on-line edition
- 466,000 total monthly audience reached

CWMP Planning Team members Brandywine Conservancy and Brandywine Red Clay Alliance distributed over 600 of the Green Stormwater Guide (20 pages) featuring 16 best management practices to landowners, residents, developers and township staff and elected officials to promote these practices to improve stormwater (see sample in appendix). Digital PDF versions were also created to share electronically and on the CWMP website (https://cwmp.org/wp-content/uploads/Flyers/BRC_Guide%20to%20Green%20Stormwater%20Infrastructure_FINAL.pdf). The guides were distributed at CWMP workshops and meetings, copies given to each municipality and at tabling events.

CWMP Planning Team organizations offer a variety of water quality and stormwater education programs each year. CWMP has asked all of these organizations to report their attendance at these activities for use in MS4 reports where appropriate. The following is a summary of the 2022/2023 stormwater and water quality activities hosted by CWMP partner organizations and their collaborators.

Highlights of the report for MCM 1 include:

- **CWMP Organizations offered 189 MCM 1 Public Education activities, serving 6,592 participants. These included:**
 - 49 week long summer camp sessions with water education included offered by Brandywine Red Clay Alliance in Summer of 2022 with 626 children participating
 - 97 School and youth programs offered by Brandywine Red Clay Alliance to 5,162 children and youth.
 - 43 adult and family water education programs by all CWMP Planning Team members serving 804 participants

To see where events and activities were located and their target audiences by municipality, an excel spreadsheet of all the submitted data is available upon request.

MCM #2- Public Involvement Participation

CWMP SUMMARY OF MCM #2 ACTIVITIES 2022/2023 Presented by CWMP Planning Team Organizations Public Participation And Involvement Accomplishments					
PLANNED ACTIVITIES				ACCOMPLISHMENTS	
	Activity	Target Audience	Planned Timeframe	Date Completed	# People Reached/ results
1	<u>Outreach Events with stormwater education displays for the public</u>	Families and adults in Chester County	July 1, 2022- June 30, 2023	Includes outreach events throughout the year	Summary of all events: 4 events with 11,575 participants
2	<u>Volunteer outreach activities including; litter clean-ups, tree planting and buffer maintenance activities</u>	Chester County Residents; homeowners, businesses, organizations	July 1, 2022- June 30, 2023	Includes all volunteer activities during this time	6 volunteer/outreach activities 442 participants 1,326 volunteer hours
3	<u>Distribution of free tree through Keystone 10 Million Tree Program by Chester County Conservation District and Brandywine Red Clay Alliance</u>	Chester County Residents; homeowners, businesses, organizations, municipalities, parks	Fall 2022 & Spring 2023	October, 2022 May 2023	3,525 trees in fall 6,600 trees in spring <u>10,125</u> total trees distributed to over 90 landowners and organizations

MCM 2 – CWMP Details of Activities

- **CWMP Planning Team Organizations offered the following activities:**
 - 4 Outreach events reaching 11,575 participants
 - 6 Activities including clean-ups and tree plantings with 442 volunteers contributing 1,326 volunteer hours
 - These events included Clean-up Events:
 - Brandywine Cleanup, hosted by Brandywine Red Clay Alliance
 - April 21, 2023 – 95 volunteers contributed 285 hours to clean up 31 miles of roads
 - Red Clay Valley Cleanup, hosted by Brandywine Red Clay Alliance,
 - March 25, 2023. 220 volunteers contributed 660 hours to clean up 32 miles of roads in Chester County, PA portion of the watershed.



Brandywine Clean up event in Modena

Red Clay Clean up in Kennett Township

- Tree Planting events
 - Chester County Conservation District held a tree planting event in New Garden Township with 30 volunteers giving 150 hours
 - White Clay Wild and Scenic had a tree planting event with 40 volunteers contributing 120 hours in New Garden Township.
 - BRC held two tree planting events with 37 volunteers contributing 201 hours in Pocopson and East Marlborough Township.
 - Chester County Conservation District distributed 10,125 trees to over 90 residential landowners in fall 2022 and spring 2023 through Keystone 10 Million Tree Project



6,600 trees ready for distribution, spring 2023

MCM # 6 – Pollution Prevention/ Good Housekeeping

CWMP SUMMARY OF MCM #6 ACTIVITIES 2022/2023 Professional Training for Municipal Staff and Official Accomplishments					
PLANNED ACTIVITIES				ACCOMPLISHMENTS	
	Activity	Target Audience	Planned Timeframe	Date Completed	# People Reached/ results
1	<u>Lawn to Meadow workshop, 3 hours at Shadyside Park, West Bradford Township</u>	HOA's and Municipal Public Works staff in Chester County	Fall 2022	10/25/2022	Half Day Workshop 52 participants
2	<u>Green Stormwater Infrastructure workshop for Public Works Staff</u>	Municipal Public Works staff, engineers	Spring 2023	6/1/2023	6-hour workshop 30 participants
3	<u>CWMP Meetings; Elected officials breakfast meeting and CWMP meeting (2) on stormwater funding, green stormwater infrastructure and MS4 inspections</u>	Municipal staff, engineers and supervisors	Throughout the year	9/23/2022 12/16/2022 1/19/2023	3 meetings 99 participants
4	<u>CWMP presentations (2) at Chester Co. Secretaries in Government Assoc. and Chester Co. Assoc. of Township Officials</u>	Municipal secretaries, elected officials and managers	Throughout the year	11/29/2022 6/25/2023	2 Meeting presentation 36 participants

5	<u>Christina Basin Task Force Water Quality Meeting and Annual Stormwater BMP Bus Tour</u>	Municipal staff and engineers in Chester Co. PA and New Castle Co. DE	Throughout the year	9/16/2022 1/20/2023	2 Meetings 47 participants
6	<u>CWMP e-Newsletters and emails sent to CWMP municipal partners: to keep them informed of upcoming events, grant funding, updates to CWMP website and DEP updates to share</u>	Municipal staff, engineers and supervisors	July 1, 2022- June 30, 2023	4 Newsletters and 6 email updates sent during this time	Each mailing sent to 125 contacts on CWMP mailing list, total 1,250 unique contacts sharing CWMP stormwater information.

MCM #6 Staff training is included in MCM 6 requirements and CWMP offers a variety of opportunities for municipal staff training at meetings, workshops, newsletters and on-line resources and links:

Two workshops were held for municipal staff training including public works staff, managers and municipal engineers. Both workshops were filled to capacity. Workshops are meant to be more in-depth training and one was 3 hours long the second was 6 hours with a certificate of completion from Chesapeake Bay Landscape Professionals. These workshops include professional presenters that included staff from PA DCNR, Pennsylvania Environmental Council, Weeds, Inc. and Chesapeake Bay Landscape Professionals. While there is a fee to participants, over 50% of the costs were covered by CWMP cost-share funding provided by municipalities each year.

Quarterly CWMP meetings are intended for municipal staff, engineers and elected officials responsible and/or interested in stormwater and meeting MS4 requirements. These meeting can be used to satisfy the requirements of MCM # 6. Regular email newsletters and email updates keep CWMP participants up to date on upcoming events, grant deadlines, resources and website updates. The topics listed above were covered at CWMP meetings during this time period.

The Christina Basin Task Force includes professionals working in the Brandywine, White Clay and Red Clay Creek Watersheds in Chester County Pennsylvania and New Castle County Delaware. Three to four outreach/sharing events each year connect water professionals, engineers, county, state and federal government organizations (DEP, EPA, Cons. Districts) and municipal, county and state government staff and officials. Two events were related specifically to stormwater in Chester County. A meeting summarizing water quality data, impacts and best practices was held on January 20, 2023 and the annual stormwater BMP Bus Tour was held on September 16, 2022 and started in New Garden, PA and featured agricultural BMP in West Grove PA as well as in Newark and Wilmington, DE.

CWMP sent out 4 e-newsletters and 6 email updates to all CWMP municipal participants that includes municipal managers, public work managers and engineers with 125 individuals on the email list, totalling 1,250 unique contacts to share stormwater information, training, grants and resources with municipalities throughout the year.

Other sources of staff training are also available and all are listed on the CWMP website at <https://cwmp.org/stormwater-training/> on the CWMP calendar at <https://cwmp.org/cwmp-calendar/>

APPENDIX

SAMPLE DOCUMENTS, PHOTOS, ETC.

Summary Table of Public Education, Participation and Municipal Staff Training Activities

	2022/2023 MS4 Report SUMMARY	# programs/events	Outreach Events/ participants	Activities/participants	# volunteers	volunteer hours
	Grand TOTALS	245	11,575	6,856	442	1,326
	TOTALS BY CATEGORY					
MCM 1 Public Education	Total adult water education programs	43		804		
MCM 1 Public Education	School/youth based water ed.	97		5,162		
MCM 1 Public Education	week long summer camp with water	49		626		
TOTAL MCM 1		189	-	6,592		
MCM 2 Public Participation	Outreach Events	4	11,575			
MCM 2 Public Participation	Volunteer activity	6			442	1,326
MCM 2 Public Participation	Landowner Green stormwater site	37		125		
TOTAL MCM 2		47	11,575	-	442	1,326
MCM 6 Good Housekeeping and Municipal Staff Training	Total water training for muni staff	9		264		
	TOTALS BY MCM					
MCM 1 Public Education	MCM1 Total Activities	189		6,592		
MCM 2 Public Participation	MCM 2 Total Activities	47	11,575	-	442	1,326
MCM 6 Good Housekeeping and Municipal Staff Training	MCM 6 Total Activities	9		264		

Celebrate World Water Day, March 22, 2023
You Can Help Reduce Flooding and Improve Water Quality



Learn how at www.cwmp.org:

- **Plant a tree or shrub** to help absorb stormwater and provide shade
- **Reduce lawn areas** and replace with native plants
- **Catch rainwater from downspouts** by installing a rain barrel or rain garden
- **Reduce impervious surfaces** or replace with pervious pavers
- **Volunteer** at litter clean-up or tree planting event
- **Learn more** at a workshop or virtual program at <https://cwmp.org/cwmp-calendar/>

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Did you know that in Pennsylvania, every municipality with an urbanized area and impaired stream must develop and implement a municipal stormwater management plan? Learn more by visiting your municipality's web site.

- | | | |
|---------------------------|------------------------|---------------------------|
| Avondale Borough | Honey Brook Borough | South Coatesville Borough |
| Birmingham Township | Honey Brook Township | Thornbury Township |
| City of Coatesville | Kennett Square Borough | Upper Uwchlan Township |
| East Bradford Township | Kennett Township | Uwchlan Township |
| East Brandywine Township | London Grove Township | Valley Township |
| East Caln Township | Londonderry Township | Wallace Township |
| East Fallowfield Township | Modena Borough | West Bradford Township |
| East Marlborough Township | New Garden Township | West Chester Borough |
| East Whiteland Township | New London Township | West Goshen Township |
| Franklin Township | Parkeburg Borough | West Grove Borough |
| | Penn Township | West Pikeland Township |
| | Pocopson Township | West Whiteland Township |
| | Sadsbury Township | Westtown Township |



www.cwmp.org

CWMP is a partnership of municipalities, county agencies, and watershed conservation organizations to restore and protect the water quality of streams in the Brandywine Creek, Red Clay Creek and White Clay Creek watersheds. For a list of all partners visit: www.cwmp.org/about/

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| East Bradford Township | London Britain Township | Valley Township |
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| East Caln Township | Londonderry Township | West Bradford Township |
| East Fallowfield Township | Modena Borough | West Chester Borough |
| East Marlborough Township | New Garden Township | West Goshen Township |
| East Whiteland Township | New London Township | West Grove Borough |
| Franklin Township | Parkeburg Borough | West Pikeland Township |
| Honey Brook Borough | Penn Township | West Whiteland Township |
| | Pocopson Township | Westtown Township |
| | Sadsbury Township | |
| | South Coatesville Borough | |



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TRENDING: 2022 Primary election candidates

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Learn how **Click Here**


- Plant a tree or shrub to help absorb stormwater and provide shade
- Reduce lawn areas with conservation plantings of native vegetation
- Catch rainwater from downspouts by installing a rain barrel or rain garden
- Reduce impervious paving or replace with pervious pavers
- Volunteer at litter clean-up or tree planting event
- Learn more at a workshop or virtual program at <https://cwmp.org/cwmp-calendar/>



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Green Stormwater Guide- distributed to CWMP partner municipalities at CWMP meetings, CCATO workshop and other public exhibits and events. A PDF version of the guide is available at: https://cwmp.org/wp-content/uploads/Flyers/BRC_Guide%20to%20Green%20Stormwater%20Infrastructure_FINAL.pdf



Sample of 1 Of 16 pages of Best Management Practices featured in the guide

Permeable Pavement

The permeable or porous pavement design allows water to filter quickly and infiltrate the underlying soil. Some examples of permeable pavement include pervious asphalt or concrete, interlocking concrete pavers, or permeable lattice pavers. Unlike pervious asphalt and concrete, which allows water to percolate through, concrete pavers provide gaps in or between the pavers to allow water to pass between those gaps and infiltrate into the ground. Project sites require permeable soils and a deeper stone base to store water while infiltrating.

Benefits

- Stormwater volume control
- Groundwater recharge
- Cost-effective

Applications

- Parking lots
- Overflow parking
- Residential driveways
- Sidewalks
- Sports courts
- Must have permeable soils, on flat or gradual surfaces

Operation and Maintenance

- Clean outlets
- Vacuum or sweep debris depending on the type of surface
- Keep soil and sediment off permeable paving

Steps

- Determine if the site has permeable soils
- Requires design by a landscape architect or engineer
- Install porous pavement
- Maintain and inspect annually

Cost

- Installation Cost: between \$5 to \$15 per square foot, with infiltration bed*
- Maintenance Cost: between \$400 to \$500 per year for vacuuming a half-acre lot (only for porous asphalt and concrete*)
- [Green Values Stormwater Management Calculator \(cnt.org\)](http://GreenValuesStormwaterManagementCalculator.cnt.org)

Permeable paving in West Chester Borough, PA.

Installing permeable paving at West Chester University, West Chester Borough, PA.

Pervious overflow grassed parking area at Dansko Company store and outlet, Penn Township, PA.

Pervious paver parking spaces at Chadds Ford, Chadds Ford Township, PA.

Additional Resources: Penn State Extension's guidance on porous and permeable paving. <https://extension.psu.edu/roadside-guide-to-clean-water-porous-and-permeable-paving-materials>

| 11

Lawn to Meadow Workshop promotional post card



Tuesday, October 25, 2022
9:00 AM to noon, lunch provided
At Shadyside Park, West Bradford Township, PA.



REGISTER AT: <https://bvarcva.formstack.com/forms/lawntomeadow>

COST: Free to CWMP Cost Share Partners, HOA's and residents,
see list of partnering municipalities at <https://cwmp.org/about/>.
Other residents and entities are welcome, fee is \$20

Alternative indoor location in the case of rain/cold weather:
Myrick Conservation Center,
1760 Unionville-Wawaset Rd. West Chester, PA)

TOPICS INCLUDE:

- Introduction to meadows and stormwater benefits
- Funding for meadows
- Working with communities and weed ordinances
- Planning and care of meadows
- Long term maintenance and tour of meadow

PRESENTERS:

- PA Dept. of Conservation and Natural Resources
- Pennsylvania Environmental Council
- Weeds, Inc, owner Brian O'Neil
(meadow installation and maintenance)
- West Bradford Township



Sustainable Stormwater BMP Management

A one-day Workshop for Public Works Staff

Hosted by Christina Watersheds Municipal Partnership (CWMP)
CBLP Crews Class presented by Chesapeake Bay Landscape Professional (CBLP.ORG)

Date: Thursday, June 1, 2023
Time: 8:30 AM to 2:30 PM
Location: West Chester Borough Hall, 401 E. Gay Street, West Chester, PA 19380
Registration: \$50 per person - Fees subsidized by CWMP, must be a 2023 CWMP cost-share partner to participate. Lunch provided by CWMP.

Register by May 1st, 2023

(Space is limited so register early)

Use coupon code: **cwmp**

[CLICK HERE TO REGISTER NOW!](#)

This one-day interactive CBLP-Crews workshop designed for maintenance crews and crew leaders responsible for managing green stormwater infrastructure and best management practices (BMPs) focuses on:

- Maintenance tasks for bioretention practices
- Methods for identifying and managing invasive plants
- Ways to optimize plant and practice performance
- Field practices for inspecting and maintaining BMPs
- Maintenance plan preparation

Participants will receive the CBLP-CREWS Certificate

For more information, go to:
<https://certified.cblpro.org/cblp-crews/>





Annual MS4 Status Report

APPENDIX B

MCM #2

Public Involvement & Participation



ceg

Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

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September 14, 2023

Goose Creek TMDL and Pollutant Reduction Plan for Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, Ridley Creek

*August 11, 2017
Updated March 2019
Updated June 2019
Updated September 2023*

Prepared For:

Westtown Township
1039 Wilmington Pike
West Chester, PA 19382



Prepared By:



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

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EXECUTIVE SUMMARY

The Westtown Township Goose Creek TMDL and Pollutant Reduction Plan for Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek has been updated (September 2023) to reflect a change to the Thorne Drive Basin Retrofit project (Section 4.5). Based on results of the soil infiltration testing, Thorne Drive Basin will be converted to a wet pond stormwater Best Management Practice (BMP) to improve runoff quality through settling, filtration, uptake, chemical and biological decomposition, volatilization, and adsorption. The wet pond BMP is expected to provide the same estimated removal of sediment (4,436.12 lbs./yr) and phosphorus (1.15 lbs./yr) pollution as the originally proposed dry extended detention basin within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP and Goose Creek TMDL Planning Areas, respectively. The TMDL/Pollutant Reduction Plan is a requirement of the Township's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit to reduce pollution to impaired streams within Westtown Township, Chester County, PA.



1.0 Purpose and Scope

Westtown Township is required to develop and implement a Total Maximum Daily Load (TMDL) Plan for phosphorous for Municipal Separate Storm Sewer System (MS4) discharges to Goose Creek and a Pollutant Reduction Plan (PRP) for sediment for MS4 discharges to Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek. These plans are required as part of the 2018 National Pollutant Discharge Elimination System (NPDES) MS4 Individual Permit application to the Pennsylvania Department of Environmental Protection (PA DEP).

This document will serve as the single plan for both the TMDL and PRP. This plan has been prepared based on the best and most current guidance made available by PA DEP. Definitions of relevant regulatory terms are provided in Section 6.0.

2.0 Permit Requirements

To develop the Township’s TMDL and Pollutant Reduction Plans, it is important to understand the Township’s requirements. These are summarized in the following paragraphs.

Goose Creek TMDL

Goose Creek has a TMDL established by the United States Environmental Protection Agency (EPA) for total phosphorous (TP), documented in a report entitled “Nutrient Total Maximum Daily Load in Goose Creek Watershed, Pennsylvania”, dated June 30, 2008. The report cites Westtown Township’s existing TP load as 1.40 lb/day and allocates a TP load of 0.64 lb/day, which is a required reduction of 53.9 percent. Table 1 below lists each MS4 in the Goose Creek watershed and the corresponding TMDL requirements, taken from Table 3-3 of the Goose Creek TMDL report entitled “Land Based Non-Point TP Load in the Goose Creek Watershed by MS4 Area.” This TMDL was developed based on the 2001 National Land Cover Dataset but does not cite pollutant loading rates by land cover.

Table 1: Goose Creek TMDL MS4 Allocations and Required Reductions

MS4 Permit Holder	Area by MS4 (acres)	Existing TP Load (lb/day)	Allocated TP Load (lb/day)	Required Reduction
West Goshen Township	1,488	1.16	0.54	53.9%
West Chester Borough	310	0.24	0.11	53.9%
Westtown Township	1,791	1.40	0.64	53.9%
Thornbury Township (Chester County)	772	0.60	0.28	53.9%
Thornbury Township (Delaware County)	113	0.09	0.04	53.9%
TOTAL:	4,474	3.49	1.61	53.9%

The Township’s Goose Creek TMDL Plan must illustrate how the following two (2) objectives will be achieved through the implementation of projects or Best Management Practices (BMPs):

1) Short-term TP reduction

Per the PA DEP TMDL Plan Instructions (3800-PM-BCW0200d Rev. 3/2017), “short-term reduction” is defined as a plan for reducing TP by five (5) percent over the five (5) year permit term (March 16, 2018 to March 15, 2023), if the wasteload allocations (WLAs) or overall required percent reduction of 53.9 percent cannot be achieved during this timeframe.

2) Long-term TP reduction

“Long-term reduction” is defined by the PA DEP TMDL Plan Instructions as a general plan describing how WLAs or overall required percent reductions will ultimately be achieved.

Goose Creek drains to Chester Creek, which is listed as impaired for sediment. By complying with the Goose Creek TMDL requirements, the Township will simultaneously work towards achieving the required sediment reduction for Chester Creek, which is further described below.

PRP for Discharges to Waters Impaired for Sediment

Westtown has MS4 discharges or “outfalls” to Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek, which are all listed by the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report (Integrated Report) as impaired for siltation (i.e. sediment) and highlighted in Table 2 below. Therefore, in addition to the Goose Creek TMDL requirement, Westtown Township is required by the PA DEP and Environmental Protection Agency (EPA) to reduce the sediment loading to Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek by ten (10) percent within five (5) years of permit approval by implementing projects or Best Management Practices (BMPs).

Westtown has no outfalls that discharge directly to Brandywine Creek. Brandywine Creek is listed because the Township has outfalls that discharge to Plum Run and Radley Run, which ultimately flow into Brandywine Creek, and the main stem of the Brandywine Creek is listed as impaired for sediment within five (5) miles downstream of the Township’s most downstream outfall.

Table 2: PA DEP MS4 Requirements Table (Municipal) Excerpt (last revised May 9, 2017)

MS4 Name	NPDES ID	Individual Permit Required?	Reason	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)	Other Cause(s) of Impairment
Westtown Twp, Chester County	PAI130528	Yes	TMDL Plan, SP, IP	Ridley Creek	Appendix E-Siltation (5)	Cause Unknown (5), Water/Flow Variability (4c)
				Radley Run	Appendix E-Siltation (4a)	Water Flow Variability (4c)
				Brandywine Creek	Appendix E-Siltation (4a)	
				Hunters Run	Appendix E-Siltation (5)	Cause Unknown (5), Water/Flow Variability (4c)
				Chester Creek	Appendix B-Pathogens (5), Appendix E-Siltation (5)	Cause Unknown (5), Flow Alterations, Other Habitat Alterations, Water Flow Variability (4c)
				East Branch Chester Creek	Appendix E-Siltation (5)	Cause Unknown (5), Other Habitat Alterations, Water/Flow Variability (4c)
				Goose Creek TMDL	TMDL Plan-Nutrients (4a)	Cause Unknown (4a)
				Plum Run	Appendix E-Siltation (4a)	Water/Flow Variability (4c)

3.0 Background/Setting

Westtown Township comprises approximately 8.8 square miles located near the eastern boundary of Chester County, in southeast Pennsylvania (Figure 1). The 2010 Urbanized Area (U.S. Census Bureau) covers the entire land area of the Township.

Figure 1: Westtown Township Location Map

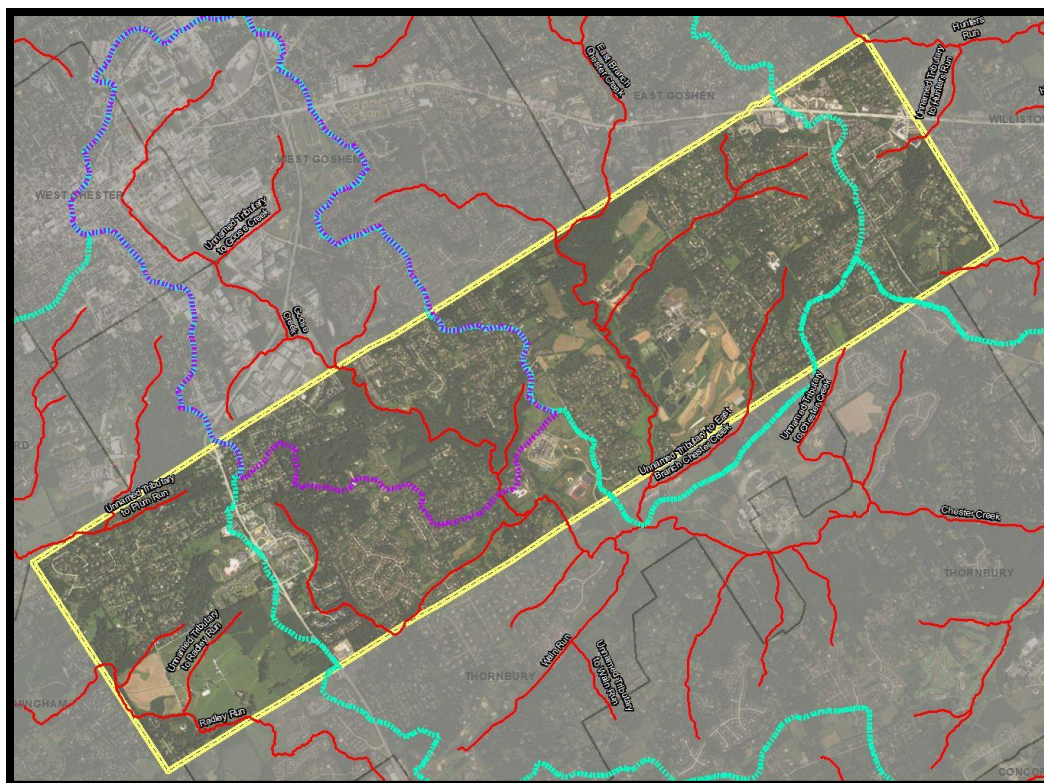


Figure 2 below displays a map of the streams that cross Westtown Township. Stream segments displayed in red indicate impaired streams. All streams mapped in Westtown and the surrounding communities are listed as impaired. The purple dashed line delineates the Goose Creek watershed and the turquoise dashed lines delineate U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) Hydrologic Unit Code (HUC)-12 boundaries. From southwest to northeast, HUC-12s within Westtown include the following:

- Upper Brandywine Creek (contains Plum Run, Radley Run, and Brandywine Creek)
- Chester Creek (contains Goose Creek TMDL and Chester Creek)
- East Branch Chester Creek
- Ridley Creek (contains Hunters Run and Ridley Creek)

Westtown Township has 210 MS4 outfalls. These MS4 outfalls discharge to the sediment-impaired Plum Run, Radley Run, Brandywine Creek, Chester Creek (includes 45 outfalls that discharge to Goose Creek), East Branch Chester Creek, Hunters Run, and Ridley Creek. A total of forty-five (45) of these 210 MS4 outfalls discharge to Goose Creek.

Figure 2: Westtown Township Impaired Streams



3.1 Plum Run

An unnamed tributary (UNT) to Plum Run originates in the western portion of Westtown Township and flows in a southwesterly direction where it meets another tributary that enters the main stem of Plum Run west of the Township boundary in East Bradford Township. The UNT tributaries are listed as impaired for sediment and water flow variability. Table 3 below lists the impairment information for the UNTs from the 2014 Integrated Report.

There are fourteen (14) MS4 outfalls that discharge to the UNTs to Plum Run. Plum Run discharges to Brandywine Creek and is part of the Upper Brandywine Creek HUC12. Refer to Appendices for MS4 mapping.

Table 3: 2014 Integrated Report – Plum Run

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	1998
Siltation	Urban Runoff/Storm Sewers	4a	Aquatic Life	1998
Siltation	Agriculture	4a	Aquatic Life	1998

3.2 Radley Run

Radley Run flows in a northwesterly direction through the southwestern corner of Westtown Township. Two (2) UNTs originate in the west-central portion of the Township and flow in a southwesterly direction into Radley Run within the boundaries of the Township. Both Radley Run and its tributaries are listed as impaired for sediment and water/flow variability. Table 4 below lists the impairment information from the 2014 Integrated Report.

There are twenty-four (24) MS4 outfalls that discharge to Radley Run and its UNTs. Radley Run discharges to Brandywine Creek and is part of the Upper Brandywine Creek HUC12. Refer to Appendices for MS4 mapping.

Table 4: 2014 Integrated Report – Radley Run

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	2010
Siltation	Agriculture, Urban Runoff/Storm Sewers	4a	Aquatic Life	1998

3.3 Brandywine Creek

Brandywine Creek lies outside of the township to the west. Radley Run and UNTs to Plum Run flow through Westtown Township into Brandywine Creek, which is listed as impaired for sediment. Table 5 below lists the impairment information for Brandywine Creek from the 2014 Integrated Report.

No MS4 outfalls discharge directly to the Brandywine Creek; however, Radley Run and Plum Run both flow into the Brandywine Creek. Brandywine Creek is listed as impaired for sediment. Refer to Appendices for MS4 mapping.

Table 5: 2014 Integrated Report – Brandywine Creek

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Siltation (sediment)	Agriculture, Urban Runoff/Storm Sewers	4a	Aquatic Life	2010

3.4 Chester Creek

Chester Creek originates in the western portion of the Township where it flows in a south-southeasterly direction to the southern boundary of the Township, where it turns and begins flowing in a northeasterly direction. Goose Creek flows into Chester Creek before it turns south-southeast again and continues to flow out of the Township in a south-southeasterly direction. There are outfalls that drain to Chester Creek in the south-eastern half of the Township. Chester Creek is listed as impaired for sediment, other habitat alterations, water/flow variability and cause unknown. Table 6 below lists the impairment information from the 2014 Integrated Report.

There are ninety-four (94) MS4 outfalls that discharge to Chester Creek listed as impaired for sediment. Refer to Appendices for MS4 mapping.

Table 6: 2014 Integrated Report – Chester Creek

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Cause Unknown	Urban Runoff/Storm Sewers	4a	Aquatic Life	2014
Siltation	Urban Runoff/Storm Sewers	5	Aquatic Life	2014
Other Habitat Alterations	Habitat Modifications	4c	Aquatic Life	2014
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	2014

3.5 Goose Creek (TMDL)

Goose Creek flows through the center of the Township in a southeasterly direction until it meets Chester Creek at the southern boundary of the Township. Goose Creek roughly parallels the railroad that transects the Township. Table 7 below lists the impairment information from the 2014 Integrated Report.

There are forty-five (45) MS4 outfalls that discharge to Goose Creek. Goose Creek has a TMDL for phosphorous as referenced in Section 2.0. It is also listed as impaired for sediment. Refer to Appendices for MS4 mapping.

Table 7: 2014 Integrated Report – East Branch Chester Creek

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	2014
Other Habitat Alterations	Habitat Modification	4c	Aquatic Life	2014
Cause Unknown	Urban Runoff/Storm Sewers	5	Aquatic Life	2014
Siltation	Urban Runoff/Storm Sewers	5	Aquatic Life	2014

3.6 *East Branch Chester Creek*

The East Branch Chester Creek flows through the center of the Township (east of Goose Creek), roughly paralleling the western side of Westtown Road. There are multiple unnamed tributaries to East Branch Chester Creek within the Township, all of which are listed as impaired for sediment, water/flow variability, other habitat alterations, and cause unknown. Table 8 below lists the impairment information from the 2014 Integrated Report.

There are one-hundred fifty-nine (159) MS4 outfalls that discharge to East Branch Chester Creek and its UNTs that are listed as impaired for sediment. Refer to Appendices for MS4 mapping.

Table 8: 2014 Integrated Report – East Branch Chester Creek

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Cause Unknown	Urban Runoff/Storm Sewers	5	Aquatic Life	2014
Other Habitat Alterations	Habitat Modification	4c	Aquatic Life	2014
Siltation	Urban Runoff/Storm Sewers	5	Aquatic Life	2014
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	2014

3.7 *Hunters Run*

Hunters Run flows across the northeastern corner of the Township in a southeasterly direction. An unnamed tributary to Hunters Run originates in the eastern portion of the Township and flows in an east-northeasterly direction, eventually into Hunters Run outside of the Township boundary to the east. Hunters Run and its tributary are listed as impaired for sediment. This stream was listed as impaired for other water/flow variability, siltation and cause unknown in 2012. Table 9 below lists the impairment information from the 2014 Integrated Report.

There are ten (10) MS4 outfalls that discharge to Hunters Run and its UNT. Refer to Appendices for MS4 mapping.

Table 9: 2014 Integrated Report – Hunters Run

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Cause Unknown	Urban Runoff/Storm Sewers	5	Aquatic Life	2012
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	2012
Siltation	Urban Runoff/Storm Sewers	5	Aquatic Life	2012

3.8 *Ridley Creek*

An unnamed tributary to Ridley Creek originates in the southeastern corner of the Township and flows in an easterly direction out of the Township eventually into Ridley Creek. This tributary is listed as impaired for sediment, water/flow variability, and cause unknown. Table 10 below lists the impairment information for the UNT from the 2014 Integrated Report.

There are three (3) MS4 outfalls that discharges to the UNT to Ridley Creek listed as impaired for sediment. Refer to Appendices for MS4 mapping.

Table 10: 2014 Integrated Report – Ridley Creek

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Cause Unknown	Urban Runoff/Storm Sewers	5	Aquatic Life	2012
Water/Flow Variability	Urban Runoff/Storm Sewers	4c	Aquatic Life	2012
Siltation	Urban Runoff/Storm Sewers	5	Aquatic Life	2012

4.0 *Pollutant Reduction*

Per the MS4 permit and PRP Instructions document (3800-PM-BCW0100k Rev. 3/2017), the following sections are addressed below: Public Participation, Storm Sewersheds, Pollutants of Concern, Existing Sediment Loading, Proposed Best Management Practices (BMPs), Funding Mechanisms, and Operations and Maintenance.

4.1 *Public Participation*

The TMDL-PRP was updated to address comments received from the PA DEP in a letter dated January 30, 2018. The Township completed the required public comment period. A copy of the affidavit of publication in the Daily Local News is included in Appendix A. No comments were received. The PRP was presented at a regular Board of Supervisors meeting on March 18, 2019, and comments were accepted from any interested members of the public.

The TMDL-PRP was updated again in 2023 to reflect a change in the proposed stormwater Best Management Practice (BMP) for the Thorne Drive Basin Retrofit project. The Township completed the required public review period, and a copy of the affidavit of publication in

the Daily Local News on August 4, 2023 is included in Appendix A. The PRP was announced at a regular Board of Supervisors meeting on August 7, 2023, and public comments were accepted at a subsequent meeting on August 21, 2023. One comment was received and summarized in Appendix A. Once the 30-day public review period ended, the PRP update was officially accepted on September 5, 2023.

4.2 *Storm Sewersheds/Planning Area*

Storm sewersheds, the areas which drain to each of the 210 outfalls, were manually delineated in ArcMap 10.6 using two (2) foot topographic contours from the 2006-2008 PAMAP Program data published by the Pennsylvania Department of Conservation and Natural Resources (DCNR), while referencing Google Street View and multiple sources of aerial imagery.

“Parsing” is defined by the PRP Instructions Attachment A, entitled “Parsing Guidelines for MS4s in Pollutant Reduction Plans”, as a “process in which land area is removed from a Planning Area in order to calculate the actual or target pollutant loads that are applicable to an MS4.” The examples cited include:

- 1) The land area associated with non-municipal stormwater NPDES permit coverage that exists within the urbanized area of a municipality;
- 2) Land area associated with PennDOT roadways and the Pennsylvania Turnpike (roads and right of ways);
- 3) Lands associated with the production area of a Concentrated Animal Feeding Operation that is covered by an NPDES permit;
- 4) Land areas in which stormwater runoff does not enter the MS4. If an accurate storm sewershed map is developed, these lands may be parsed or excluded as part of that process.

Land areas that have been parsed from the Planning Area during the development of this PRP fall under category #2 and #4 as described above. These parsed areas have been further categorized and identified on the Storm Sewershed/Planning Area Map in Appendix D.

Storm sewersheds that extend outside of the municipal boundary are not included in the overall planning area. The drainage areas to existing, and/or proposed, BMPs located outside of the storm sewersheds were added to the overall planning area.

Per the “Pollutant Aggregation Suggestions for MS4 Requirements Table Instructions” (dated April 4, 2017) and the “Pollutant Aggregation Suggestions for MS4 Requirements Table (Municipal)” (revised May 9, 2017), Westtown Township may achieve the ten (10) percent sediment pollutant reduction in the following aggregated Planning Areas, as opposed to a 10 percent reduction in the Planning Areas for each receiving impaired surface water.

Table 11: Pollutant Aggregation Suggestions for MS4 Requirements Table (Municipal) Excerpt

MS4 Name	NPDES ID	HUC-12	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)
Westtown Twp, Chester County	PAI130528	Middle Brandywine Creek, Upper Brandywine Creek	Brandywine Creek, Plum Run, Radley Run	Appendix E-Siltation
		Chester Creek	Chester Creek, Goose Creek TMDL	Appendix B-Pathogens, TMDL Plan-Nutrients
		Chester Creek, East Branch Chester Creek, Ridley Creek	Chester Creek, East Branch Chester Creek, Hunters Run, Ridley Creek	Appendix E-Siltation

To simplify planning and reporting efforts, from this point forward the report will reference the Middle Brandywine Creek/ Upper Brandywine Creek PRP Planning Area, the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area, and the Goose Creek TMDL Planning Area (which is also contained within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area, since Goose Creek drains to Chester Creek).

4.3 *Pollutants of Concern*

Westtown Township is required to reduce total phosphorous loading for MS4 outfalls that discharge to Goose Creek per the TMDL. Additionally, for the PRPs, Westtown Township is required to reduce sediment loading for MS4 outfalls that discharge to waters impaired by sediment, which includes all receiving streams within the Township.

To meet the PRP requirements, a minimum of ten (10) percent sediment reduction within five (5) years of permit approval has been demonstrated in this plan. Though not required, existing loading and BMP reduction calculations were also provided for phosphorous and nitrogen in Appendix C.

To meet the short- and long-term Goose Creek TMDL reduction objectives, the entire 53.9 percent total phosphorous reduction required has been demonstrated as being implemented within five (5) years of permit approval in this plan.

4.4 *Existing Pollutant Loading*

To determine existing sediment loading to Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek, the general methodology described in the DEP guidance document entitled “Pollution Reduction Plan: A Methodology” was used. To provide a consistent calculation methodology across the Goose Creek TMDL and the PRP requirements, the total phosphorous allocation for Goose Creek was recalculated for the Goose Creek Planning Area per the same methodology. The short and long-term reduction objectives of the TMDL were then applied to the recalculated load. Utilizing ArcGIS 10.6, 2011 National Land Cover Dataset (NLCD) data, the acreage of each land cover classification type within the Planning Area was calculated.

The aggregate National Land Cover Data (NLCD) statistics within the Planning Areas for each aggregation group is compiled in Table 12 below with a breakdown of the area by land cover classification type. Refer to Appendix F for the Land Cover Map.

Table 12: NLCD 2011 Land Cover by PRP Planning Area

PRP Planning Area/Aggregated HUC-12s	Aggregated Receiving Sediment-Impaired Surface Waters	NLCD 2011 Land Cover Classification within Planning Area	Area (acres)	Percent Impervious	Impervious Area (acres)	Pervious Area (acres)
Middle Brandywine Creek/ Upper Brandywine Creek	Brandywine Creek, Plum Run, Radley Run	Developed, Open Space	306.80	19	58.29	248.51
		Developed, Low Intensity	14.12	49	6.92	7.20
		Developed, Medium Intensity	8.52	79	6.73	1.79
		Developed, High Intensity	3.16	100	3.16	0
		Deciduous Forest	70.04	0	0	70.04
		Evergreen Forest	2.03	0	0	2.03
		Mixed Forest	13.27	0	0	13.27
		Shrub/Scrub	33.76	0	0	33.76
		Hay/Pasture	45.87	0	0	45.87
		Cultivated Crop	10.03	0	0	10.03
		Woody Wetlands	1.36	0	0	1.36
		Grassland/Herbaceous	1.33	0	0	1.33
TOTAL:			510.29		75.10	435.19
Chester Creek/East Branch Chester Creek/Ridley Creek	Chester Creek, East Branch Chester Creek, Hunters Run, Ridley Creek, Goose Creek	Developed, Open Space	1494.95	19	284.04	1210.91
		Developed, Low Intensity	206.13	49	101.00	105.13
		Developed, Medium Intensity	77.20	79	60.99	16.21
		Developed, High Intensity	10.44	100	10.44	0
		Deciduous Forest	421.95	0	0	421.95
		Evergreen Forest	16.01	0	0	16.01
		Mixed Forest	38.24	0	0	38.24
		Shrub/Scrub	109.74	0	0	109.74
		Hay/Pasture	67.97	0	0	67.97
		Cultivated Crop	11.97	0	0	11.97
		Woody Wetlands	37.12	0	0	37.12
				Emergent Herbaceous Wetland	0.72	0
		Grassland/Herbaceous	1.56	0	0	1.56
TOTAL:			2494.00		456.47	2037.53

The Goose Creek TMDL Planning Area is located within and included in the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area. However, because Goose Creek has a separate TMDL requirement, this information is also provided separately in Table 13 below.

Table 13: NLCD 2011 Land Cover within Goose Creek TMDL Planning Area

TMDL Planning Area	NLCD 2011 Land Cover Classification within Planning Area	Area (acres)	Percent Impervious	Impervious Area (acres)	Pervious Area (acres)
Goose Creek	Developed, Open Space	332.55	19	63.18	269.37
	Developed, Low Intensity	28.73	49	14.08	14.65
	Developed, Medium Intensity	5.66	79	4.47	1.19
	Developed, High Intensity	0.67	100	0.67	0
	Deciduous Forest	154.02	0	0	154.02
	Evergreen Forest	2.65	0	0	2.65
	Mixed Forest	8.35	0	0	8.35
	Shrub/Scrub	35.28	0	0	35.28
	Hay/Pasture	17.35	0	0	17.35
	Woody Wetlands	6.64	0	0	6.64
	Grassland/Herbaceous	1.56	0	0	1.56
	Cultivated Crops	3.78	0	0	3.78
	TOTAL:	597.24		82.40	514.84

“Developed” land cover classifications were then converted to percent impervious coverage based on the NLCD 2011 definitions. The impervious percentages used are as follows:

- Developed, Open Space - 19% impervious
- Developed, Low Intensity - 49% impervious
- Developed, Medium Intensity - 79% impervious
- Developed, High Intensity - 100% impervious

All other land cover classifications were assumed to be 100 percent pervious. The “Developed Land Loading Rates for PA Counties” (Attachment B of the PRP Instructions) for Chester County were then applied for impervious developed and pervious developed land categories. This table is attached as Appendix B.

The existing PRP sediment loading is in Table 14 below. Please refer to Appendix C for supporting calculations. Calculations for phosphorous and nitrogen loading have also been provided, though not required. The recalculated total phosphorous loading for Goose Creek is in Table 15 below.

Using the pollutant removal efficiency rates specified in the PA DEP NPDES Stormwater Discharges from Small MS4s BMP Effectiveness Values Table (Revised 6/2018), BMPs were credited to reduce the existing sediment loading. The existing sediment loading quantified from the Middle Brandywine Creek/Upper Brandywine Creek PRP Planning Area is 193,571.35 lbs/yr. The existing sediment loading quantified from the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area is 1,064,074.48 lbs/yr. A more detailed breakdown is in the table below. Please refer to Appendix C for supporting calculations.

Table 14: Existing Sediment Loading for PRP Planning Areas

PRP Planning Area	Category	Area (ac)	TSS [Sediment] (lbs/yr)
Middle Brandywine Creek/ Upper Brandywine Creek	Impervious, Developed	75.10	113,008.98
	Pervious, Developed	435.19	80,562.37
SUBTOTAL:		510.29	193,571.35
Existing BMP Reduction:			5,803.23
TOTAL:			187,768.12
Required 10% Sediment Reduction			18,776.81
Chester Creek/East Branch Chester Creek/Ridley Creek/Goose Creek	Impervious, Developed	456.47	686,886.93
	Pervious, Developed	2,037.53	377,187.55
SUBTOTAL:		2,494.00	1,064,074.48
Existing BMP Reduction:			30,944.78
TOTAL:			1,033,129.70
Required 10% Sediment Reduction			103,312.97

The existing (recalculated) total phosphorous loading for the Goose Creek TMDL is 305.65 lbs/yr and is provided separately in Table 15 below. Please refer to Appendix C for supporting calculations.

Table 15: Existing Phosphorous Loading for Goose Creek TMDL Planning Area

TMDL Planning Area	Category	Area (ac)	TP [Phosphorous] (lbs/yr)
Goose Creek	Impervious, Developed	82.40	120.30
	Pervious, Developed	514.84	185.34
TOTAL:		597.24	305.65
Required Short-Term 5% Phosphorous Reduction			15.28
Required Long-Term 53.9% Phosphorous Reduction			164.75

Thirteen (13) existing BMPs were credited to reduce the existing loading to 187,768.12 lbs/yr for the Middle Brandywine Creek/Upper Brandywine Creek and 1,033,129.70 lbs/yr for the Chester Creek/East Branch Chester Creek/Ridley Creek, which resulted in a required 10 percent reduction of 18,776.81 lbs/yr for the Middle Brandywine Creek/Upper Brandywine Creek and 103,312.97 lbs/yr for the Chester Creek/East Branch Chester Creek/Ridley Creek. Each existing BMP is described below and summarized in Table 16. Please refer to Appendix C for supporting calculations and the Storm Sewershed Map in Appendix E for BMP locations. Individual maps of the existing BMPs and their drainage areas are located in Appendix D.

Westtown Reserve Dry Extended Detention Basin

This dry extended detention basin is located at the corner of Pleasant Grove Road and Skiles Boulevard. The basin is associated with Outfall #76. The basin is functioning and is operated and maintained by Westtown Apartments Property Owner, LLC. The total drainage area is 17.27 acres; it provides a total sediment pollutant load reduction of 10,810.08 lbs./yr.

Figure 3: Overall View of Westtown Reserve Dry Extended Detention Basin



Simon and Jude Dry Extended Detention Basin

This dry extended detention basin is located near the corner of Cavanaugh Court and Chester Road. The basin is associated with Outfall #45. The basin is functioning and is operated and maintained by Archdiocese of Philadelphia. The total drainage area is 6.00 acres; it provides a total sediment pollutant load reduction of 2,440.06 lbs./yr.

Figure 4: Overall View of Simon and Jude Dry Extended Detention Basin



Kolbe Lane Dry Extended Detention Basin

This dry extended detention basin is located off of Kolbe Lane behind house #1128. The basin is associated with Outfall #161. The basin is functioning and is operated and maintained by John Zabilowicz and Maryann Rock-Zabilowicz. The total drainage area is 12.35 acres; it provides a total sediment pollutant load reduction of 3,231.51 lbs./yr.

Figure 5: Overall View of Kolbe Lane Dry Extended Detention Basin



West Glen Dry Extended Detention Basin

This dry extended detention basin is located near the corner of Piedmont Road and Dalmally Drive. The basin is associated with Outfall #77. The basin is functioning and is operated and maintained by West Glen Community Association. The total drainage area is 14.93 acres; it provides a total sediment pollutant load reduction of 5,134.29 lbs./yr.

Figure 6: Overall View of West Glen Dry Extended Detention Basin



Kilduff Circle Dry Extended Detention Basin

This dry extended detention basin is located behind 940 Kilduff Circle. The basin is associated with Outfall #24. The basin is functioning and is operated and maintained by Russell Hatton and Shirley Leclerc. The total drainage area is 35.39 acres; it provides a total sediment pollutant load reduction of 7,548.24 lbs./yr.

Figure 7: Overall View of Kilduff Circle Dry Extended Detention Basin



Arborview Wet Pond

This wet pond is located near the corner of Wilmington Pike and Pleasant Grove Road. The basin is associated with Outfall #58. The basin is functioning and is operated and maintained by Arborview HOA. The total drainage area is 13.42 acres; it provides a total sediment pollutant load reduction of 2,820.80 lbs./yr.

Figure 8: Overall View of Arborview Wet Pond



Arborview Infiltration Trench

This filtering practice is located between Hidden Pond Way and West Pleasant Grove Road. The basin is associated with Outfall #58. The basin is functioning and is operated and maintained by Arborview HOA. The total drainage area is 5.32 acres; it provides a total sediment pollutant load reduction of 938.10lbs./yr.

Figure 9: Overall View of Arborview Infiltration Trench



Stetson Middle School Dry Extended Detention Basin

This dry extended detention basin is located on Stetson Middle School grounds; 1060 Wilmington Pike. The basin is associated with Outfall #20. The basin is functioning and is operated and maintained by West Chester Area School District. The total drainage area is 4.88 acres; it provides a total sediment pollutant load reduction of 1,009.19 lbs./yr.

Figure 10: Overall View of Stetson Middle School Dry Extended Detention Basin



Table 16: Existing BMP Sediment Reduction

BMP Name	Drainage Area (ac)	TSS [Sediment] Reduction
Chester Creek/East Branch Chester Creek/Ridley Creek		
Westtown Reserve Basin	17.27	10,810.08
Simon and Jude Basin	6.00	2,440.06
Kolbe Lane Basin	12.35	3,231.51
West Glen Basin	14.93	5,134.29
Kilduff Circle Basin	35.39	7,548.24
Thorne Drive Basin	19.86	887.22
Sage Road Basin	20.59	893.38
SUBTOTAL:	126.39	30,944.78
Middle Brandywine Creek/Upper Brandywine Creek		
Arborview Wet Pond	13.42	2,820.80
Arborview Infiltration Trench	5.32	938.10
Stetson Middle School Basin	4.88	1,009.19
Dunvegan Road Basin	9.90	408.68
General Greene Basin B	12.38	534.90
General Greene Basin A	9.76	437.17
SUBTOTAL:	55.66	6,148.84
TOTAL:	182.05	37,093.62

4.5 Proposed Best Management Practices (BMPs)

Proposed BMP locations were identified in coordination with the Township by analyzing the most fiscally responsible solutions that will provide a water quality improvement and real-world benefit, while meeting the mandated pollutant reduction requirements. This analysis was performed in ArcMap 10.6 using aerial imagery, two (2)-foot topographic contours, and hydrologic data. Site visits were conducted to verify project viability and to collect information and measurements of existing BMPs.

Where possible, BMPs that treat a larger drainage area were selected to reduce the number of BMPs to be implemented. Existing BMPs on Township-owned property within the Planning Areas were assessed for retrofit. After those opportunities were exhausted, existing BMPs on homeowner's association (HOA)-owned property within the Planning Areas were assessed for retrofit. Lastly, new BMPs on Township-owned and HOA-owned property within the Planning Area were explored.

Pollutant reductions resulting from the proposed BMPs were quantified using the same methodology described above for existing sediment loading within the drainage area for each BMP, then applying reduction rates. Reductions from new BMPs (infiltration trenches and bioretention swale) were calculated using the efficiency rates specified in the NPDES Stormwater Discharges from Small MS4s BMP Effectiveness Values table (May 2016). Reductions from retrofits of existing BMPs were calculated using the methodology in the "Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects" (revised January 20, 2015). Please refer to Appendix C for supporting calculations.

TMDL and PRP Objectives

Westtown Township proposes to meet the entire Goose Creek TMDL total phosphorous reduction requirement of 53.9 percent through an existing BMP, and four (4) basin retrofit projects within five (5) years of permit approval and approximately 2,150 linear feet of stream restoration (>5 years) for the Goose Creek TMDL Planning Area. The location(s) of the 2,150 linear feet of stream restoration have not yet been determined and will be explored as the next permit term approaches.

Because Goose Creek drains to Chester Creek, these BMPs will also satisfy a portion of the ten (10) percent sediment load reduction requirements within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area. A stream restoration project along a reach of East Branch Chester Creek, referred to as Pleasant Grove Stream Restoration, will satisfy the remainder of these requirements.

The Township will meet its ten (10) percent sediment load reduction requirements within the Middle Brandywine Creek/Upper Brandywine Creek PRP Planning Area through the implementation of a stream restoration project along Radley Run along with three (3) basin retrofit projects.

Maps of the proposed BMPs and the land cover within their drainage areas are in Appendix D. The BMP locations are also illustrated on the Storm Sewershed/Planning Area Map in Appendix E and the Land Cover Map in Appendix F.

Pollutant Load Reductions through Proposed BMP Implementation

Phosphorous load reductions achieved through the implementation of the proposed BMPs in the Goose Creek TMDL Planning area are documented in Table 17.

Table 18: PRP Planning Areas: Sediment Load Reductions from Proposed BMPs

PRP Planning Area	BMP Name	Drainage Area (ac)	TSS Reduction		
			lbs/yr	% Reduction	% of Required Reduction
Chester Creek/ East Branch Chester Creek/ Ridley Creek (contains Goose Creek TMDL Planning Area)	Tyson Park	41.4	13,595.28	1.32	13.16
	Thorne Drive Basin Retrofit	19.86	4,436.12	0.43	4.29
	Sage Road Basin Retrofit	20.59	4,466.88	0.43	4.32
	Wild Goose Farms Basin B Retrofit	9.95	4,288.58	0.42	4.15
	Wild Goose Farms Basin A Retrofit	5.21	1,797.73	0.17	1.74
	Pleasant Grove Stream Restoration	21.36	77,408.39	7.49	74.93
TOTAL:		118.37	105,992.98	10.26	102.59
Middle Brandywine Creek/Upper Brandywine Creek	Dunvegan Road Basin Retrofit	9.9	2,043.40	1.09	10.90
	General Greene Basin B Retrofit	12.38	2,674.52	1.43	14.27
	General Greene Basin A Retrofit	9.76	2,185.83	1.17	11.66
	Radley Run Stream Restoration	1.92	11,984.36	6.39	63.95
TOTAL:		33.96	18,888.11	10.08	100.78

Table 17: Goose Creek TMDL Planning Area: Total Phosphorous Load Reductions from Proposed BMPs

Timeline	BMP Name	Drainage Area (ac)	TP Reduction		
			lbs/yr	% Reduction	% of Required Reduction to meet 53.9%
2019-2024	Tyson Park Bioswale (installed 2015)	41.4	17.01	5.57	10.33
	Thorne Drive Basin Retrofit	19.86	1.15	0.38	0.70
	Sage Road Basin Retrofit	20.59	1.17	0.38	0.71
	Wild Goose Farms Basin B Retrofit	9.95	1.60	0.52	0.97
	Wild Goose Farms Basin A Retrofit	5.21	0.71	0.23	0.43
SUB-TOTAL:		97.01	21.64	7.08	13.14
>2024	Stream Restoration	2,150 LF	142.80	47.83	88.74
SUB-TOTAL:			142.80	47.83	88.74
TOTAL:		97.01	190.84	54.91	101.88

Sediment load reductions achieved through the implementation of the proposed BMPs in each PRP Planning Area are in Table 18 below. Because the Goose Creek TMDL Planning Area is contained within the Chester Creek/ East Branch Chester Creek/ Ridley Creek PRP Planning Area, these BMPs were also counted towards the PRP sediment reduction requirements.

Detailed BMP Descriptions - Short-Term (2019 - 2024)

Each of the BMPs proposed to meet short-term objectives are described in more detail below.

Tyson Park Bioswale (Existing)

A bioswale was designed and constructed in Tyson Park, a Township-owned park property, in 2015, in anticipation of the TMDL Plan requirements. The drainage area to the bioswale is 41.4 acres. This existing BMP has been properly maintained by the Township as illustrated in the photograph below. The Township has also installed educational signage as a component of the project.

It is being credited as reducing the existing sediment loading for the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area and towards achieving the long-term total phosphorous reduction of 53.9 percent in the Goose Creek TMDL Planning Area, reducing total phosphorous loading by 17.01 lbs/year (5.57 percent).

Figure 11: Tyson Park Bioswale and Signage



Thorne Drive Basin Retrofit

This existing basin is located in the southwest quadrant of the intersection of Thorne Drive and Little Shiloh Road in the west-central portion of the Township on a Township-owned property. The basin has a drainage area of 19.86 acres. The existing basin is located outside of the Planning Area as the outfall is located to the north in West Goshen Township. Therefore, the drainage area has been added to the Goose Creek TMDL Planning Area and the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area and accounted for in the existing loading.

The basin is overgrown and has reduced volume capacity. In addition, a defined channel has eroded through it causing the basin to short-circuit. The existing outlet of the basin is an open pipe that is the same elevation as the basin bottom. The basin effectively holds no water during smaller storm events, providing no water quality benefit.

The scope of the proposed retrofit includes removing the trees, vegetation, and sediment accumulation, regrading/removing the defined channel, and installing a new outlet structure to convert the basin to a wet bond Best Management Practice. This project will provide an estimated removal of 4,436.12 lbs/yr of sediment (0.43 percent) within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area and an estimated removal of 1.15 lbs/yr of total phosphorous (0.38 percent) within the Goose Creek TMDL Planning Area.

Sage Road Basin Retrofit

This existing basin is located at the southern end of a cul-de-sac off Sage Road on a Township-owned property. It has been proposed to retrofit this existing basin. The basin has a drainage area of 20.59 acres. Goose Creek is the receiving stream for this area, which lies within the Chester Creek Hydrologic Unit Code (HUC) 12.

The basin is overgrown and has accumulated mounds of sediment in some areas. The scope of the proposed retrofit includes removing trees and shrubs, accumulated sediment, as well as modifying the outlet structure orifice to increase volume treated through infiltration and extended detention. Assumptions for the preliminary calculations included reducing the orifice from 12 inches to 6 inches through the installation of a steel plate and coring 6-inch orifice 2 feet above the basin bottom. This project will provide an estimated removal of 4,466.88 lbs/yr of sediment (0.43 percent) within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area and an estimated removal of 1.17 lbs/yr of total phosphorus (0.38 percent) within the Goose Creek TMDL Planning Area.

Radley Run Stream Restoration

The section of Radley Run proposed for restoration is located on the west side of S. New Street between W. Pleasant Grove Road and W. Street Road on private property. This reach has been identified for restoration based on the presence of bank erosion and the lack of tree removal required. Radley Run is the receiving stream for this area, which lies within the Upper Brandywine Creek Hydrologic Unit Code (HUC) 12.

For the purposes of this plan, it has been assumed that approximately 260 linear feet of restoration along with wetland pockets being formed as part of the restoration. The stream restoration will be completed at a sediment reduction rate of 44.88/lbs/ft/yr. Between the stream restoration and the wetland pockets, this project will provide an estimated removal of 11,984.36 lbs/yr of sediment (6.38 percent) within the Middle Brandywine Creek/Upper Brandywine Creek PRP Planning Area.

Wild Goose Farms Basin B Retrofit

This existing basin is located to the west of the intersection of Picket Way and Trellis Lane on a property owned by Wild Goose Farms Homeowners Association (HOA). It has been proposed to retrofit this existing basin. The basin has a drainage area of 9.95 acres. Goose Creek is the receiving stream for this area, which lies within the Chester Creek Hydrologic Unit Code (HUC) 12.

The scope of the proposed retrofit includes the removal of a concrete low flow channel, regrading the basin bottom and a modification to the outlet structure orifice to increase volume treated through infiltration and extended detention. Assumptions for the preliminary calculations included sealing the basin outlet structure orifice, which is currently 6-inches, through the installation of a steel plate and coring a 6-inch orifice 1.5-feet above the basin bottom. This project will provide an estimated removal of 4,288.58 lbs/yr of sediment (0.42

percent) within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area and an estimated removal of 1.60 lbs/yr of total phosphorus (0.52 percent) within the Goose Creek TMDL Planning Area.

Wild Goose Farms Basin A Retrofit

This existing basin is located to the west of the cul-de-sac on Picket Way on a property owned by Wild Goose Farms HOA. It has been proposed to retrofit this existing basin. The basin has a drainage area of 5.21 acres. Goose Creek is the receiver stream for this area, which lies within the Chester Creek Hydrologic Unit Code (HUC) 12.

There is currently minimal distance between the inlet and outlet of the basin, as well as a concrete low flow channel, which is causing the basin to short-circuit. The scope of the proposed retrofit includes the removal of a concrete low flow channel, regrading the basin bottom, creating a long meandering vegetated channel, and modifying the outlet structure orifice to increase volume treated through infiltration and extended detention. Assumptions for the preliminary calculations included sealing the existing 6-inch outlet structure orifice through the installation of a steel plate. This project will provide an estimated removal of 1,797.73 lbs/yr of sediment (0.17 percent) within the Chester Creek/East Branch Chester Creek/Ridley Creek PRP Planning Area and an estimates removal of 0.71 lbs/yr of total phosphorus (0.23 percent) within the Goose Creek TMDL Planning Area.

Pleasant Grove Stream Restoration

An approximately 1,600 linear foot section of East Branch Chester Creek is being proposed for floodplain restoration within the Pleasant Grove Development; which includes wetland pockets. This section of East Branch Chester Creek flows through a large, open space property owned by the Township in an easterly direction. Chester Creek is the receiving stream for this area, which lies within the Chester Creek Hydrologic Unit Code (HUC) 12.

A feasibility study was completed in December 2018 by LandStudies, Inc. The recommended length and location of restoration includes two sections of East Branch Chester Creek totaling approximately 1,450 linear feet from Tower Course Road to Blenheim Road and from Blenheim Road to South Concord Road. An additional 150 linear feet of restoration on the tributary from the existing pond is recommended for an overall total restoration length of 1,600 linear feet. The feasibility study indicates that this reach demonstrates an excellent opportunity for floodplain restoration because of the following factors:

- 1) High degree of channel instability and overall need for restoration.
- 2) Adequate amount of available space (width) for use as floodplain exists on-site.
- 3) High potential for significant measurable ecological uplift.
- 4) Limited existing tree cover (mostly all invasive/undesirable); and well-defined tie-in locations (bridges).

The 1,600 linear feet of stream restoration implemented with a sediment reduction rate of 44.88/lbs/ft/yr and the wetland pockets associated with the restoration will yield an estimated removal of 77,408.39 lbs/yr of sediment (7.49 percent) within the Chester Creek PRP Planning Area.

Dunvegan Road Basin Retrofit

This existing basin is located southeast of the intersection of S. New Street and Dunvegan Road on a private residential property. It has been proposed to retrofit this existing basin. The basin has a drainage area of 9.9 acres. Radley Run is the receiver stream for this area, which lies within the Upper Brandywine Creek Hydrologic Unit Code (HUC) 12.

The scope of the proposed retrofit includes removing trash and debris, regrading the basin bottom, and modifying the outlet structure orifice to increase volume treated through infiltration and extended detention. Assumptions for the preliminary calculations included sealing the existing 9-inch orifice, through the installation of a steel plate and coring a 4-inch orifice 2-feet above the basin bottom. This project will provide an estimated removal of 2,043.40 lbs/yr of sediment (1.09 percent) within the Middle Brandywine Creek/Upper Brandywine Creek PRP Planning Area.

General Greene B Basin Retrofit

This existing basin is located southwest of the intersection of General Greene Drive and S. New Street on a private residential property. It has been proposed to retrofit this existing basin. The basin has a drainage area of 12.38 acres. Radley Run is the receiver stream for this area, which lies within the Upper Brandywine Creek Hydrologic Unit Code (HUC) 12.

The scope of the proposed retrofit includes removal of sediment and debris, regrading the basin bottom, and modifying the outlet structure orifice to increase volume treated through infiltration and extended detention. Assumptions for the preliminary calculations included sealing an existing 4-inch orifice at the basin bottom through the installation of a steel plate. The existing 4-inch orifice located approximately 2 feet above the basin bottom will be utilized as the primary outlet. This project will provide an estimated removal of 2,674.52 lbs/yr of sediment (1.43 percent) within the Middle Brandywine Creek/Upper Brandywine Creek PRP Planning Area.

General Greene A Basin Retrofit

This existing basin is located behind 1006 and 1008 General Green Drive on a private residential property. It has been proposed to retrofit this existing basin. The basin has a drainage area of 9.76 acres. Radley Run is the receiver stream for this area, which lies within the Upper Brandywine Creek Hydrologic Unit Code (HUC) 12.

The scope of the proposed retrofit includes the removal of trash and debris, regarding the existing basin bottom, and replacing the existing outlet structure, due to its age and vegetative overgrowth. Assumptions for the preliminary calculations of the new outlet structure included a new standard outlet structure box with a 4-inch orifice at an elevation of 2-feet above the basin bottom and top of grate approximately 5-feet from the existing

ground elevation. This project will provide an estimated removal of 2,185.83 lbs/yr of sediment (1.17 percent) within the Middle Brandywine Creek/Upper Brandywine Creek PRP Planning Area.

Detailed BMP Descriptions – Long-Term (> 2024)

The BMP proposed to meet long-term objectives is described in more detail below.

Stream Restoration (Goose Creek Watershed)

Approximately 2,100 linear feet of stream restoration is proposed within the Goose Creek watershed to meet long-term TMDL objectives (>5 years). Location(s) of the stream restoration will be determined at a later date, as the next permit term approaches. These project(s) will provide an estimated removal of 96,492 lbs/yr of sediment and 146.20 lbs/yr of total phosphorus (47.83 percent) within the Goose Creek TMDL Planning Area for the long-term reduction.

4.6 Funding Mechanisms

The funding mechanisms and estimated costs for the implementation of each proposed BMP to be implemented within five (5) years of permit approval are included in Table 19. Note that the 1,700 linear feet of proposed stream restoration to meet the long-term (>5 years) objectives of the Goose Creek TMDL is not included. The costs provided are conceptual, to be utilized for preliminary planning purposes only, and subject to change.

Table 19: Proposed BMP Funding Mechanisms

Proposed BMP	Property Owner	Funding Mechanism	Total Estimated Cost (Low)	Total Estimated Cost (High)	Total Estimated Cost (Median)
Tyson Park Bioswale	Westtown Township	Existing BMP	n/a	n/a	n/a
Thorne Drive Basin Retrofit	Westtown Township	Westtown Township	\$146,831	\$220,247	\$183,539
Sage Road Basin Retrofit	Westtown Township	Westtown Township	\$47,625	\$71,438	\$59,532
Wild Goose Farms Basin B Retrofit	Wild Goose Farms HOA	Westtown Township	\$49,299	\$73,948	\$61,624
Wild Goose Farms Basin A Retrofit	Wild Goose Farms HOA	Westtown Township	\$37,290	\$55,936	\$46,613
Pleasant Grove Stream Restoration	Westtown Township	Westtown Township	\$438,811	\$658,217	\$548,514
Dunvegan Road Basin Retrofit	Perry & Anna Marie Cozzone	Westtown Township	\$64,324	\$96,486	\$80,405
General Greene Basin B Retrofit	Louis & Susan McCray	Westtown Township	\$52,837	\$79,256	\$66,046
General Greene Basin A Retrofit	Roman Chojnacki & Margaret Uttrodt	Westtown Township	\$58,672	\$88,008	\$73,340
Radley Run Stream Restoration	Brent & Celeste Celek	Westtown Township	\$79,672	\$119,508	\$99,590
TOTAL:			\$975,361	\$1,463,044	\$1,219,203

*Estimated Cost includes survey, design, engineering, any anticipated permitting, bid administration, construction inspection, construction, materials, and as-built survey. Thorne Drive Basin Retrofit cost estimate is based on the 2023 costs/rates; all other BMPs developed based on 2019 costs/rates. It does NOT include costs associated with operations and maintenance (O&M).

4.7 Operations and Maintenance

To ensure the long-term effectiveness of these proposed BMPs, operation and maintenance (O&M) is crucial. Table 20 below outlines the responsible party and the necessary O&M practices required for each proposed BMP (Pennsylvania Stormwater BMP Manual, December 30, 2006).

Table 20: Proposed BMP O&M Responsibilities

BMP	Current Owner	Responsible Party for O&M	O&M Responsibilities
Tyson Park Bioswale (Installed in 2015)	Westtown Township	Westtown Township	<ul style="list-style-type: none"> • Inspect at least 2x per year • Pruning, weeding, watering • Re-spread mulch every 2-3 years • Remove sediment buildup • Repair and re-stabilize areas of erosion • Maintain vegetation
Stream Restoration (undetermined locations in Goose Creek Watershed)	Undetermined	Westtown Township	<ul style="list-style-type: none"> • Inspect at least 2x per year • Avoid excess use of fertilizers, pesticides, or other chemicals • Mow surrounding area as appropriate (remove clippings) • Remove invasive species • Remove debris
Thorne Drive Basin Retrofit	Westtown Township	Westtown Township	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species • Mow as appropriate (remove clippings) • Remove accumulated sediment
Sage Road Basin Retrofit	Westtown Township	Westtown Township	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species • Prohibit vehicular access • Avoid excessive compaction by mowers • Drain-down time < 72 hours • Mow as appropriate (remove clippings) • Remove accumulated sediment
Radley Run Stream Restoration	Brent & Celeste Celek	Brent & Celeste Celek	<ul style="list-style-type: none"> • Inspect at least 2x per year • Avoid excess use of fertilizers, pesticides, or other chemicals • Mow surrounding area as appropriate (remove clippings) • Remove invasive species • Remove debris
Wild Goose Farms Basin B Retrofit	Wild Goose Farms HOA	Wild Goose Farms HOA	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species • Prohibit vehicular access • Avoid excessive compaction by mowers • Drain-down time < 72 hours • Mow as appropriate (remove clippings) • Remove accumulated sediment
Wild Goose Farms Basin A Retrofit	Wild Goose Farms HOA	Wild Goose Farms HOA	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species

Table 20: Proposed BMP O&M Responsibilities

BMP	Current Owner	Responsible Party for O&M	O&M Responsibilities
			<ul style="list-style-type: none"> • Prohibit vehicular access • Avoid excessive compaction by mowers • Drain-down time < 72 hours • Mow as appropriate (remove clippings) • Remove accumulated sediment
Pleasant Grove Stream Restoration	Westtown Township	Westtown Township	<ul style="list-style-type: none"> • Inspect at least 2x per year • Avoid excess use of fertilizers, pesticides, or other chemicals • Mow surrounding area as appropriate (remove clippings) • Remove invasive species • Remove debris
Dunvegan Road Basin Retrofit	Perry & Anna Marie Cozzone	Perry & Anna Marie Cozzone	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species • Prohibit vehicular access • Avoid excessive compaction by mowers • Drain-down time < 72 hours • Mow as appropriate (remove clippings) • Remove accumulated sediment
General Greene B Basin Retrofit	Louis & Susan McCray	Louis & Susan McCray	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species • Prohibit vehicular access • Avoid excessive compaction by mowers • Drain-down time < 72 hours • Mow as appropriate (remove clippings) • Remove accumulated sediment
General Greene A Basin Retrofit	Roman Chojnacki & Margaret Uttrodt	Roman Chojnacki & Margaret Uttrodt	<ul style="list-style-type: none"> • Inspect at least 2x per year • Clean inlets at least 2x per year • Maintain vegetation • Remove invasive species • Prohibit vehicular access • Avoid excessive compaction by mowers • Drain-down time < 72 hours • Mow as appropriate (remove clippings) • Remove accumulated sediment

5.0 Conclusion

The required ten (10) percent sediment reduction for the PRP Planning Areas and the short-term objectives of the Goose Creek TMDL have been demonstrated through the existing bioswale and proposed implementation of two (2) stream restoration projects and seven (7) basin retrofits. BMPs will be implemented within 5 years of PA DEP approval of this plan. An additional 2,100 linear feet of stream restoration is proposed within the Goose Creek

watershed to meet the long-term objectives of the TMDL, which is a total phosphorous reduction of 53.9 percent.

6.0 Definitions

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, structural controls (e.g., infiltration trenches), design criteria, maintenance procedures, and other management practices to prevent or reduce pollution to the waters of the Commonwealth. BMPs include Erosion and Sedimentation Control Plans, Post Construction Stormwater Management Plans, MS4 TMDL Plans, Stormwater Management Act Plans, and other treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal, drainage from raw material storage, and methods to reduce pollution, to recharge groundwater, to enhance stream base flow and to reduce the threat of flooding and stream bank erosion. [NPDES Stormwater Discharges from Small MS4s General Permit 5/2016 (PAG-13)]

Municipal Separate Storm Sewer System (MS4): All separate storm sewers that are defined as “large” or “medium” or “small” municipal separate storm sewer systems pursuant to 40 CFR §§ 122.26(b)(18), or designated as regulated under 40 CFR § 122.26(a)(1)(v). [PAG-13]

National Pollutant Discharge Elimination System (NPDES): A permit issued under 25 Pa. Code Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance) for the discharge or potential discharge of pollutants from a point source to surface waters. [PAG-13]

Outfall: A “Point Source” as defined by 40 CFR § 122.2 is the point where an MS4 discharges stormwater to other surface waters of this Commonwealth. This does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream and are used to convey waters of the Commonwealth (40 CFR § 122.26 (b) (9)). [PAG-13]

Owner or operator: The owner or operator of any “facility” or “activity” subject to regulation under the NPDES program. [PAG-13]

Parsing: A process in which land area is removed from a Planning Area in order to calculate the actual or target pollutant loads that are applicable to an MS4. [NPDES from Small MS4 PRP Instructions- Attachment A]

Planning Area: All of the storm sewersheds that an MS4 must calculate existing loads and plan load reductions for. [NPDES from Small MS4 PRP Instructions]

Pollutant: Any contaminant or other alteration of the physical, chemical, biological, or radiological integrity of surface water which causes or has the potential to cause pollution as defined in section 1 of The Clean Streams Law, 35 P.S. § 691.1. [PAG-13]

Storm Sewershed: The catchment area that drains into the storm sewer system based on the surface topography in the area served by the storm sewer. (Source: NPDES Stormwater Discharges from Small MS4s General Permit [PAG-13])

Stormwater: Runoff from precipitation, snow melt runoff and surface runoff and drainage. “Stormwater” has the same meaning as “Storm Water.” (Source: NPDES Stormwater Discharges from Small MS4s General Permit [PAG-13])

Urbanized Area (UA): Land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the United States Bureau of the Census and as determined by the latest available decennial census. The UA outlines the extent of automatically regulated areas. UA maps are available at: <http://www.epa.gov/npdes/stormwater/urbanmaps>, or at: <http://www.epa.gov/enviro/html/em/index.html>. [PAG-13]



APPENDIX A

Public Comment and Responses



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

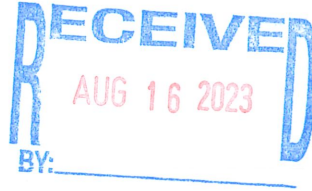
P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

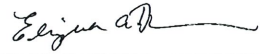
PHILADELPHIA GROUP

AFFIDAVIT OF PUBLICATION
390 Eagleview Boulevard • Exton, PA 19341

WESTTOWN TOWNSHIP
1039 WILMINGTON PIKE
WEST CHESTER, PA 19382
Attention:



STATE OF PENNSYLVANIA,

The undersigned , being duly sworn the he/she is the principal clerk of Daily Local News, Daily Local News Digital, published in Chester County for the dissemination of local or transmitted news and intelligence of a general character, which are duly qualified newspapers, and the annexed hereto is a copy of certain order, notice, publication or advertisement of:

**Westtown Township
Public Notice**

The Westtown Township Goose Creek TMDL and Pollutant Reduction Plan for Plum Run, Radley Run, Brandywine Creek, Chester Creek, East Branch Chester Creek, Hunters Run, and Ridley Creek has been updated and is available for public review on the Township website at <https://www.westtownpa.org/> and by request at the Township Building at 1039 Wilmington Pike, West Chester, PA 19382. Written comments from the public will be accepted for a period of 30 days from the date of this notice. Verbal and written comments will also be accepted during the Board of Supervisors meeting scheduled for August 21, 2023 at 7:30pm at the Township Building. The TMDL/Pollution Reduction Plan describes the proposed measures to be taken to reduce sediment and phosphorus pollution to impaired streams within Westtown Township and is a requirement of the Township's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit. DLN 8/4; 1a

WESTTOWN TOWNSHIP

Published in the following edition(s):

Daily Local News, Daily Local News Digital
08/04/23

Sworn to the subscribed before me this 8/4/23.



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Montgomery County
My Commission Expires March 31, 2025
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WESTTOWN TOWNSHIP BOARD OF SUPERVISORS REGULAR MEETING

Westtown Township Municipal Building, 1039 Wilmington Pike, Westtown

Monday, August 7, 2023 at 7:30 PM

Present were: Chair Tom Foster, Vice Chair Dick Pomerantz, Police Commissioner Scott Yaw, Township Manager Jonathan Altshul, Assistant Township Manager and Director of Planning and Zoning Mila Carter, Public Works Director Mark Gross, Historical Commissioner Paul Sookiasian (remote) and Park & Recreation Commissioner Isaac Thomas. Approximately seven guests were also present, including three participating remotely.

I. Pledge of Allegiance & Call to Order

Mr. Foster called the meeting to order at 7:30 PM and led the Pledge of Allegiance. He reported that the meeting was being recorded on Zoom and, on a slight delay, on YouTube.

No one indicated they would be recording the meeting.

II. Board of Supervisors Summary of Workshop, August 7, 2023

Mr. Foster reported that the Board met in Workshop to discuss the Pleasant Grove Sanitary Sewer Pump Station and Force Main and to accept public comments.

Mr. Foster also reported that the Board met in Executive Session prior tonight's Workshop to discuss personnel matters and legal matters with the Township solicitor.

III. Approval of Meeting Minutes of July 17, 2023 Meeting

Mr. Pomerantz made a motion to approve the minutes from the July 17, 2023 meeting. Mr. Yaw seconded. There was no public comment, and the motion passed 2-0, with Mr. Yaw abstaining as he was not at that meeting.

IV. Departmental Reports

A. Public Works Department – Mark Gross

Mr. Gross explained that Public Works had responded to a number of storm-related issues recently, including downed trees, traffic signal power outages and flooding on the Oakbourne Road bridge. He also reported that the department had finished its inspections of the high priority outfalls for the township's MS4 permit, removed trees and overgrowth in the retention basin behind the police building, installed conduits between the Mansion and the Carriage House, installed new storage bins for woody debris in Oakbourne Park, cleaned the grit chambers at the wastewater treatment plant, and received delivery of the chassis of a new truck for use by the wastewater treatment plant operators.. He also reported that the 2023 road program would begin the week of August 21 on Johnny's Way before school starts, but that the contractor probably wouldn't return to resurface the other streets until late September or early October. Finally, he observed that an air conditioning unit in the Mansion had failed and was being replaced.

B. Planning Commission – None

C. Park & Recreation Commission – Isaac Thomas

Mr. Thomas highlighted a number of upcoming Parks & Rec events, including a screening of *Ferris Bueller's Day Off* at Oakbourne Park on August 24, the amateur photography contest for which the Commission would award a \$250 gift card at Westtown Day on October 8, and a concert by the West Chester Community Band on September 13 at Oakbourne Park.

D. Historical Commission – Paul Sookiasian

Mr. Sookiasian reported that the Historical Commission is in search of a new member. He also reported that at its last meeting the Commission had discussed the proposed amendments to the

historical ordinance with John Snook, its 2024 budget proposal, and recommendations for the Stokes Estate Conditional Use application. He added that the Commission did not support any plan that would remove historical structures.

E. Township Manager – Jonathan Altshul

Mr. Altshul reported on a number of developments in the Township, including the receipt of a land development application for the Westtown School athletic field project, the first conditional use hearing for development of the Stokes Estate on August 14, upcoming budget meetings with our fire and EMS providers that could be discussed by the Board at the first budget workshop on August 21. He also noted that the electricity generation auction coordinated by Provident Energy was scheduled for Tuesday, August 8.

V. Public Comment (Non-Agenda Items)

Afif Abdelmalek, 123 E Street Road, explained that he would like to connect to public sewer, but that Township staff had indicated to him that they would not permit the connection. He explained that the connection would involve the installation of a grinder pump and then a long lateral connection into a manhole two properties away. He added that he was open to entering into an Operations & Maintenance agreement with the Township for this connection. He also indicated that his neighbor at 119 E. Street Road was also interested in connecting to public sewer.

Mr. Gross explained that the proposed connection is complicated and added that because PennDOT does not permit privately owned laterals in its right-of-way that the township would need to own the laterals. He added that historically the Township opposes “spaghetti” connections with complicated connections serving only one or two houses.

Mr. Yaw asked whether the Township had ever permitted other grinder pumps, to which Mr. Gross noted that there were a handful. However, Mr. Altshul added that it’s not merely the grinder pump that makes the connection complicated, but that there would be a force main owned by the Township serving only two properties, and that should there be an issue with that force main the repairs would likely be very extensive and complicated.

Mr. Gross asked whether the property owner had tried to get sewer easement from his neighbors in order to connect outside of the right-of-way.

Michael Rados, 119 E. Street Road, explained that he had approached his neighbor at 117 E. Street Road about getting a sewer easement, but that that neighbor was not interested.

Mr. Foster stated that the Board would discuss the matter amongst themselves and would get back to Mr. Abdelmalek.

VI. Old Business - None

VII. New Business

A. Consider Resolution 2023-11 Authorizing Reimbursement for Capital Costs Already Incurred for the Acquisition of Open Space

Mr. Pomerantz made a motion to adopt Resolution 2023-11 authorizing reimbursement for capital costs already incurred for the acquisition of open space. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

B. Consider Proposal for a Police Staffing Study from Matrix Consulting Group

Mr. Foster announced that this matter would be tabled.

C. Consider Payment Application #4 to MECO Constructors, Inc for \$388,519.20

Mr. Pomerantz made a motion to approve payment application #4 to MECO Constructors, Inc in the amount of \$388,519.20. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

D. Consider Appointment to Planning Commission

Mr. Pomerantz made a motion to appoint Joe Frisco to the Planning Commission for the unexpired term ending December 31, 2023. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

E. Consider Appointment to Historical Commission

Mr. Pomerantz made a motion to appoint Stephen Dabrowski to the Historical Commission for the unexpired term ending December 31, 2025. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

VIII. Announcements

Mr. Foster made the following announcements:

A. Westtown Township is Accepting Public Comments on Amendments to the Township's MS4 Permit – In order to change the BMP type for the Thorne Drive dry detention basin to a wet pond, the Township must formally amend the Pollution Reduction Plan and Total Maximum Daily Load plans in our MS4 stormwater permit with the DEP. As part of this process, the Township is required to accept public comments about the proposed changes for at least 30 days after notice in a newspaper of general circulation. Notice about this comment period was published in the Daily Local News on August 4. A copy of the updated PRP and TMDL plans can be found on the Township's website at www.westtownpa.org. The comment period will close on September 3, 2023. Public comments can be provided to the Township Manager by email at jaltshul@westtown.org or postal mail at the Township building. The Township will also formally accept public comments at its public meeting on Monday, August 21.

Mr. Pomerantz asked if Mr. Altshul could better define acronyms in future communications about stormwater issues, which Mr. Altshul agreed to do.

- B. Fox Clearing LLC Conditional Use Hearing for Stokes Estate – Monday, August 14 at 7:00pm.** The applicant is proposing to construct up to 85 single family detached homes on 81 acres along Shiloh Road.
- C. Historical Commission Good Stewardship Award** – Submit nominations for property owners who have made efforts to maintain, repair or restore their historic homes by emailing historical@westtown.org. Winners will be announced at Westtown Day on Sunday, October 8.
- D. Movie Night (Ferris Bueller's Day Off) – Thursday, August 24 at Dusk at Oakbourne Park**
- E. Summer Concert (West Chester Community Band) – Wednesday, September 13, 6:00pm at Oakbourne Park** – Please join us for a night of classics, jazz, marches and contemporary compositions. Rain date is September 14.
- F. Ewaste Collection – 9am to noon, Saturday, September 16 at Township Building.** Safely dispose of used electronics, including TVs and computer monitors. Preregistration is required. Visit the website for more information.
- G. Westtown Day – Sunday, October 8**
- H. The Township is Accepting Applications for the Park & Recreation Commission** – Please visit the website for more information.

IX. Public Comment (All Topics)

None

X. Payment of Bills

Mr. Pomerantz made a motion to approve the General Fund bills for \$590,549.77, Open Space Fund bills for \$121,000.00, Enterprise Fund bills for \$7,409.83, Oakbourne Park GO Bond 2022 Fund bills for \$481,396.50, and Capital Project Fund bills for \$98,864.37, for a grand total of \$1,299,220.47. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

XI. Adjournment

Mr. Yaw made a motion to adjourn the meeting at 8:06 PM.

Respectfully submitted,
Jonathan Altshul
Township Manager

WESTTOWN TOWNSHIP BOARD OF SUPERVISORS REGULAR MEETING

Westtown Township Municipal Building, 1039 Wilmington Pike, Westtown

Monday, August 21, 2023 at 7:30 PM

Present were: Chair Tom Foster, Vice Chair Dick Pomerantz, Police Commissioner Scott Yaw, Township Manager Jonathan Altshul, Assistant Township Manager and Director of Planning and Zoning Mila Carter, Police Chief Brenda Bernot, Finance Director Cindi King, Planning Commissioner Jack Embick and Environmental Advisory Council (EAC) member Bob Yeats. Approximately ten guests were also present, including three participating remotely.

I. Pledge of Allegiance & Call to Order

Mr. Foster called the meeting to order at 7:30 PM and led the Pledge of Allegiance. He reported that the meeting was being recorded on Zoom and, on a slight delay, on YouTube.

No one indicated they would be recording the meeting.

II. Board of Supervisors Summary of Workshop, August 21, 2023

Mr. Foster reported that the Board met in Workshop to discuss the 2024 budget and a “Do Not Knock” list for solicitors, and to accept public comments.

Mr. Foster also reported that the Board met in Executive Session prior to Workshop this evening to discuss personnel matters.

III. Approval of Meeting Minutes of August 7, 2023 Meeting

Mr. Pomerantz made a motion to approve the minutes from the August 7, 2023 meeting. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

IV. Departmental Reports

A. Westtown East Goshen Police Department – Chief Bernot

Chief Bernot reported that calls for service continue to be high. She noted that there were 678 calls for service in Westtown in July, of which 466 could be classified as non-proactive calls, which is a 26% increase since 2019. She also highlighted that the department has raised privacy concerns about a new app for high schoolers called “Saturn” that allows students to share information about their class schedules with one another, but also could expose their sensitive personal information. She anticipates that the District will issue formal guidance on the app within the week. She also stated that there are two emerging crime trends in Westtown. First, there were 18 calls for disturbances, assaults and domestics in July, which is much higher than normal. And second, there were nine calls for scams and fraud investigations last month as well.

Mr. Pomerantz asked the Chief to elaborate on her concerns about the Saturn app, to which the Chief explained that students are asked to provide more invasive and sensitive personal information about themselves than they do for other social media apps. She encouraged parents to have conversations with their high school-aged children about the app and the importance of being careful about sharing potentially sensitive information about themselves.

Mr. Foster noted that the suspect in the Westtown post office robbery had been apprehended in New York City and inquired whether she expected the trial to be held in Chester County or New York, to which the Chief indicated that the trial would be held here.

B. Fire Marshal – Mr. Altshul explained that Mr. DiNunzio had been called into work at the last minute and was unable to attend tonight’s meeting.

C. Finance Department – Cindi King

Ms. King reported that she has been working on the development of the 2024 budget and interviewing banks in order to make a recommendation to the Board soon on a new depository. She also reported that the Township is on target financially and that the General Fund is positioned to end the year with a healthy surplus.

Mr. Pomerantz asked about the deadline for using the American Rescue Plan Act funds. Mr. Altshul responded that the funds need to be obligated by the end of 2024 and used by the end of 2026, and that the Township had already obligated the funds for the Oakbourne Park project.

Mr. Pomerantz asked Ms. King if she had any concerns about the Township's finances, to which she responded that she was monitoring the costs for the Pleasant Grove pump station and force main.

D. Planning Commission – Jack Embick

Mr. Embick reported that the August 9 Planning Commission was canceled due to a lack of a quorum, but that the Commission would finalize its recommendations for the Stokes Estate Conditional Use application at its next meeting on Wednesday night. Mr. Pomerantz asked about the likelihood of a quorum at the next meeting, to which Mr. Embick assured the Board that there would be a quorum.

E. EAC – Bob Yeats

Mr. Yeats stated that the EAC's newest member, Joe Debes, is a strong addition to the team. He explained that the EAC had been working on its 2024 budget requests, including rooftop solar at the Public Works garage and a managed meadow in the Plumly Open Space. He requested time at an upcoming Workshop to discuss these requests with the Board. He also reported that the EAC had been working on preparations for Westtown Day.

V. Public Comment (Non-Agenda Items)

Afif Abdelmalek, 123 E Street Road, asked for an update on the sewer connection request he'd made to the Board of Supervisors at its meeting on August 7. Mr. Altshul reported that he had researched the matter in greater detail and that the Township's position is unchanged that it is not open to accepting the liability of owning a long sewer lateral in the PennDOT right-of-way serving only two properties. Mr. Abdelmalek expressed his disappointment with the Township's position.

VI. Old Business - None

VII. New Business

A. Continuation of Westtown School Solar Array Conditional Use Hearing and Announcement of Decision

Mr. Foster reopened the conditional use hearing on the Westtown School solar array and noted that a court reporter was present. Mr. Pomerantz made a motion to grant Westtown School's Conditional Use for a solar array, subject to the following conditions:

1. The Applicant shall address any outstanding conditions in the Cedarville Engineering Group, LLC, review letters, dated April 21, 2023 and June 2, 2023.
2. The Applicant shall comply with the recommendations from Geo-Technology Associates, Inc., as stated in the review letter, dated May 23, 2023, relating to an emergency fire department access road.
3. The Applicant shall address any outstanding conditions in the review letter, dated April 11, 2023, prepared by the Director of Planning and Zoning of Westtown Township, Liudmila Carter.
4. The Applicant shall address any issues raised by the Township Fire Marshal in his letters, dated April 16, 2023 and May 26, 2023.

5. The Applicant and the use and development of the Property shall comply with the representations and commitments made in the testimony and exhibits presented at the hearing to the Board.
6. The Applicant and the use and development of the Property shall comply in all respects with all ordinances and regulations of Westtown Township and with all applicable provisions of any statute, ordinance or regulation of any municipal or governmental entity having jurisdiction over the Property or the uses thereon.

Mr. Yaw seconded. Mr. Foster asked if the applicant had any objections to the conditions. Andy Stancati, engineer for the applicant, indicated that he did not have any objections.

There was no further public comment, and the motion passed 3-0.

B. Consider Request from Owner of Westtown Village Shopping Center to Waive Land Development Process for Proposed Entryway Modifications to the Amish Market

Ryan Jennings, Attorney with Unruh, Turner, Burke and Frees PC, appeared on behalf of the Amish Market. Mr. Jennings clarified that he was representing the Amish Market and not the owner of the Westtown Village Shopping Center. He provided an outline of his client's proposed improvements, including adding a centralized entrance and exit and improving site access and safety, while maintaining the existing fire lane as well as ADA accessibility. He explained that the owner is not interested in going through land development, and that therefore he was requesting a waiver from land development pursuant to Section 149-304 of the Township Code. Mr. Jennings explained that he believed that his client complied with all four of the provisions in this section. Specifically, he argued that land development would pose an undue hardship on his client as the property owner would not allow the project in the first place; that the improvements would enhance public safety and therefore were in the public's interest; that the proposed modifications were very minor; and finally that his client was open to getting building and grading permits and subjecting the permits to review by the Township Engineer, Traffic Engineer, Fire Marshal and Police Chief.

Michael Howell, a landscape architect with Howell Engineering, provided a more technical description of the proposed project to the Board. He noted that no stormwater improvements would be necessary as no new impervious would be added.

Mr. Altshul asked Ms. Carter to provide background to the Board about why she had determined that Land Development was required. Ms. Carter explained that the Township's ordinance is very black and white and that there is no provision for a minor commercial modification.

Mr. Yaw noted that the applicant is not the owner, and therefore that Paragraph A of 149-304 that land development would pose an undue and unreasonable hardship on the owner was not technically true, which Mr. Jennings conceded. Mr. Yaw then asked whether the land owner was aware of the proposed project. Mr. Altshul noted that the property owner had attended a meeting with Township staff about the project last month and therefore was familiar with the project. Mr. Yaw then asked about whether there is a provision in the lease that would allow the tenant to make improvements to the property. Willie Stolfus, owner of the Amish Market, stated that he didn't have the lease with him, but that his understanding is that he's permitted to make improvements to the property. Mr. Yaw also asked whether the applicant would agree to all of the recommendations from the consultant reviews, to which Mr. Jennings indicated that his client would agree to all reasonable recommendations.

Mr. Pomerantz asked Ms. Carter if the Township had had a provision for minor land development applications in its ordinance what her decision would have been. Ms. Carter responded that it would depend on the specific language in the ordinance. Mr. Pomerantz then asked the Chief her opinion on whether the improvements would enhance public safety, to which the Chief responded that upon initial review that the improvements would probably improve line of sight for motorists. He stated that her only initial concern would be about the grade of the ramp. Mr. Pomerantz then asked why the Amish Market needed to make these improvements, to which Mr. Jennings responded that the project was not financially driven, but rather to improve maneuverability and

enhance the customer experience. Mr. Pomerantz asked if granting the waiver could set a precedent for future commercial projects, to which Mr. Jennings responded that it would not. Specifically, he emphasized that the project would not change the property's use or increase stormwater runoff, which are the two most controversial issues in the land development process.

Mr. Foster asked whether the project would be terminated if a waiver is not granted, to which Mr. Jennings responded that it probably would be terminated in its current form, but that a modified project could be presented to the Township at a later point. Mr. Foster also raised concerns about whether granting a waiver could set a precedent. He suggested that Mr. Jennings discuss this matter with Patrick McKenna, particularly the authority under which the Board can issue a waiver in the first place, to allow the Board to render a decision at a future meeting. Mr. Yaw agreed with Mr. Foster's recommendation, and also asked Mr. Jennings to research whether a tenant has standing to request a waiver. Mr. Jennings suggested that he may be able to provide written consent from the property owner for the waiver.

Mr. Pomerantz asked why the Amish Market should pay the price for problems with the Township's ordinance. He asked about the timeline for the Board to make a decision. Mr. Jennings stated that a month delay for a decision could push the project back to next year.

Mr. Foster asked about the Township's liability should there be an accident at the site in the future, absent land development.

Mr. Altshul offered to facilitate discussion between Mr. Jennings and Mr. McKenna.

C. Accept Public Comment for Amendments to the Pollution Reduction Plan and Total Maximum Daily Load Plan for the Township's MS4 Permit

Mr. Foster explained that the Township is accepting public comments about amendments to its Pollution Reduction Plan and Total Maximum Daily Load in its MS4 Permit, as a result of changing the Best Management Practice type for the Thorne Drive dry detention basin to a wet pond.

Jeffrey Simmler, 307 Larchwood Road, stated that he works near the Goose Creek Sewage Treatment Plant on Snyder Avenue in West Chester. This plant is physically located in West Goshen Township, but is owned and operated by West Chester Borough. He stated that he frequently observes "40-50 trucks" dumping waste there. Mr. Altshul asked where else would sewage be dumped than at a wastewater treatment plant, to which Mr. Simmler responded that the Goose Creek Plant lacks the infrastructure to appropriately accept the waste, and that he is concerned that untreated waste is spilling directly into Goose Creek. Mr. Altshul stated that he would make the West Chester Borough Manager and Borough Council President aware of this issue. He also noted that the comment would need to be included in the Township's submission back to DEP.

D. Authorize Carroll Engineering to Begin Engineering and Design for the Replacement of the Pleasant Grove Sanitary Sewer Pump Station and Force Main

Mr. Pomerantz made a motion to authorize Carroll Engineering to begin engineering and design work for the replacement of the Pleasant Grove pump station at a cost of \$142,824 and the Pleasant Grove force main for \$92,210. Mr. Yaw seconded. Mr. Simmler asked whether a brand new pump station would be built, to which Mr. Altshul explained that yes, a new station would be built, but that the existing building would not be demolished and would continue to house some equipment. The motion passed 3-0.

E. Consider Appointment to Parks & Recreation Commission

Mr. Pomerantz made a motion to appoint Laura Dougherty to the Historical Commission for the term ending December 31, 2027. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

VIII. Announcements

Mr. Foster made the following announcements:

- A. PennDOT has awarded Westtown Township Green Light-Go grant for the amount of \$265,125 for signal traffic upgrades at Route 926 and Shady Grove Way.**
- B. Movie Night (*Ferris Bueller's Day Off*) – Thursday, August 24 at Dusk at Oakbourne Park**
- C. Summer Concert (West Chester Community Band) – Wednesday, September 13, 6:00pm at Oakbourne Park** – Please join us for a night of classics, jazz, marches and contemporary compositions. Rain date is September 14.
- D. Ewaste Collection** – 9am to noon, Saturday, September 16 at Township Building. Safely dispose of used electronics, including TVs and computer monitors. Preregistration is required. Visit the website for more information.
- E. Westtown Day – Sunday, October 8**
- F. The Township is Accepting Applications for the Park & Recreation Commission** – Please visit the website for more information.

IX. Public Comment (All Topics)

Bill McElhill, 1543 Carmac Road, raised concerns that the Amish Market materials were not shared with the public in the digital space, and further that Mr. Jennings did not provide a hard copy to Chief Bernot. He also stated that the Township should establish a process for giving residents impacted by missed trash pickups a credit on their accounts.

Mr. Pomerantz stated that Mr. McElhill's comment raised a larger concern about the Township's trash hauler not doing its job.

X. Payment of Bills

Mr. Pomerantz made a motion to approve the General Fund bills for \$241,509.33, Enterprise Fund bills for \$94,799.94, and Oakbourne Park GO Bond 2022 Fund bills for \$388,519.20, for a grand total of \$724,828.47. Mr. Yaw seconded. There was no public comment, and the motion passed 3-0.

XI. Adjournment

Mr. Yaw made a motion to adjourn the meeting at 9:15 PM.

Respectfully submitted,
Jonathan Altshul
Township Manager

Response to Public Comment (9/5/2023):

Goose Creek STP was engineered to process higher volumes and concentrations of pollutants than it currently does because of a large pharmaceutical use. Since it closed, the Borough uses that excess capacity to treat nonindustrial sewage that is hauled in. Tanker trucks connect to the plant a hundred yards or so upstream to unload. We only very rarely have incidents of overflows at GC and those are related to very high and prolonged rainfall events, not our sewage hauling business.

Hope that helps.



Sean Metrick,
Borough Manager West Chester Borough
401 East Gay St
West Chester, PA 19380
484-319-4118



APPENDIX B

Developed Land Loading Rates for PA Counties



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

ATTACHMENT B

DEVELOPED LAND LOADING RATES FOR PA COUNTIES^{1,2,3}

County	Category	Acres	TN lbs/acre/yr	TP lbs/acre/yr	TSS (Sediment) lbs/acre/yr
Adams	impervious developed	10,373.2	33.43	2.1	1,398.77
	pervious developed	44,028.6	22.99	0.8	207.67
Bedford	impervious developed	9,815.2	19.42	1.9	2,034.34
	pervious developed	19,425	17.97	0.68	301.22
Berks	impervious developed	1,292.4	36.81	2.26	1,925.79
	pervious developed	5,178.8	34.02	0.98	264.29
Blair	impervious developed	3,587.9	20.88	1.73	1,813.55
	pervious developed	9,177.5	18.9	0.62	267.34
Bradford	impervious developed	10,423	14.82	2.37	1,880.87
	pervious developed	23,709.7	13.05	0.85	272.25
Cambria	impervious developed	3,237.9	20.91	2.9	2,155.29
	pervious developed	8,455.4	19.86	1.12	325.3
Cameron	impervious developed	1,743.2	18.46	2.98	2,574.49
	pervious developed	1,334.5	19.41	1.21	379.36
Carbon	impervious developed	25.1	28.61	3.97	2,177.04
	pervious developed	54.2	30.37	2.04	323.36
Centre	impervious developed	7,828.2	19.21	2.32	1,771.63
	pervious developed	15,037.1	18.52	0.61	215.84
Chester	impervious developed	1,838.4	21.15	1.46	1,504.78
	pervious developed	10,439.8	14.09	0.36	185.12
Clearfield	impervious developed	9,638.5	17.54	2.78	1,902.9
	pervious developed	17,444.3	18.89	1.05	266.62
Clinton	impervious developed	7,238.5	18.02	2.80	1,856.91
	pervious developed	11,153.8	16.88	0.92	275.81
Columbia	impervious developed	7,343.1	21.21	3.08	1,929.18
	pervious developed	21,848.2	22.15	1.22	280.39
Cumberland	impervious developed	8,774.8	28.93	1.11	2,065.1
	pervious developed	26,908.6	23.29	0.34	306.95
Dauphin	impervious developed	3,482.4	28.59	1.07	1,999.14
	pervious developed	9,405.8	21.24	0.34	299.62
Elks	impervious developed	1,317.7	18.91	2.91	1,556.93
	pervious developed	1,250.1	19.32	1.19	239.85
Franklin	impervious developed	13,832.3	31.6	2.72	1,944.85
	pervious developed	49,908.6	24.37	0.76	308.31
Fulton	impervious developed	3,712.9	22.28	2.41	1,586.75
	pervious developed	4,462.3	18.75	0.91	236.54
Huntington	impervious developed	7,321.9	18.58	1.63	1,647.53
	pervious developed	11,375.4	17.8	0.61	260.15
Indiana	impervious developed	589	19.29	2.79	1,621.25
	pervious developed	972	20.1	1.16	220.68
Jefferson	impervious developed	21.4	18.07	2.76	1,369.63
	pervious developed	20.4	19.96	1.24	198.60
Juniata	impervious developed	3,770.2	22.58	1.69	1,903.96
	pervious developed	8,928.3	17.84	0.55	260.68
Lackawana	impervious developed	2,969.7	19.89	2.84	1,305.05
	pervious developed	7,783.9	17.51	0.76	132.98
Lancaster	impervious developed	4,918.7	38.53	1.55	1,480.43
	pervious developed	21,649.7	22.24	0.36	190.93
Lebanon	impervious developed	1,192.1	40.58	1.85	1,948.53
	pervious developed	5,150	27.11	0.4	269.81
Luzerne	impervious developed	5,857	20.43	3	1,648.22
	pervious developed	13,482.9	19.46	0.98	221.19
Lycoming	impervious developed	10,031.7	16.48	2.57	1,989.64
	pervious developed	19,995.5	16	0.84	277.38

County	Category	Acres	TN lbs/acre/yr	TP lbs/acre/yr	TSS (Sediment) lbs/acre/yr
McKean	impervious developed	38.7	20.93	3.21	1,843.27
	pervious developed	5.3	22.58	1.45	249.26
Mifflin	impervious developed	5,560.2	21.83	1.79	1,979.13
	pervious developed	16,405.5	21.13	0.71	296.07
Montour	impervious developed	5,560.2	21.83	1.79	1,979.13
	pervious developed	16,405.5	21.13	0.71	296.07
Northumberland	impervious developed	8,687.3	25.73	1.54	2,197.08
	pervious developed	25,168.3	24.63	0.54	367.84
Perry	impervious developed	5,041.1	26.77	1.32	2,314.7
	pervious developed	9,977	23.94	0.51	343.16
Potter	impervious developed	2,936.3	16.95	2.75	1,728.34
	pervious developed	2,699.3	17.11	1.09	265.2
Schuylkill	impervious developed	5,638.7	30.49	1.56	1,921.08
	pervious developed	14,797.2	29.41	0.57	264.04
Snyder	impervious developed	4,934.2	28.6	1.11	2,068.16
	pervious developed	14,718.1	24.35	0.4	301.5
Somerset	impervious developed	1,013.6	25.13	2.79	1,845.7
	pervious developed	851.2	25.71	1.14	293.42
Sullivan	impervious developed	3,031.7	19.08	2.85	2,013.9
	pervious developed	3,943.4	21.55	1.31	301.58
Susquehanna	impervious developed	7,042.1	19.29	2.86	1,405.73
	pervious developed	14,749.7	20.77	1.21	203.85
Tioga	impervious developed	7,966.9	12.37	2.09	1,767.75
	pervious developed	18,090.3	12.22	0.76	261.94
Union	impervious developed	4,382.6	22.98	2.04	2,393.55
	pervious developed	14,065.3	20.88	0.69	343.81
Wayne	impervious developed	320.5	18.69	2.89	1,002.58
	pervious developed	509	21.14	1.31	158.48
Wyoming	impervious developed	3,634.4	16.03	2.53	2,022.32
	pervious developed	10,792.9	13.75	0.7	238.26
York	impervious developed	10,330.7	29.69	1.18	1,614.15
	pervious developed	40,374.8	18.73	0.29	220.4
All Other Counties	impervious developed	-	23.06	2.28	1,839
	pervious developed	-	20.72	0.84	264.96

Notes:

- 1 These land loading rate values may be used to derive existing pollutant loading estimates under DEP's simplified method for PRP development. MS4s may choose to develop estimates using other scientifically sound methods.
- 2 Acres and land loading rate values for named counties in the Chesapeake Bay watershed are derived from CAST. (The column for Acres represents acres within the Chesapeake Bay watershed). For MS4s located outside of the Chesapeake Bay watershed, the land loading rates for "All Other Counties" may be used to develop PRPs under Appendix E; these values are average values across the Chesapeake Bay watershed.
- 3 For land area outside of the urbanized area, undeveloped land loading rates may be used where appropriate. When using the simplified method, DEP recommends the following loading rates (for any county) for undeveloped land:
 - TN – 10 lbs/acre/yr
 - TP – 0.33 lbs/acre/yr
 - TSS (Sediment) – 234.6 lbs/acre/yr

These values were derived by using the existing loads for each pollutant, according to the 2014 Chesapeake Bay Progress Run, and dividing by the number of acres for the unregulated stormwater subsector.



APPENDIX C

Supporting Calculations



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

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CedarvilleEng.com

Conversion from NLCD 2011 Land Use Designation to Impervious and Pervious Areas

MUNICIPALITY: Westtown Township
MS4 SEWER SHED: Chester Creek (Goose Creek + Ridley Creek + East Branch Chester)
COUNTY: Chester

Developed Land:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	1494.95	19	284.04	1210.91
Developed, Low Intensity	206.13	49	101.00	105.13
Developed, Medium Intensity	77.20	79	60.99	16.21
Developed, High Intensity	10.44	100	10.44	
Hay/Pasture	67.97	0		67.97
Cultivated Crops	11.97	0		11.97
Grassland/Herbaceous	1.56	0		1.56
Shrub/Scrub	109.74	0		109.74
Woody Wetlands	37.12	0		37.12
Emergent Herbaceous Wetlands	0.72	0		0.72
Deciduous Forest	421.95	0		421.95
Evergreen Forest	16.01	0		16.01
Mixed Forest	38.24	0		38.24
Total	2494.00		456.47	2037.53

Conversion from NLCD 2011 Land Use Designation to Impervious and Pervious Areas

MUNICIPALITY: Westtown Township
 MS4 SEWER SHED: Upper Brandywine Creek
 COUNTY: Chester

Developed Land:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	306.80	19	58.29	248.51
Developed, Low Intensity	14.12	49	6.92	7.20
Developed, Medium Intensity	8.52	79	6.73	1.79
Developed, High Intensity	3.16	100	3.16	
Hay/Pasture	45.87	0		45.87
Cultivated Crops	10.03	0		10.03
Grassland/Herbaceous	1.33	0		1.33
Shrub/Scrub	33.76	0		33.76
Woody Wetlands	1.36	0		1.36
Deciduous Forest	70.04	0		70.04
Evergreen Forest	2.03	0		2.03
Mixed Forest	13.27	0		13.27
Total	510.29		75.10	435.19

Existing Loads using Chesapeake Bay Loading Rates without BMPs

MUNICIPALITY: Westtown Township
MS4 SEWER SHED: Chester Creek (Goose Creek + Ridley Creek + East Branch Chester)
COUNTY: Chester

Developed Land:

Land Use	Area (ac)	Pollutant Loading Rates ¹			Pollutant Load		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	456.47	21.15	1.46	1,504.78	9,654.34	666.45	686,886.93
Pervious, Developed	2,037.53	14.09	0.36	185.12	28,708.80	733.51	377,187.55
Chester Creek Total Pollutant Load					38,363.14	1,399.96	1,064,074.48

Existing Loads using Chesapeake Bay Loading Rates without BMPs

MUNICIPALITY: Westtown Township
 MS4 SEWER SHED: Upper Brandywine Creek
 COUNTY: Chester

Developed Land:

Land Use	Area (ac)	Pollutant Loading Rates ¹			Pollutant Load		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	75.10	21.15	1.46	1,504.78	1,588.37	109.65	113,008.98
Pervious, Developed	435.19	14.09	0.36	185.12	6,131.83	156.67	80,562.37
Upper Brandywine Total Pollutant Load					7,720.19	266.31	193,571.35

Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Westtown Reserve Dry Extended Detention Basin
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: 1228 Skiles Boulevard, West Chester, PA
GPS LOCATION: Lat: 39.9307/ Long: -75.5846
TOTAL DRAINAGE AREA TREATED (ac): 17.27
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	11.23	21.15	1.46	1,504.78	20%	20%	60%	47.50	3.28	10139.21
Pervious, Developed	6.04	14.09	0.36	185.12	20%	20%	60%	17.02	0.43	670.87
Total								64.52	3.71	10,810.08

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: St Simon and Jude Dry Extended Detention Basin
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: 1570 West Chester Pike West Chester, PA
GPS LOCATION: Lat: 39.9307/ Long: -75.5846
TOTAL DRAINAGE AREA TREATED (ac): 6
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	2.24	21.15	1.46	1,504.78	20%	20%	60%	9.48	0.65	2022.42
Pervious, Developed	3.76	14.09	0.36	185.12	20%	20%	60%	10.60	0.27	417.63
Total								20.07	0.92	2,440.06

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Kolbe Lane Basin
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Kolbe Lane
GPS LOCATION: Lat: 39.9258/ Long: -75.5790
TOTAL DRAINAGE AREA TREATED (ac): 12.35
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	3.42	19	0.65	2.77
Developed, Low Intensity	3.29	49	1.61	1.68
Developed, Medium Intensity	0.11	79	0.09	0.02
Shrub/Scrub	0.87	0		0.87
Deciduous Forest	4.66	0		4.66
Total	12.35		2.35	10.00

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	2.35	21.15	1.46	1,504.78	20%	20%	60%	9.94	0.69	2120.66
Pervious, Developed	10.00	14.09	0.36	185.12	20%	20%	60%	28.18	0.72	1110.85
Total								38.12	1.41	3,231.51

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: West Glen Basin
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Kirkcaldy Drive
GPS LOCATION: Lat: 39.9240/ Long: -75.5788
TOTAL DRAINAGE AREA TREATED (ac): 14.93
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	4.39	21.15	1.46	1,504.78	20%	20%	60%	18.57	1.28	3963.59
Pervious, Developed	10.54	14.09	0.36	185.12	20%	20%	60%	29.70	0.76	1170.70
Total								48.27	2.04	5,134.29

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Kilduff Circle Dry Extended Detention Basin
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Kilduff Circle
GPS LOCATION: Lat: 39.9450/ Long: -75.5537
TOTAL DRAINAGE AREA TREATED (ac): 35.39
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	4.57	21.15	1.46	1,504.78	20%	20%	60%	19.33	1.33	4126.11
Pervious, Developed	30.81	14.09	0.36	185.12	20%	20%	60%	86.82	2.22	3422.13
Total								106.15	3.55	7,548.24

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Thorne Drive Basin Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Corner of Little Shiloh Rd and Thorne Dr
GPS LOCATION: Lat: 39.947659 / Long: -75.570443
TOTAL DRAINAGE AREA TREATED (ac): 19.86
BMP EFFECTIVENESS VALUE TYPE: Wet Pond

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	9.71	19	1.84	7.87
Developed, Low Intensity	4.27	49	2.09	2.18
Shrub/Scrub	0.98	0		0.98
Deciduous Forest	4.90	0		4.90
Total	19.86		3.94	15.92

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.94	21.15	1.46	1,504.78	5%	10%	10%	4.16	0.57	592.46
Pervious, Developed	15.92	14.09	0.36	185.12	5%	10%	10%	11.22	0.57	294.76
Total Pollutant Reduction								15.38	1.15	887.22

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Sage Road Basin Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: End of the Sage Road cul-de-sac
GPS LOCATION: Lat: 39.942411 / Long: -75.565305
TOTAL DRAINAGE AREA TREATED (ac): 20.59
BMP EFFECTIVENESS VALUE TYPE: Dry Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	17.13	19	3.25	13.88
Developed, Low Intensity	1.27	49	0.62	0.65
Developed, Medium Intensity	0.01	79	0.01	0.00
Shrub/Scrub	1.59	0		1.59
Deciduous Forest	0.60	0		0.60
Total	20.59		3.88	16.72

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.88	21.15	1.46	1,504.78	5%	10%	10%	4.10	0.57	583.85
Pervious, Developed	16.72	14.09	0.36	185.12	5%	10%	10%	11.78	0.60	309.52
Total Pollutant Reduction								15.88	1.17	893.38

- NLCD 2011 Land Use and Areas
- Highest % of impervious used from each NLCD 2011 definition per PADEP
- From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
- Per PADEP NPDES BMP Effectiveness Values Table
- Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Arbor View Wet Pond
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Hidden Pond Way
GPS LOCATION: Lat: 39.925 / Long: -75.589
TOTAL DRAINAGE AREA TREATED (ac): 13.42
BMP EFFECTIVENESS VALUE TYPE: Wet Pond

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.68	21.15	1.46	1,504.78	20%	45%	60%	7.11	1.10	1516.82
Pervious, Developed	11.74	14.09	0.36	185.12	20%	45%	60%	33.08	1.90	1303.99
Total								40.19	3.01	2,820.80

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Arbor View Infiltration Trench
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Hidden Pond Way
GPS LOCATION: Lat: 39.926 / Long: -75.587
TOTAL DRAINAGE AREA TREATED (ac): 5.32
BMP EFFECTIVENESS VALUE TYPE: Filtering Practices w/ Sand, Veg.

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	0.00	21.15	1.46	1,504.78	85%	85%	95%	0.04	0.00	2.86
Pervious, Developed	5.318	14.09	0.36	185.12	85%	85%	95%	63.69	1.63	935.24
Total								63.73	1.63	938.10

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Stetson Middle School Basin
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Stetson Middle School
GPS LOCATION: Lat: 39.9289 / Long: -75.5866
TOTAL DRAINAGE AREA TREATED (ac): 4.88
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land - Pollutant Reduction:

Land Use ^{1,2}	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN	TP	Sediment	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	0.59	21.15	1.46	1,504.78	20%	20%	60%	2.50	0.17	532.69
Pervious, Developed	4.29	14.09	0.36	185.12	20%	20%	60%	12.09	0.31	476.50
Total								14.58	0.48	1,009.19

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: Dunvegan Road Basin Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Intersection of S. New Street and Dunvegan Road
GPS LOCATION: Lat: 39.9288 / Long: -75.5937
TOTAL DRAINAGE AREA TREATED (ac): 9.9
BMP EFFECTIVENESS VALUE TYPE: Dry Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	8.99	19	1.71	7.28
Mixed Forest	0.1			0.1
Shrub/Scrub	0.81			0.81
Total	9.90		1.71	8.19

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.71	21.15	1.46	1,504.78	5%	10%	10%	1.81	0.25	257.03
Pervious, Developed	8.19	14.09	0.36	185.12	5%	10%	10%	5.77	0.29	151.65
Total Pollutant Reduction								7.58	0.54	408.68

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME: General Greene Basin B Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine Creek
COUNTY: Chester
BMP TYPE: Existing BMP
LOCATION: Southwest of the intersection of General Greene Drive and S. New Street
GPS LOCATION: Lat: 39.925 / Long: -75.599
TOTAL DRAINAGE AREA TREATED (ac): 12.38
BMP EFFECTIVENESS VALUE TYPE: Dry Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	12.09	19	2.30	9.79
Developed, Low Intensity	0.04	49	0.02	0.02
Deciduous Forest	0.25			0.25
Total	12.38		2.32	10.06

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	2.32	21.15	1.46	1,504.78	5%	10%	10%	2.45	0.34	348.61
Pervious, Developed	10.06	14.09	0.36	185.12	5%	10%	10%	7.09	0.36	186.29
Total Pollutant Reduction								9.54	0.70	534.90

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Existing BMPs

BMP NAME:	General Greene Basin A Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Upper Brandywine Creek
COUNTY:	Chester
BMP TYPE:	Existing BMP
LOCATION:	Behind 1006 and 1008 General Greene Drive
GPS LOCATION:	Lat: 39.924 / Long: -75.602
TOTAL DRAINAGE AREA TREATED (ac):	9.76
BMP EFFECTIVENESS VALUE TYPE:	Dry Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	9.43	19	1.79	7.64
Developed, low Intensity	0.31	49	0.15	0.16
Shrub/Scrub	0.02			0.02
Total	9.76		1.94	7.82

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.94	21.15	1.46	1,504.78	5%	10%	10%	2.06	0.28	292.47
Pervious, Developed	7.82	14.09	0.36	185.12	5%	10%	10%	5.51	0.28	144.70
Total Pollutant Reduction								7.56	0.57	437.17

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Tyson Park Bioswale
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Goose Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	901 Oakbourne Road
GPS LOCATION:	Lat: 39.9463/ Long: -75.5628
TOTAL DRAINAGE AREA TREATED (ac):	41.4
BMP EFFECTIVENESS VALUE TYPE:	Bioswale

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	32.74	19	6.22	26.52
Developed, Low Intensity	1.36	49	0.67	0.69
Developed, Medium Intensity	0.23	79	0.18	0.05
Shrub/Scrub	1.92			1.92
Deciduous Forest	5.16	0		5.16
Total	41.41		7.07	34.34

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Bioswale)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	7.07	21.15	1.46	1,504.78	70%	75%	80%	104.65	7.74	8509.47
Pervious, Developed	34.34	14.09	0.36	185.12	70%	75%	80%	338.71	9.27	5085.81
Total Pollutant Reduction								443.36	17.01	13,595.28

- NLCD 2011 Land Use and Areas
- Highest % of impervious used from each NLCD 2011 definition per PADEP
- From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
- Per PADEP NPDES BMP Effectiveness Values Table
- Assumed the retrofit was a bioswale



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Sage Road Basin Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Goose Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	End of the Sage Road cul-de-sac
GPS LOCATION:	Lat: 39.942411 / Long: -75.565305
TOTAL DRAINAGE AREA TREATED (ac):	20.59
BMP EFFECTIVENESS VALUE TYPE:	Dry Extended Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	17.13	19	3.25	13.88
Developed, Low Intensity	1.27	49	0.62	0.65
Developed, Medium Intensity	0.01	79	0.01	0.00
Shrub/Scrub	1.59	0		1.59
Deciduous Forest	0.60	0		0.60
Total	20.59		3.88	16.72

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.88	21.15	1.46	1,504.78	15%	10%	50%	12.31	0.57	2919.27
Pervious, Developed	16.72	14.09	0.36	185.12	15%	10%	50%	35.34	0.60	1547.60
Total Pollutant Reduction								47.65	1.17	4,466.88

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Wild Goose Farms Basin B Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Goose Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: Intersection of Picket Way and Trellis Lane
GPS LOCATION: Lat: 39.9445 / Long: -75.5734
TOTAL DRAINAGE AREA TREATED (ac): 9.95
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin w/ Low Flow Channel

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	5.12	19	0.97	4.15
Developed, Low Intensity	2.39	49	1.17	1.22
Developed, Medium Intensity	1.54	79	1.22	0.32
Developed, High Intensity	0.66	100	0.66	
Woody Wetlands	0.24	0		0.24
Total	9.95		4.02	5.93

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	4.02	21.15	1.46	1,504.78	20%	20%	60%	17.01	1.17	3629.98
Pervious, Developed	5.93	14.09	0.36	185.12	20%	20%	60%	16.71	0.43	658.60
Total Pollutant Reduction								33.72	1.60	4,288.58

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Wild Goose Farms Basin A Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Goose Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: Intersection of Trellis Lane and Oakbourne Road
GPS LOCATION: Lat: 39.9427 / Long: -75.5720
TOTAL DRAINAGE AREA TREATED (ac): 5.21
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin w/ Low Flow Channel

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	3.16	19	0.60	2.56
Developed, Low Intensity	1.82	49	0.89	0.93
Developed, Medium Intensity	0.06	79	0.05	0.01
Developed, High Intensity		100		
Woody Wetlands	0.17	0		0.17
Total	5.21		1.54	3.67

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.54	21.15	1.46	1,504.78	20%	20%	60%	6.51	0.45	1390.06
Pervious, Developed	3.67	14.09	0.36	185.12	20%	20%	60%	10.34	0.26	407.68
Total Pollutant Reduction								16.86	0.71	1,797.73

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Pleasant Grove Stream Restoration
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: East Branch Chester Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: Pleasant Grove Development
GPS LOCATION: Lat: 39.9264/ Long: -75.5662
TOTAL DRAINAGE AREA TREATED (ac):
BMP EFFECTIVENESS VALUE TYPE: Stream Restoration

Stream Restoration - Pollutant Reduction:

Location	Restoration Length (ft)	BMP Effectiveness Value ¹			Pollutant Load Reduction		
		TN (lbs/ft/yr)	TP (lbs/ft/yr)	Sediment (lbs/ft/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Pleasant Grove	1600.00	0.075	0.068	44.88	120.00	108.80	71808.00
Total	1600.00				120.00	108.80	71,808.00

1. Per PADEP NPDES BMP Effectiveness Values Table



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Pleasant Grove Stream Restoration- Constructed Wetlands
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Upper Brandywine Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	Pleasant Grove Development
GPS LOCATION:	Lat: 39.9264/ Long: -75.5662
TOTAL DRAINAGE AREA TREATED (ac):	21.36
BMP EFFECTIVENESS VALUE TYPE:	Wetlands

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	19.64	19	3.73	15.91
Developed, Low Intensity	0.73	49	0.36	0.37
Deciduous Forest	0.09			
Woody Wetlands	0.90			0.90
Total	21.36		4.09	17.18

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ for the Proposed BMP ⁵			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	4.09	21.15	1.46	1,504.78	20%	45%	60%	17.30	2.69	3692.10
Pervious, Developed	17.18	14.09	0.36	185.12	20%	45%	60%	48.42	2.78	1908.29
Total Pollutant Reduction								65.71	5.47	5,600.39

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was a constructed wetland



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Dunvegan Road Basin Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: Intersection of S. New Street and Dunvegan Road
GPS LOCATION: Lat: 39.9288 / Long: -75.5937
TOTAL DRAINAGE AREA TREATED (ac): 9.9
BMP EFFECTIVENESS VALUE TYPE: Dry Extended Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	8.99	19	1.71	7.28
Mixed Forest	0.1			0.1
Shrub/Scrub	0.81			0.81
Total	9.90		1.71	8.19

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.71	21.15	1.46	1,504.78	15%	10%	50%	5.42	0.25	1285.16
Pervious, Developed	8.19	14.09	0.36	185.12	15%	10%	50%	17.31	0.29	758.24
Total Pollutant Reduction								22.73	0.54	2,043.40

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	General Greene Basin B Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Upper Brandywine Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	Southwest of the intersection of General Greene Drive and S. New Street
GPS LOCATION:	Lat: 39.925 / Long: -75.599
TOTAL DRAINAGE AREA TREATED (ac):	12.38
BMP EFFECTIVENESS VALUE TYPE:	Dry Extended Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	12.09	19	2.30	9.79
Developed, Low Intensity	0.04	49	0.02	0.02
Deciduous Forest	0.25			0.25
Total	12.38		2.32	10.06

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	2.32	21.15	1.46	1,504.78	15%	10%	50%	7.35	0.34	1743.06
Pervious, Developed	10.06	14.09	0.36	185.12	15%	10%	50%	21.27	0.36	931.46
Total Pollutant Reduction								28.62	0.70	2,674.52

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	General Greene Basin A Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Upper Brandywine Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	Behind 1006 and 1008 General Greene Drive
GPS LOCATION:	Lat: 39.924 / Long: -75.602
TOTAL DRAINAGE AREA TREATED (ac):	9.76
BMP EFFECTIVENESS VALUE TYPE:	Dry Extended Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	9.43	19	1.79	7.64
Developed, low Intensity	0.31	49	0.15	0.16
Shrub/Scrub	0.02			0.02
Total	9.76		1.94	7.82

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.94	21.15	1.46	1,504.78	15%	10%	50%	6.17	0.28	1462.35
Pervious, Developed	7.82	14.09	0.36	185.12	15%	10%	50%	16.52	0.28	723.49
Total Pollutant Reduction								22.69	0.57	2,185.83

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Radley Run Stream Restoration
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: West side of S. New Street
GPS LOCATION: Lat: 39.9158 / Long: -75.5967
TOTAL DRAINAGE AREA TREATED (ac):
BMP EFFECTIVENESS VALUE TYPE: Stream Restoration

Stream Restoration - Pollutant Reduction:

Location	Restoration Length (ft)	BMP Effectiveness Value ¹			Pollutant Load Reduction		
		TN (lbs/ft/yr)	TP (lbs/ft/yr)	Sediment (lbs/ft/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Radley Run	260.00	0.075	0.068	44.88	19.50	17.68	11668.80
Total	260.00				19.50	17.68	11,668.80

1. Per PADEP NPDES BMP Effectiveness Values Table



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Radley Run Stream Restoration- Constructed Wetlands
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Upper Brandywine Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: West side of S. New Street
GPS LOCATION: Lat: 39.9158 / Long: -75.5967
TOTAL DRAINAGE AREA TREATED (ac): 1.92
BMP EFFECTIVENESS VALUE TYPE: Wetlands

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	0.68	19	0.13	0.55
Deciduous Forest	0.71			0.71
Mixed Forest	0.03			0.03
Shrub/Scrub	0.41			0.41
Cultivated Crops	0.09			0.09
Total	1.92		0.13	1.79

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ for the Proposed BMP ⁵			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	0.13	21.15	1.46	1,504.78	20%	45%	60%	0.55	0.08	116.65
Pervious, Developed	1.79	14.09	0.36	185.12	20%	45%	60%	5.05	0.29	198.91
Total Pollutant Reduction								5.59	0.37	315.56

- NLCD 2011 Land Use and Areas
- Highest % of impervious used from each NLCD 2011 definition per PADEP
- From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
- Per PADEP NPDES BMP Effectiveness Values Table
- Assumed the retrofit was a constructed wetland



Pollutant Load Reduction by BMPs

MUNICIPALITY:
MS4 SEWER SHED:
COUNTY:

Westtown Township
 Chester Creek, East Branch of Chester Creek, Goose Creek, Ridley Creek, Upper Brandywine Creek
 Chester

Existing BMP Name	BMP Drainage Area (ac)	Pollutant Reduction by BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Westtown Reserve Basin	17.27	64.52	3.71	10810.08
Simon and Jude Basin	6.00	20.07	0.92	2440.06
Kolbe Lane Basin	12.35	38.11	1.4	3231.51
West Glen Basin	14.93	48.27	2.04	5134.29
Kilduff Circle Basin	35.39	106.15	3.55	7548.24
Thorne Drive Basin	19.86	15.38	1.15	887.22
Sage Road Basin	20.59	15.88	1.17	893.38
Total	126.39	308.38	13.94	30944.78

PRP	Storm sewershed Area (ac)	Existing Pollutant without BMPs			Pollutant Load with BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Chester Creek	2,494.00	38,363.14	1,399.96	1,064,074.48	38,054.76	1,386.02	1,033,129.70
Total	2,494.00	38,363.14	1,399.96	1,064,074.48	38,054.76	1,386.02	1,033,129.70

Existing BMP Name	BMP Drainage Area (ac)	Pollutant Reduction by BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Arborview Wet Pond	13.42	40.19	3.01	2820.8
Arborview Infiltration Trench	5.32	63.73	1.63	938.1
Stetson Middle School Basin	4.88	14.58	0.48	1009.19
Dunvegan Road Basin	9.9	7.58	0.54	408.68
General Greene Basin B	12.38	9.54	0.70	534.90
General Greene Basin A	9.76	7.56	0.57	437.17
Total	55.66	143.18	6.93	6148.84

PRP	Storm sewershed Area (ac)	Existing Pollutant without BMPs			Pollutant Load with BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Upper Brandywine	510.29	7,720.19	266.31	193,571.35	7,577.01	259.38	187,422.51
Total	510.29	7,720.19	266.31	193,571.35	7,577.01	259.38	187,422.51



Pollutant Load Reduction by BMPs

MUNICIPALITY:
MS4 SEWER SHED:
COUNTY:

Westtown Township
 Chester Creek, East Branch of Chester Creek, Goose Creek, Ridley Creek, Upper Brandywine Creek
 Chester

BMP Name	BMP Drainage Area (ac)	Pollutant Reduction by BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Chester Creek				
Tyson Park Bioswale	41.4	443.27	17.01	13,595.28
Thorne Drive Basin Retrofit	19.86	46.14	1.15	4,436.12
Sage Road Basin Retrofit	20.59	47.65	1.17	4,466.88
Wild Goose Farms Basin B Retrofit	9.95	33.72	1.6	4,288.58
Wild Goose Farms Basin A Retrofit	5.21	16.86	0.71	1,797.73
Pleasant Grove Stream Restoration	21.36	185.71	114.27	77,408.39
Chester Creek Total	118.37	773.35	135.91	105,992.98
Upper Brandywine Creek				
Dunvegan Road Basin Retrofit	9.9	22.73	0.54	2,043.40
General Greene Basin B Retrofit	12.38	28.62	0.7	2,674.52
General Greene Basin A Retrofit	9.76	22.69	0.57	2,185.83
Radley Run Stream Restoration	1.92	25.09	18.05	11,984.36
Upper Brandywine Total	33.96	99.13	19.86	18,888.11

PRP Planning Area	Planning Area (ac)	Existing Pollutant without BMPs			Pollutant Load with BMPs			% Reduction		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN	TP	TSS [Sediment]
Chester/East Branch/Ridley (includes Goose)	2,494.00	38,054.76	1,386.02	1,033,129.70	37,281.41	1,250.11	927,136.72	2.03%	9.81%	10.26%
Upper Brandywine (Plum/Radley)	510.29	7,577.01	259.38	187,422.51	7,477.88	239.52	168,534.40	1.31%	7.66%	10.08%



Conversion from NLCD 2011 Land Use Designation to Impervious and Pervious Areas

MUNICIPALITY: Westtown Township
 MS4 SEWER SHED: Goose Creek
 COUNTY: Chester

Developed Land:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	332.55	19	63.18	269.37
Developed, Low Intensity	28.73	49	14.08	14.65
Developed, Medium Intensity	5.66	79	4.47	1.19
Developed, High Intensity	0.67	100	0.67	
Grassland/Herbaceous	1.56	0		1.56
Hay/Pasture	17.35	0		17.35
Cultivated Crops	3.78	0		3.78
Shrub/Scrub	35.28	0		35.28
Woody Wetlands	6.64	0		6.64
Deciduous Forest	154.02	0		154.02
Evergreen Forest	2.65	0		2.65
Mixed Forest	8.35	0		8.35
Total	597.24		82.40	514.84

Existing Loads using Chesapeake Bay Loading Rates without BMPs

MUNICIPALITY: Westtown Township
 MS4 SEWER SHED: Goose Creek
 COUNTY: Chester

Developed Land:

Land Use	Area (ac)	Pollutant Loading Rates ¹			Pollutant Load		
		TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS [Sediment] (lbs/ac/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	82.40	21.15	1.46	1,504.78	1742.76	120.30	123993.87
Pervious, Developed	514.84	14.09	0.36	185.12	7254.10	185.34	95307.18
Goose Creek Total Pollutant Load					8,996.86	305.65	219,301.05

1. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Thorne Drive Basin Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Chester Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	Corner of Little Shiloh Rd and Thorne Dr
GPS LOCATION:	Lat: 39.947659 / Long: -75.570443
TOTAL DRAINAGE AREA TREATED (ac):	19.86
BMP EFFECTIVENESS VALUE TYPE:	Wet Pond

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	9.71	19	1.84	7.87
Developed, Low Intensity	4.27	49	2.09	2.18
Shrub/Scrub	0.98	0		0.98
Deciduous Forest	4.90	0		4.90
Total	19.86		3.94	15.92

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.94	21.15	1.46	1,504.78	5%	10%	10%	4.16	0.57	592.46
Pervious, Developed	15.92	14.09	0.36	185.12	5%	10%	10%	11.22	0.57	294.76
Total Pollutant Reduction								15.38	1.15	887.22

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Sage Road Basin Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Chester Creek
COUNTY: Chester
BMP TYPE: Proposed BMP
LOCATION: End of the Sage Road cul-de-sac
GPS LOCATION: Lat: 39.942411 / Long: -75.565305
TOTAL DRAINAGE AREA TREATED (ac): 20.59
BMP EFFECTIVENESS VALUE TYPE: Dry Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	17.13	19	3.25	13.88
Developed, Low Intensity	1.27	49	0.62	0.65
Developed, Medium Intensity	0.01	79	0.01	0.00
Shrub/Scrub	1.59	0		1.59
Deciduous Forest	0.60	0		0.60
Total	20.59		3.88	16.72

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.88	21.15	1.46	1,504.78	5%	10%	10%	4.10	0.57	583.85
Pervious, Developed	16.72	14.09	0.36	185.12	5%	10%	10%	11.78	0.60	309.52
Total Pollutant Reduction								15.88	1.17	893.38

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Tyson Park Bioswale
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Goose Creek
COUNTY: Chester
RETROFIT CLASS: Proposed BMP
LOCATION: 901 Oakbourne Road
GPS LOCATION: Lat: 39.9463/ Long: -75.5628
TOTAL DRAINAGE AREA TREATED (ac): 41.4
TYPE OF BMP: Bioswale

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	32.74	19	6.22	26.52
Developed, Low Intensity	1.36	49	0.67	0.69
Developed, Medium Intensity	0.23	79	0.18	0.05
Shrub/Scrub	1.92			1.92
Deciduous Forest	5.16	0		5.16
Total	41.41		7.07	34.34

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Bioswale)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	7.07	21.15	1.46	1,504.78	70%	75%	80%	104.65	7.74	8509.47
Pervious, Developed	34.34	14.09	0.36	185.12	70%	75%	80%	338.71	9.27	5085.81
Total Pollutant Reduction								443.36	17.01	13,595.28

- NLCD 2011 Land Use and Areas
- Highest % of impervious used from each NLCD 2011 definition per PADEP
- From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
- Per PADEP NPDES BMP Effectiveness Values Table
- Assumed the retrofit was a bioswale



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Thorne Drive Basin Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Goose Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	Corner of Little Shiloh Rd and Thorne Dr
GPS LOCATION:	Lat: 39.947659 / Long: -75.570443
TOTAL DRAINAGE AREA TREATED (ac):	19.86
BMP EFFECTIVENESS VALUE TYPE:	Wet Pond

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	9.71	19	1.84	7.87
Developed, Low Intensity	4.27	49	2.09	2.18
Shrub/Scrub	0.98	0		0.98
Deciduous Forest	4.90	0		4.90
Total	19.86		3.94	15.92

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.94	21.15	1.46	1,504.78	15%	10%	50%	12.49	0.57	2962.31
Pervious, Developed	15.92	14.09	0.36	185.12	15%	10%	50%	33.65	0.57	1473.81
Total Pollutant Reduction								46.14	1.15	4,436.12

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Sage Road Basin Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Goose Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	End of the Sage Road cul-de-sac
GPS LOCATION:	Lat: 39.942411 / Long: -75.565305
TOTAL DRAINAGE AREA TREATED (ac):	20.59
BMP EFFECTIVENESS VALUE TYPE:	Dry Extended Detention Basin

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	17.13	19	3.25	13.88
Developed, Low Intensity	1.27	49	0.62	0.65
Developed, Medium Intensity	0.01	79	0.01	0.00
Shrub/Scrub	1.59	0		1.59
Deciduous Forest	0.60	0		0.60
Total	20.59		3.88	16.72

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.88	21.15	1.46	1,504.78	15%	10%	50%	12.31	0.57	2919.27
Pervious, Developed	16.72	14.09	0.36	185.12	15%	10%	50%	35.34	0.60	1547.60
Total Pollutant Reduction								47.65	1.17	4,466.88

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Wild Goose Farms Basin B Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Goose Creek
COUNTY: Chester
RETROFIT CLASS: Proposed BMP
LOCATION: Intersection of Picket Way and Trellis Lane
GPS LOCATION: Lat: 39.9445 / Long: -75.5734
TOTAL DRAINAGE AREA TREATED (ac): 9.95
TYPE OF BMP: Low-Flow Channel Retrofit (Extended Detention)

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	5.12	19	0.97	4.15
Developed, Low Intensity	2.39	49	1.17	1.22
Developed, Medium Intensity	1.54	79	1.22	0.32
Developed, High Intensity	0.66	100	0.66	
Woody Wetlands	0.24	0		0.24
Total	9.95		4.02	5.93

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	4.02	21.15	1.46	1,504.78	20%	20%	60%	17.01	1.17	3629.98
Pervious, Developed	5.93	14.09	0.36	185.12	20%	20%	60%	16.71	0.43	658.60
Total Pollutant Reduction								33.72	1.60	4,288.58

- NLCD 2011 Land Use and Areas
- Highest % of impervious used from each NLCD 2011 definition per PADEP
- From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
- Per PADEP NPDES BMP Effectiveness Values Table
- Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Wild Goose Farms Basin A Retrofit
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Goose Creek
COUNTY: Chester
RETROFIT CLASS: Existing BMP
LOCATION: Intersection of Trellis Lane and Oakbourne Road
GPS LOCATION: Lat: 39.9427 / Long: -75.5720
TOTAL DRAINAGE AREA TREATED (ac): 5.21
TYPE OF BMP: Low-Flow Channel Retrofit (Extended Detention)

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	3.16	19	0.60	2.56
Developed, Low Intensity	1.82	49	0.89	0.93
Developed, Medium Intensity	0.06	79	0.05	0.01
Developed, High Intensity		100		
Woody Wetlands	0.17	0		0.17
Total	5.21		1.54	3.67

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	1.54	21.15	1.46	1,504.78	20%	20%	60%	6.51	0.45	1390.06
Pervious, Developed	3.67	14.09	0.36	185.12	20%	20%	60%	10.34	0.26	407.68
Total Pollutant Reduction								16.86	0.71	1,797.73

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME: Stream Restoration
MUNICIPALITY: Westtown Township
MS4 SEWERSHED: Goose Creek
COUNTY: Chester
RETROFIT CLASS: Proposed BMP
LOCATION:
GPS LOCATION:
TOTAL DRAINAGE AREA TREATED (ac):
TYPE OF BMP: Stream Restoration

Stream Restoration - Pollutant Reduction:

Location	Restoration Length (ft)	BMP Effectiveness Value ¹			Pollutant Load Reduction		
		TN (lbs/ft/yr)	TP (lbs/ft/yr)	Sediment (lbs/ft/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Stream Restoration	2150.00	0.075	0.068	44.88	161.25	146.20	96492.00
Total	2150.00				161.25	146.20	96,492.00

1. Per PADEP NPDES BMP Effectiveness Values Table



**Long Term Goose Creek
Phosphorous Load Reduction by Existing BMPs**

MUNICIPALITY: Westtown Township
 MS4 SEWER SHED: Goose Creek
 COUNTY: Chester

BMP Name	BMP Drainage Area (ac)	Pollutant Reduction by BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Goose Creek Years 1-5				
Thorne Drive Basin Retrofit	19.86	15.38	1.15	887.22
Sage Road Basin Retrofit	22.44	15.88	1.17	893.38
Total	42.3	31.26	2.316452	1,780.60

TMDL MS4 Sewershed	Storm sewershed Area (ac)	Existing Pollutant without BMPs			Pollutant Load with BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Goose Creek - Years 1-5	597.24	8,996.66	305.65	219,301.05	8,965.40	257.60	217,520.45
Goose Creek - Long Term		8,996.66	305.65	219,301.05	8,996.66	305.65	219,301.05
Total Reduction	597.24	8,996.66	305.65	219,301.05	8,965.40	303.33	217,520.45



**Long Term Goose Creek
Phosphorous Load Reduction by BMPs**

MUNICIPALITY: Westtown Township
 MS4 SEWER SHED: Goose Creek
 COUNTY: Chester

BMP Name	BMP Drainage Area (ac)	Pollutant Reduction by BMPs		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Goose Creek Years 1-5				
Tyson Park Bioswale	41.4	443.36	17.01	13,595.28
Thorne Drive Basin Retrofit	19.86	46.14	1.15	4,436.12
Sage Road Basin Retrofit	20.59	47.65	1.17	4,466.88
Wild Goose Farms Basin B Retrofit	9.95	33.72	1.6	4,288.58
Wild Goose Farms Basin A Retrofit	5.21	16.86	0.71	1,797.73
Subtotal	97.01	587.73	21.64	28,584.59
Goose Creek Long-Term (>5 Years)				
Stream Restoration	2,150 l.f.	161.25	146.20	96,492.00
Subtotal		161.25	146.20	96,492.00
Total	97.01	748.98	167.84	125,076.59

TMDL	Storm sewershed Area (ac)	Existing Pollutant without BMPs			Pollutant Load with BMPs			% Reduction		
		TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)	TN	TP	TSS [Sediment]
MS4 Sewershed										
Goose Creek - Years 1-5	597.24	8,996.66	305.65	219,301.05	8,408.93	284.01	190,716.46	6.53%	7.08%	13.03%
Goose Creek - Long Term		8,996.66	305.65	219,301.05	8,835.41	159.45	122,809.05	1.79%	47.83%	44.00%
Total Reduction	597.24	8,996.66	305.65	219,301.05	8,247.68	137.81	94,224.46	8.33%	54.91%	57.03%

53.9% TP reduction required by Goose Creek TMDL





APPENDIX D

Existing and Proposed BMP Maps



ceg

Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

NOTES:

1. Drainage area to the proposed BMP is within the planning area.

2. Property Owners:
-Westtown Apartments Property Owner, LLC
67-4-40.1A

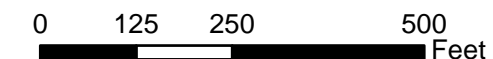
**CHESTER CREEK PRP
EXISTING BMP**

Legend

- ▲ Outfalls
- Drainage Area
- Stormwater Structures
 - Inlet, Township
 - Manhole, Township
 - ◇ Inflow, Township
 - ◇ Outflow, Township
 - ⊕ Inflow/Outflow, Township
 - Riser, Township
 - Inlet, State
 - Manhole, State
 - ◇ Inflow, State
 - ◇ Outflow, State
 - ⊕ Inflow/Outflow, State
 - Inlet, Private
 - Manhole, Private
 - ◇ Inflow, Private
 - ◇ Outflow, Private
 - ⊕ Inflow/Outflow, Private
 - Riser, Private
- Stormwater Conveyances
 - Private, Pipe
 - Private, Swale
 - State, Pipe
 - Township, Pipe
 - Township, Swale
 - Stream
 - Located Surface Waters
 - Index Contours
- Roads
 - Private
 - State
 - Township
- Parcels
 - Parcels
 - ▨ Township Owned Parcels
 - ▭ Township Boundary

**Westtown Reserve Dry
Extended Detention Basin**

1 inch = 250 feet

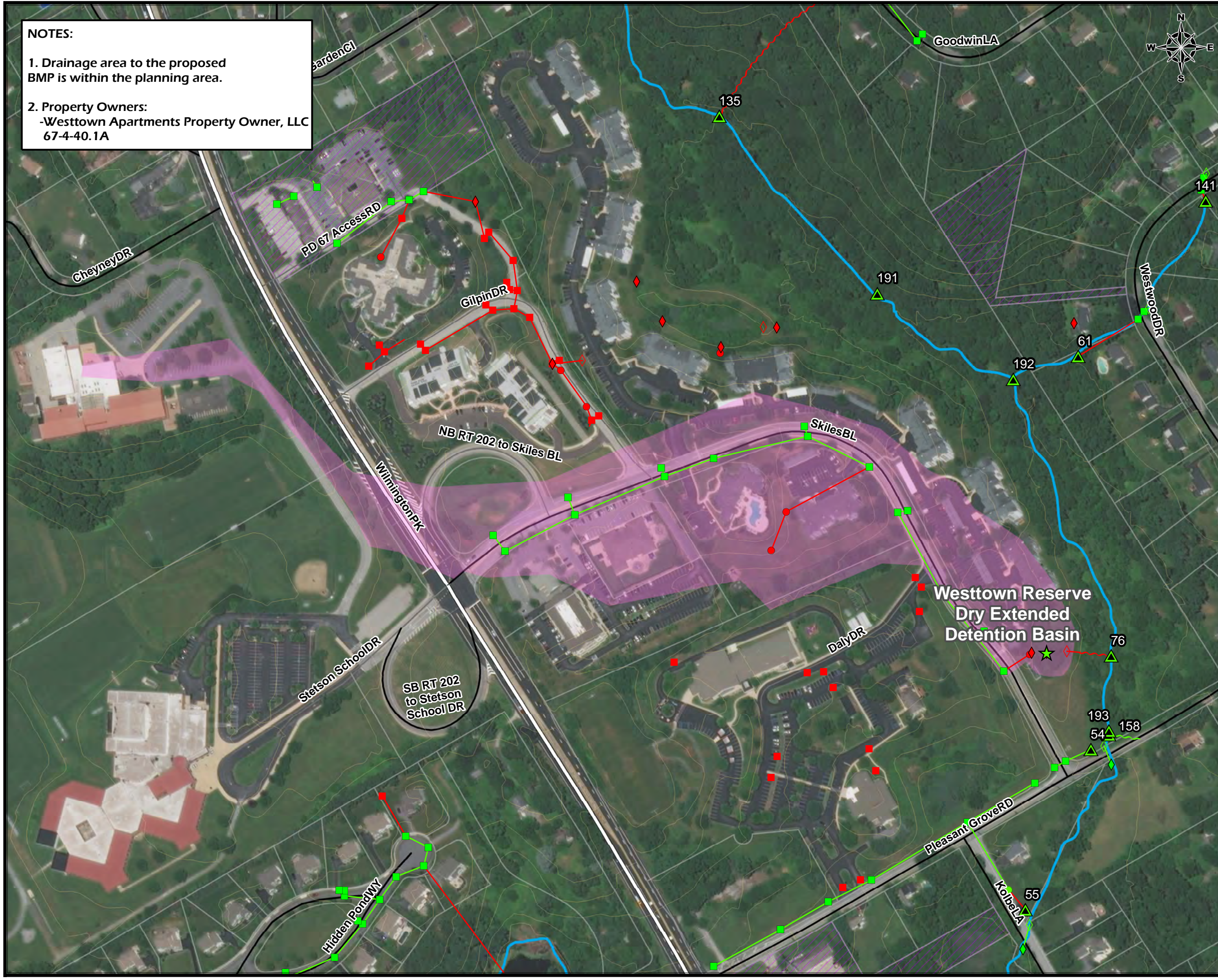


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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: March 2019



NOTES:

1. Drainage area to the proposed BMP is within the planning area.

2. Property Owners:
-Archdiocese of Philadelphia
67-2-42.3

**CHESTER CREEK PRP
EXISTING BMP**



Legend

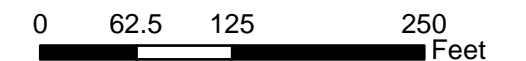
- Outfalls
- Drainage Area
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- Inflow, Township
- Outflow, Township
- Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- Inflow, State
- Outflow, State
- Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- Inflow, Private
- Outflow, Private
- Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- Index Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary

**Simon and Jude
Detention Basin**



**Simon and Jude
Detention Basin**

1 inch = 125 feet



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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: March 2019

NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-John Zabilowicz, Maryann Rock-Zabilowicz
67-4-104

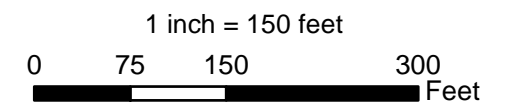
CHESTER CREEK PRP EXISTING BMP



Legend

- Outfalls
- Drainage Area
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- Inflow, Township
- Outflow, Township
- Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- Inflow, State
- Outflow, State
- Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- Inflow, Private
- Outflow, Private
- Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- Index Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary

Kolbe Lane Extended Detention Basin

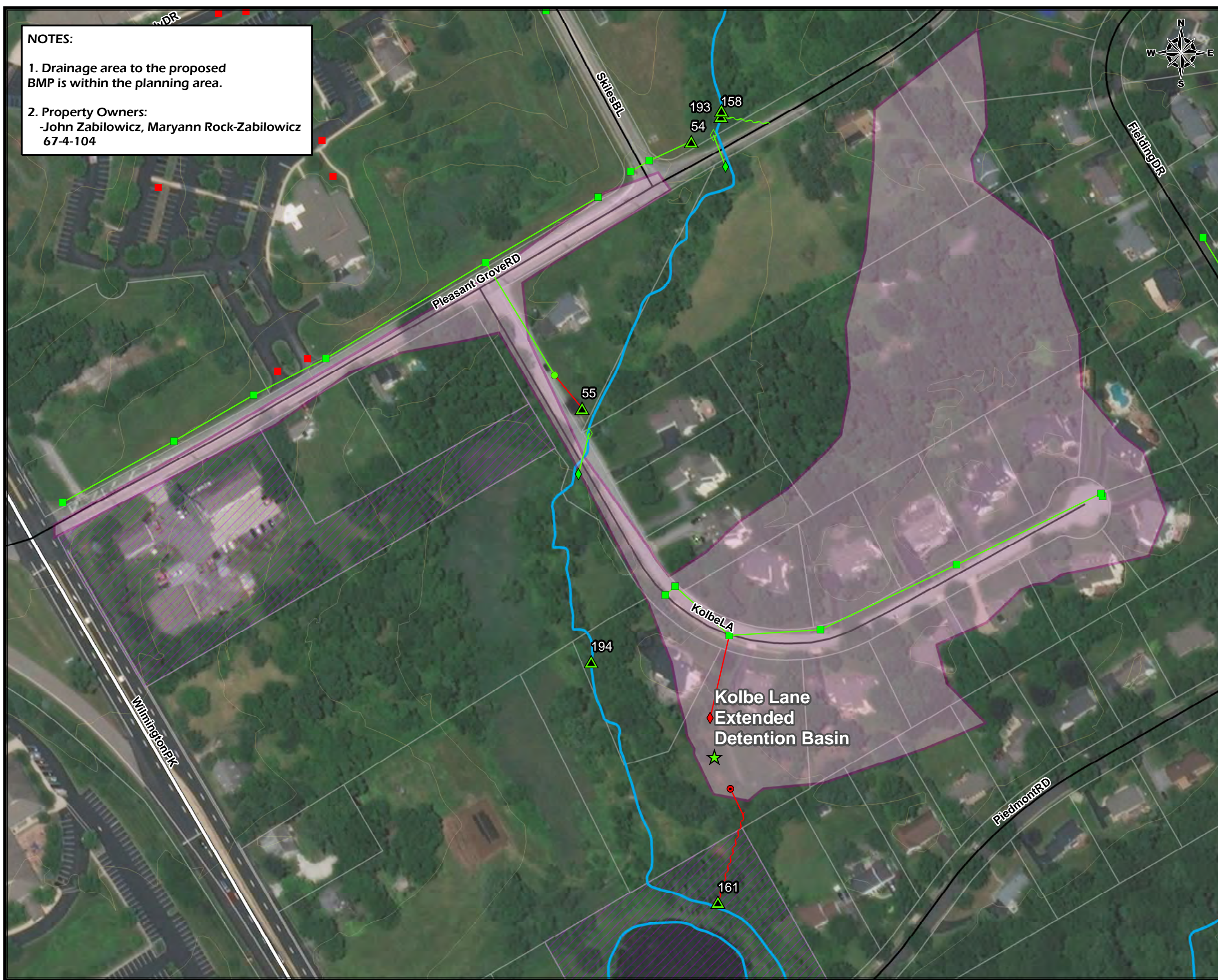


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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: March 2019



NOTES:

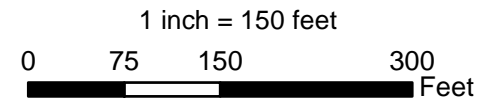
1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-West Glen Community Assoc.
67-4Q-43

**CHESTER CREEK PRP
EXISTING BMP**

Legend

- ▲ Outfalls
- Drainage Area
- Stormwater Structures
- Inlet, Township
- Manhole, Township
- ◇ Inflow, Township
- ◇ Outflow, Township
- + Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- ◇ Inflow, State
- ◇ Outflow, State
- + Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- ◇ Inflow, Private
- ◇ Outflow, Private
- + Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- Index Contours
- Roads
- Private
- State
- Township
- Parcels
- ▨ Township Owned Parcels
- ▬ Township Boundary

**West Glen
Extended Detention Basin**

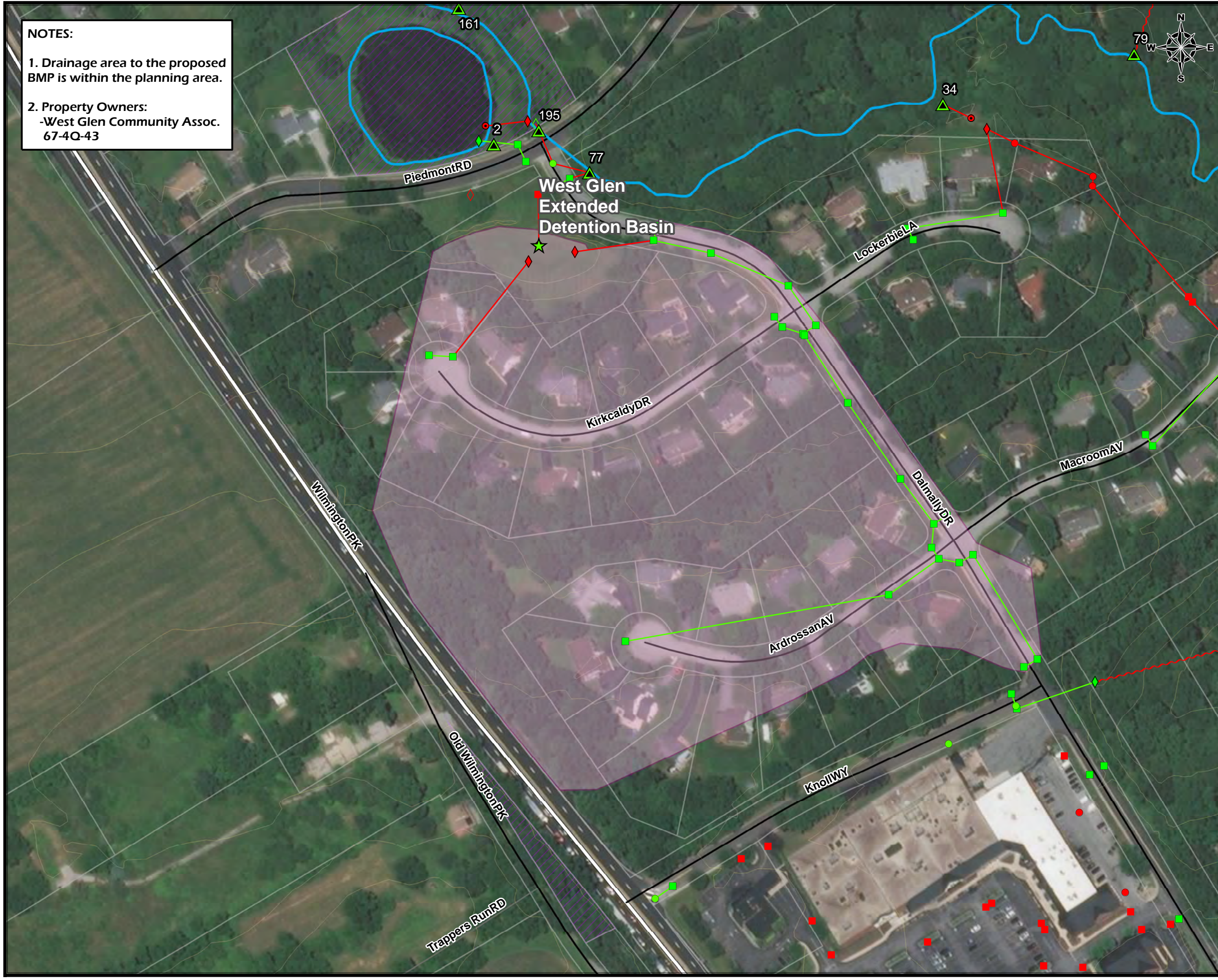


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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: March 2019



NOTES:

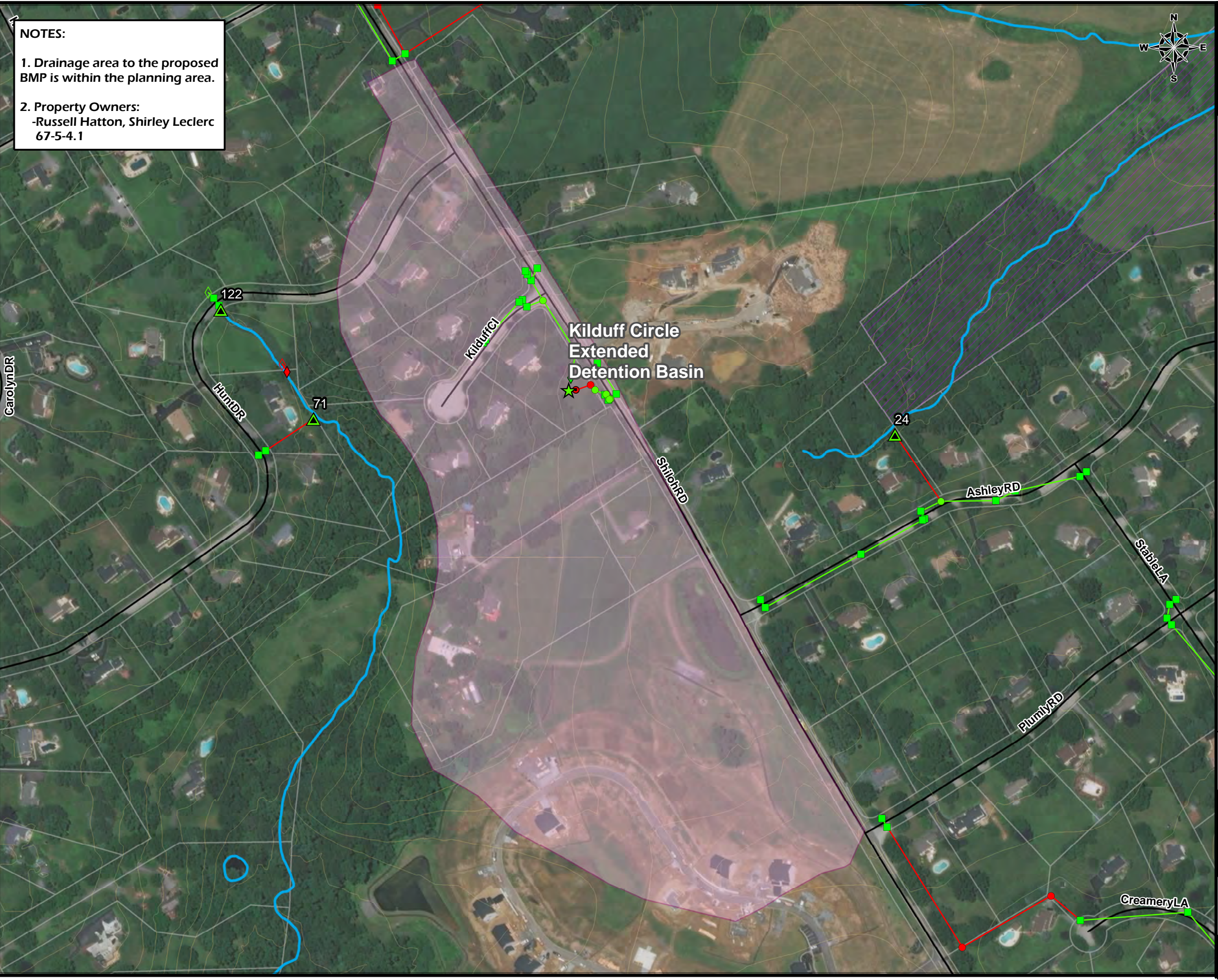
1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Russell Hatton, Shirley Leclerc
67-5-4.1

**CHESTER CREEK PRP
EXISTING BMP**



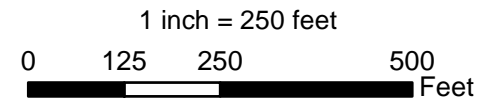
Legend

- ▲ Outfalls
- Drainage Area
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- ◇ Inflow, Township
- ◇ Outflow, Township
- + Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- ◇ Inflow, State
- ◇ Outflow, State
- + Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- ◇ Inflow, Private
- ◇ Outflow, Private
- + Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- Index Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary



**Kilduff Circle
Extended
Detention Basin**

**Kilduff Circle
Extended Detention Basin**



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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: March 2019

NOTES:

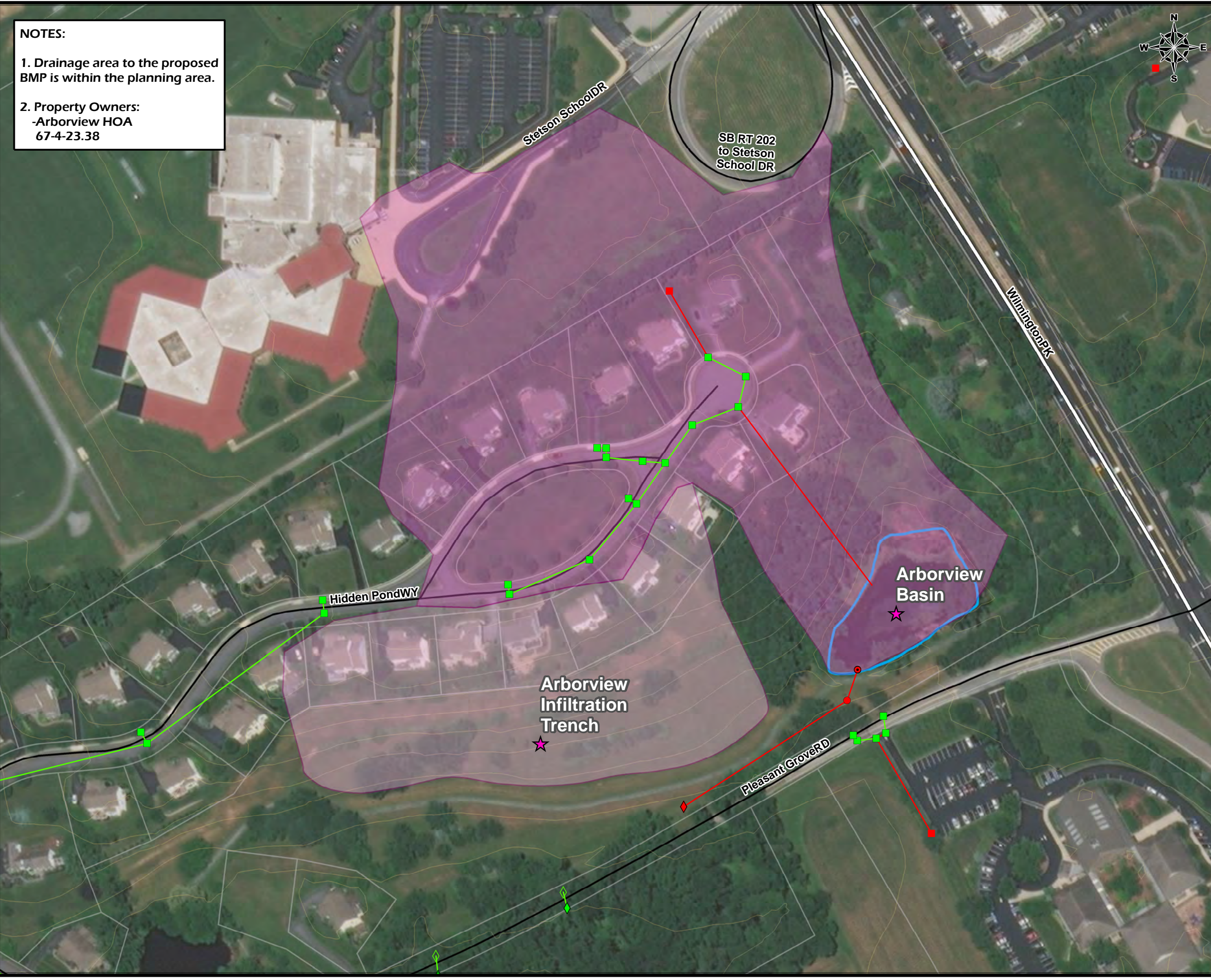
1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Arborview HOA
67-4-23.38



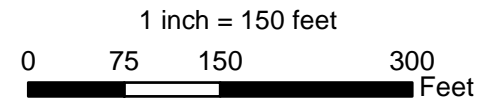
**UPPER BRANDYWINE CREEK PRP
EXISTING BMP**

Legend

- ▲ Outfalls
- Drainage Area
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- ◇ Inflow, Township
- ◇ Outflow, Township
- + Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- ◇ Inflow, State
- ◇ Outflow, State
- + Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- ◇ Inflow, Private
- ◇ Outflow, Private
- + Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- Index Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary



**Arborview Basin
Arborview Infiltration Trench**



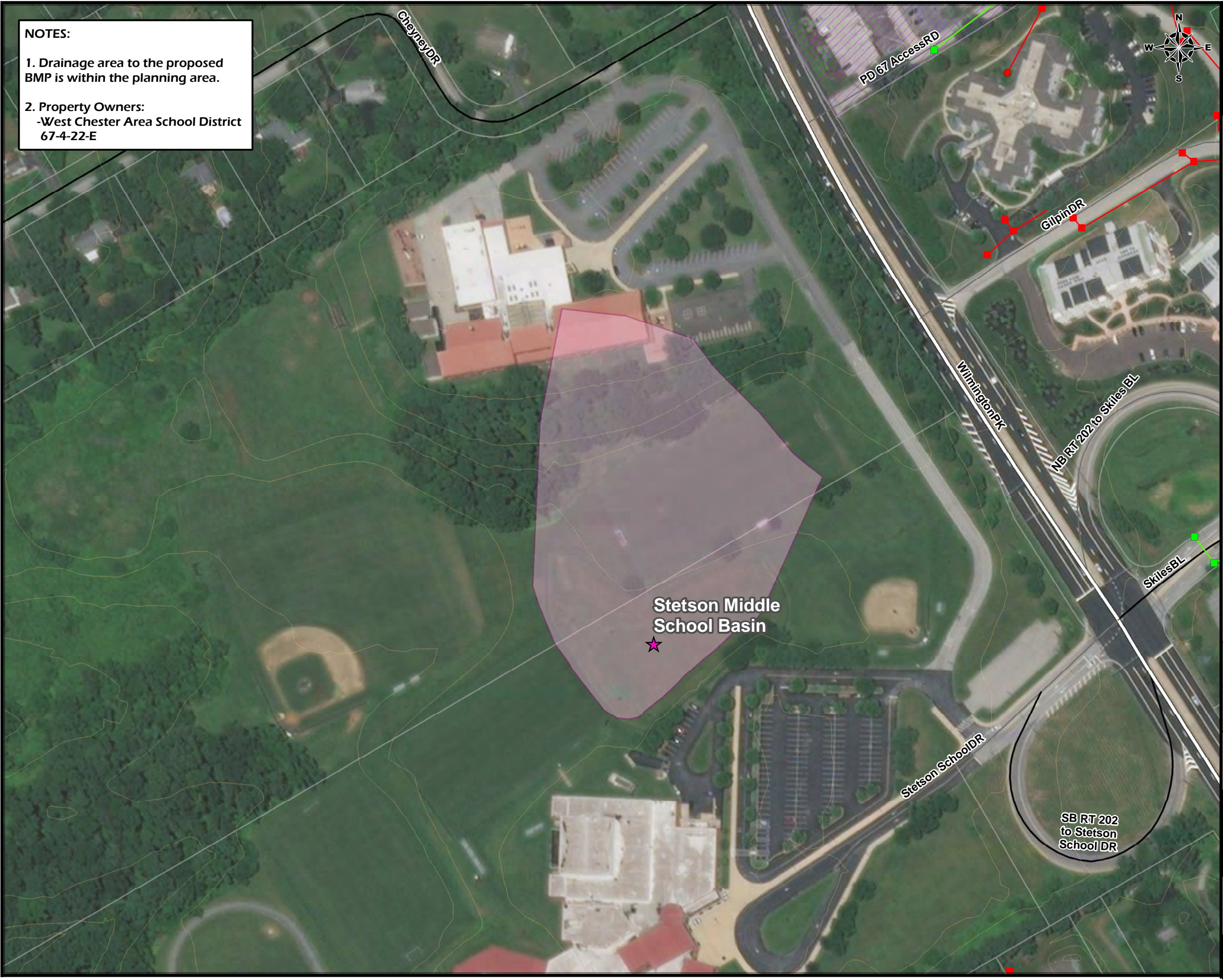
DISCLAIMER:
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MAP UPDATED: March 2019

NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-West Chester Area School District
67-4-22-E

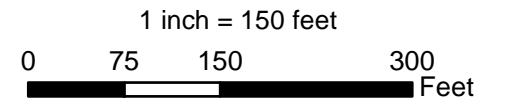


**UPPER BRANDYWINE CREEK PRP
EXISTING BMP**

Legend

- ▲ Outfalls
- ▭ Drainage Area
- Stormwater Structures
- Inlet, Township
- Manhole, Township
- ◇ Inflow, Township
- ◇ Outflow, Township
- + Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- ◇ Inflow, State
- ◇ Outflow, State
- + Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- ◇ Inflow, Private
- ◇ Outflow, Private
- + Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- ▭ Located Surface Waters
- Index Contours
- Roads
- Private
- State
- Township
- ▭ Parcels
- ▭ Township Owned Parcels
- ▭ Township Boundary

**Stetson Middle
School Basin**



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Westtown Township,
Chester County,
Pennsylvania

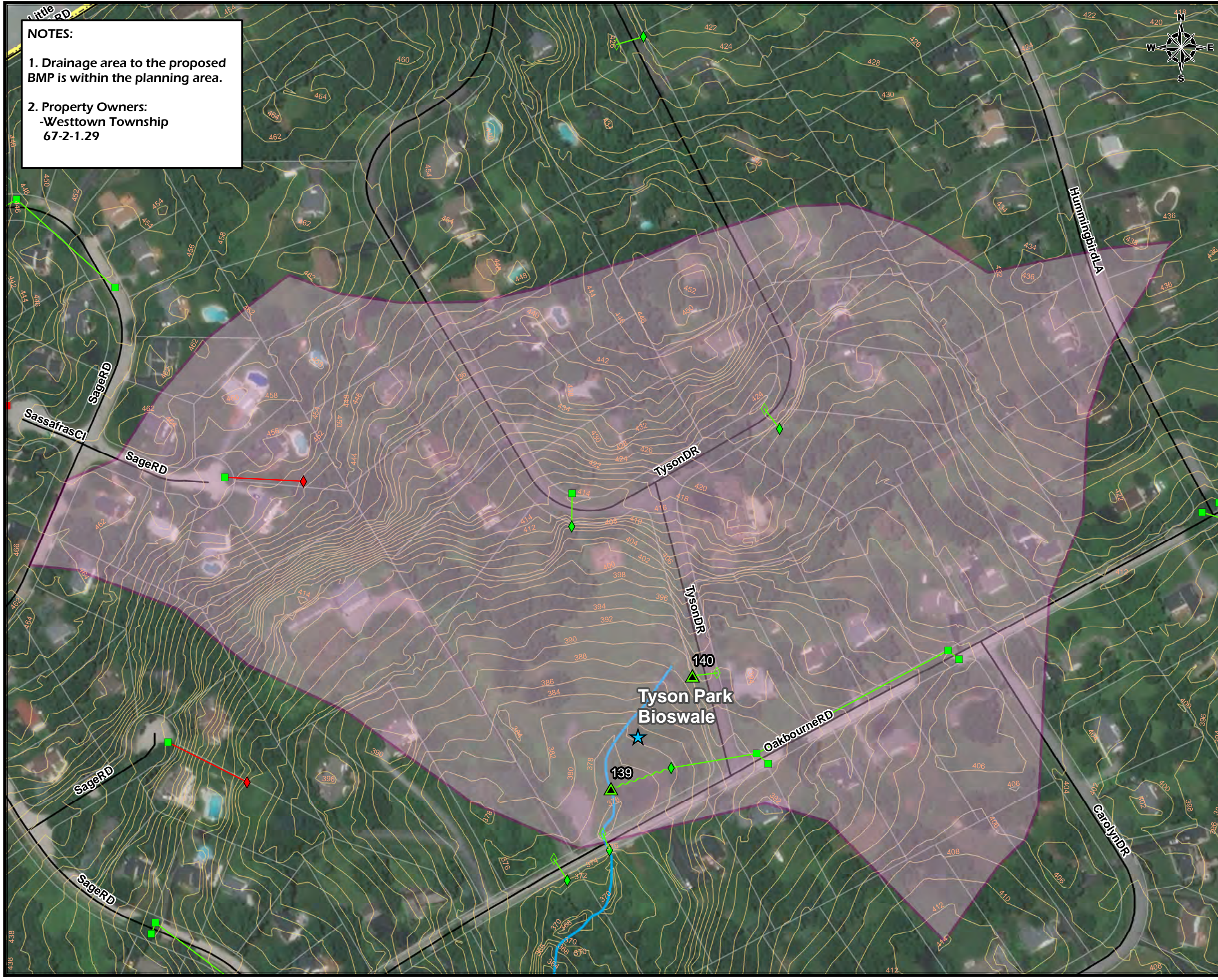
MAP UPDATED: March 2019

NOTES:

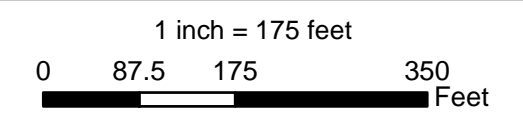
1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Westtown Township
67-2-1.29

CHESTER CREEK/GOOSE CREEK TMDL/PRP EXISTING BMP

- Legend**
- ▲ Outfalls
 - Tyson Park Bioswale Drainage Area
 - Stormwater Structures**
 - Inlet, Township
 - Manhole, Township
 - ◇ Inflow, Township
 - ◇ Outflow, Township
 - + Inflow/Outflow, Township
 - Riser, Township
 - Inlet, State
 - Manhole, State
 - ◇ Inflow, State
 - ◇ Outflow, State
 - + Inflow/Outflow, State
 - Inlet, Private
 - Manhole, Private
 - ◇ Inflow, Private
 - ◇ Outflow, Private
 - + Inflow/Outflow, Private
 - Riser, Private
 - Stormwater Conveyances**
 - Private, Pipe
 - Private, Swale
 - State, Pipe
 - Township, Pipe
 - Township, Swale
 - Stream
 - Located Surface Waters
 - 2ft Contours
 - Roads**
 - Private
 - State
 - Township
 - Parcels
 - Township Owned Parcels
 - Township Boundary



Tyson Park Bioswale



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MAP UPDATED: January 2019

NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Stream restoration length of approximately 1,600 L.F.
3. Property Owners:
-Westtown Township
-67-4M-43.1

CHESTER CREEK PRP

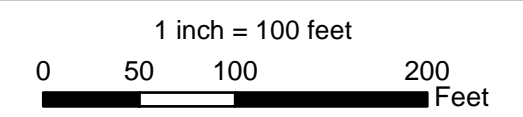
Legend

- Outfalls
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- Inflow, Township
- Outflow, Township
- Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- Inflow, State
- Outflow, State
- Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- Inflow, Private
- Outflow, Private
- Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- 2ft Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary



Pleasant Grove Stream Restoration

Pleasant Grove Stream Restoration



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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: January 2019

NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-James & Colleen Brookover,
James & Katherine McDermott
-67-4-28.65, 67-4-28.64

UPPER BRANDYWINE CREEK PRP



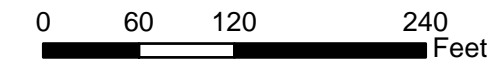
Legend

- Outfalls
- Dunvegan Road Basin Retrofit
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- Inflow, Township
- Outflow, Township
- Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- Inflow, State
- Outflow, State
- Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- Inflow, Private
- Outflow, Private
- Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- 2ft Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary

Dunvegan Road Basin Retrofit

Dunvegan Road Basin Retrofit

1 inch = 120 feet

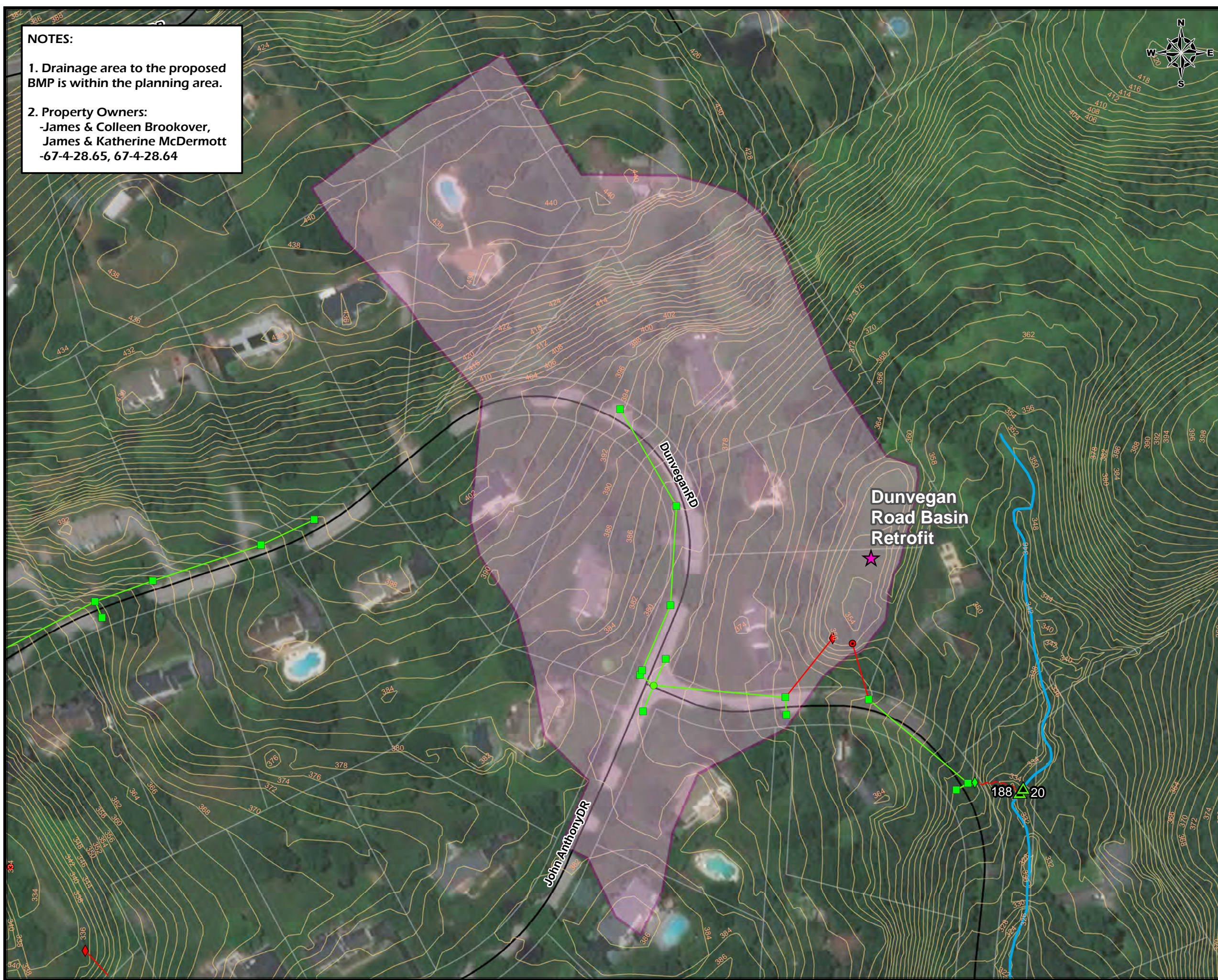


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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: January 2019

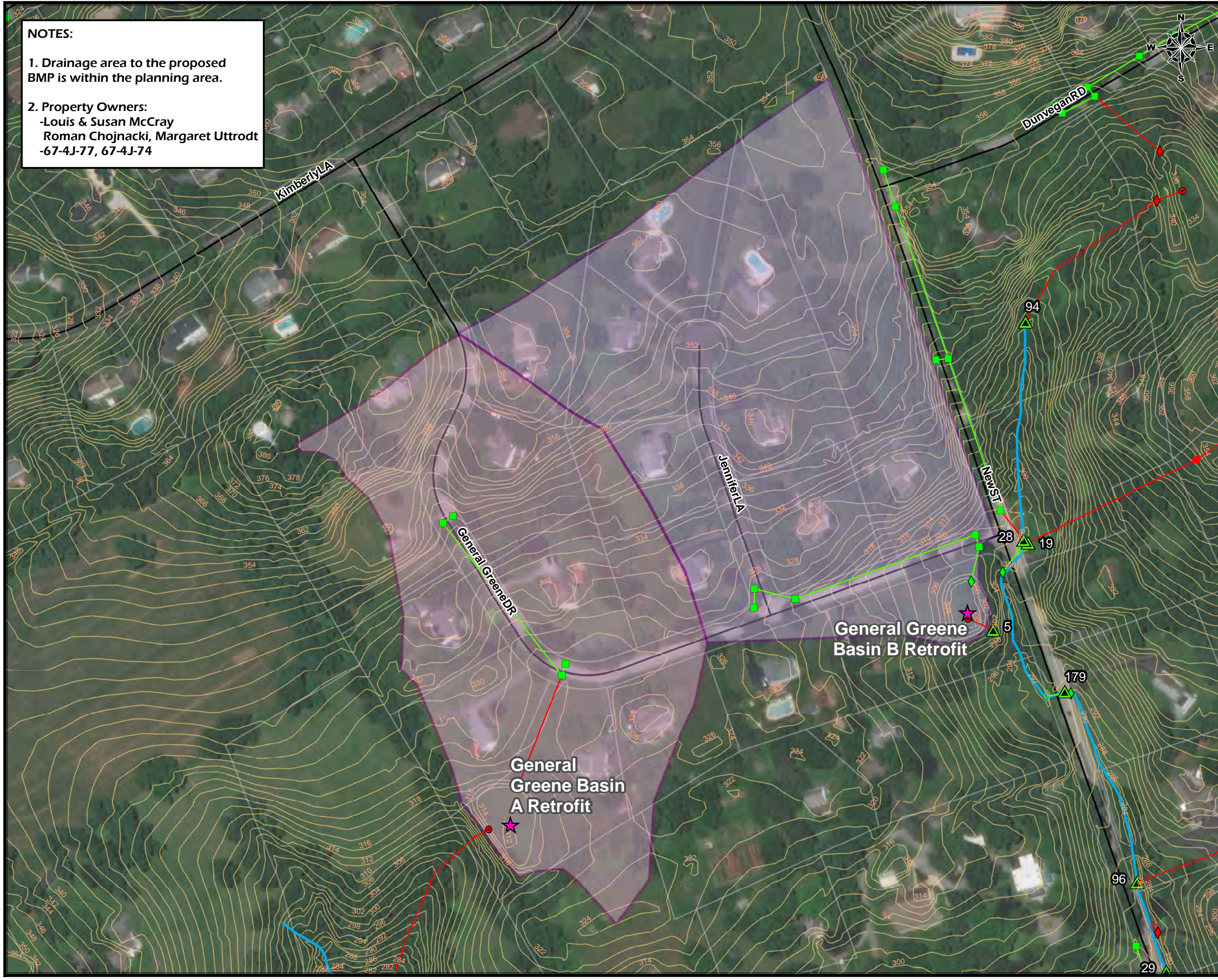


NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Louis & Susan McCray
Roman Chojnacki, Margaret Uttrodt
-67-4J-77, 67-4J-74

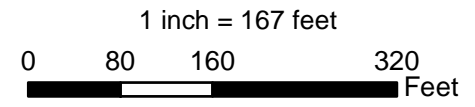
UPPER BRANDYWINE CREEK PRP

- Legend**
- ▲ Outfalls
 - General Greene Basin B Retrofit Drainage Area
 - General Greene Basin A Retrofit Drainage Area
 - Stormwater Structures**
 - Inlet, Township
 - Manhole, Township
 - ◇ Inflow, Township
 - ◇ Outflow, Township
 - ⊕ Inflow/Outflow, Township
 - Riser, Township
 - Inlet, State
 - Manhole, State
 - ◇ Inflow, State
 - ◇ Outflow, State
 - ⊕ Inflow/Outflow, State
 - Inlet, Private
 - Manhole, Private
 - ◇ Inflow, Private
 - ◇ Outflow, Private
 - ⊕ Inflow/Outflow, Private
 - Riser, Private
 - Stormwater Conveyances**
 - Private, Pipe
 - Private, Swale
 - State, Pipe
 - Township, Pipe
 - Township, Swale
 - Stream
 - Located Surface Waters
 - 2ft Contours
 - Roads**
 - Private
 - State
 - Township
 - Parcels
 - Township Owned Parcels
 - Township Boundary



General Greene Drive Basin A Retrofit

General Greene Drive Basin B Retrofit



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MAP UPDATED: January 2019

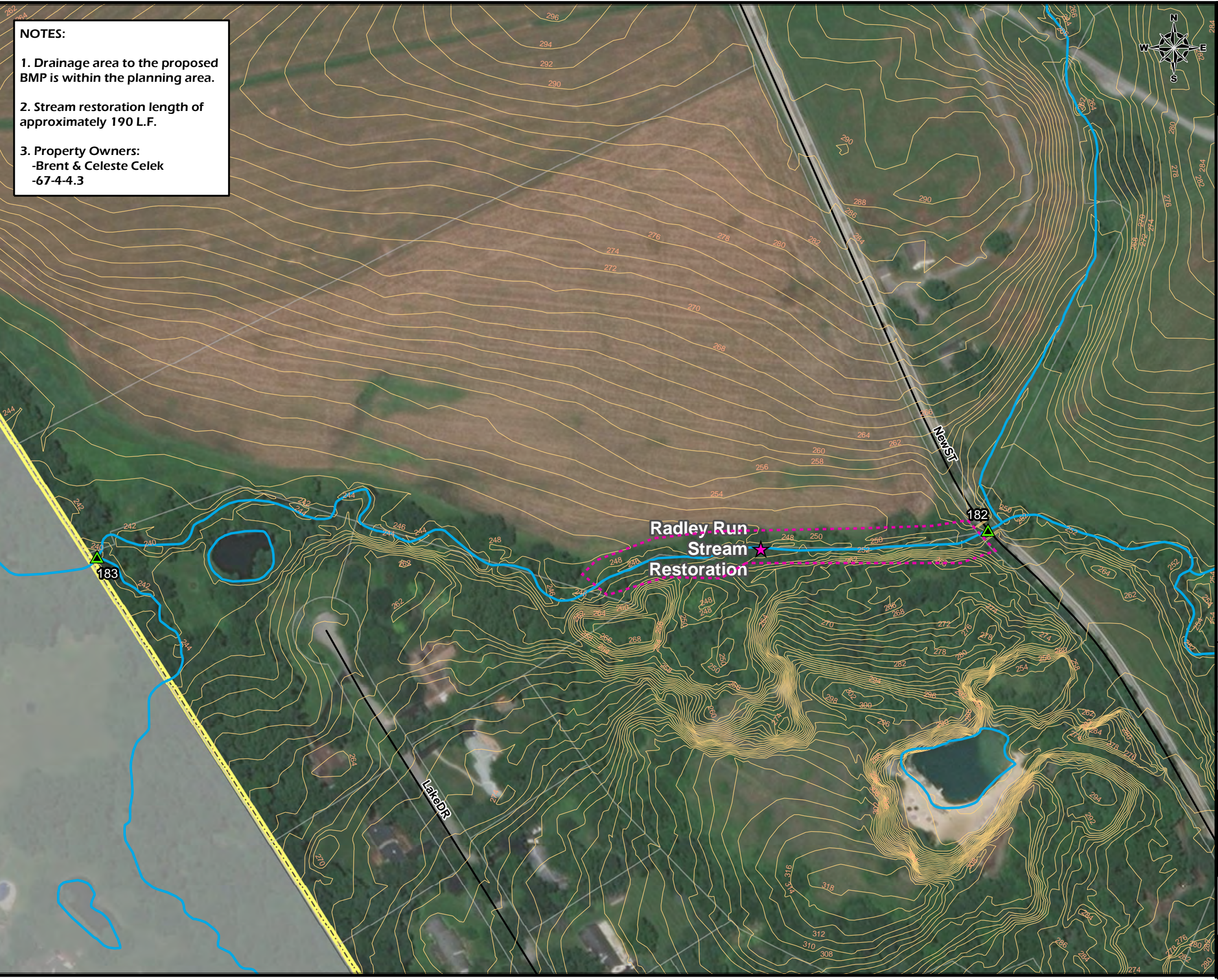
NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Stream restoration length of approximately 190 L.F.
3. Property Owners:
-Brent & Celeste Celek
-67-4-4.3

UPPER BRANDYWINE CREEK PRP

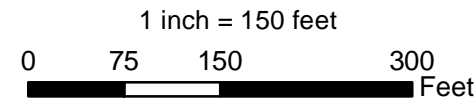
Legend

- Outfalls
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- Inflow, Township
- Outflow, Township
- Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- Inflow, State
- Outflow, State
- Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- Inflow, Private
- Outflow, Private
- Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- 2ft Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary



**Radley Run
Stream
Restoration**

Radley Run Stream Restoration



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Westtown Township,
Chester County,
Pennsylvania

MAP UPDATED: January 2019

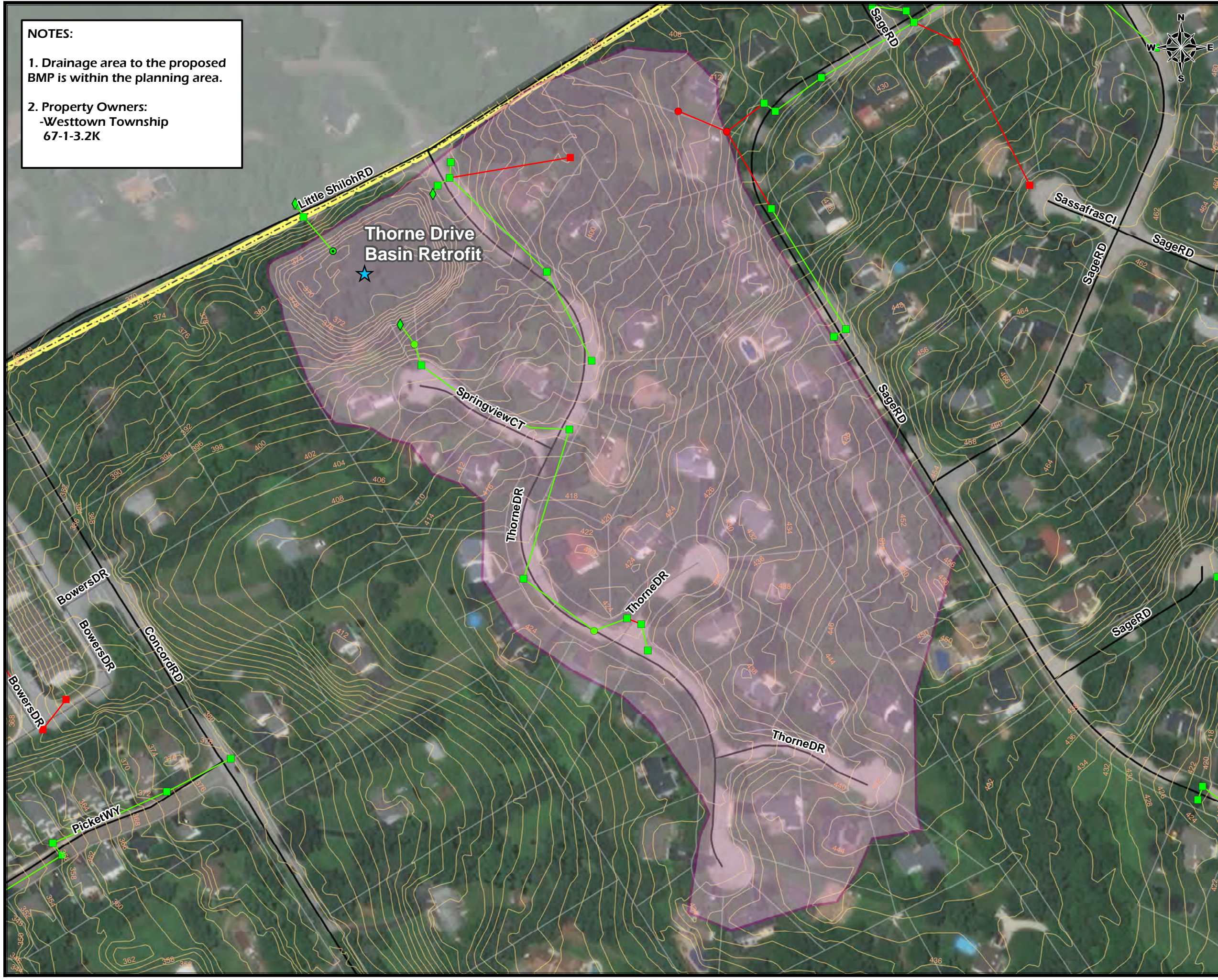
NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Westtown Township
67-1-3.2K

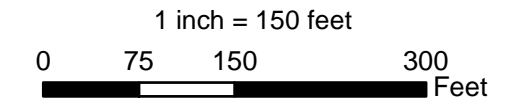
CHESTER CREEK/GOOSE CREEK TMDL/PRP

Legend

- Outfalls
- Thorne Drive Basin Drainage Area
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- Inflow, Township
- Outflow, Township
- Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- Inflow, State
- Outflow, State
- Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- Inflow, Private
- Outflow, Private
- Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- 2ft Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary



Thorne Drive Basin Retrofit



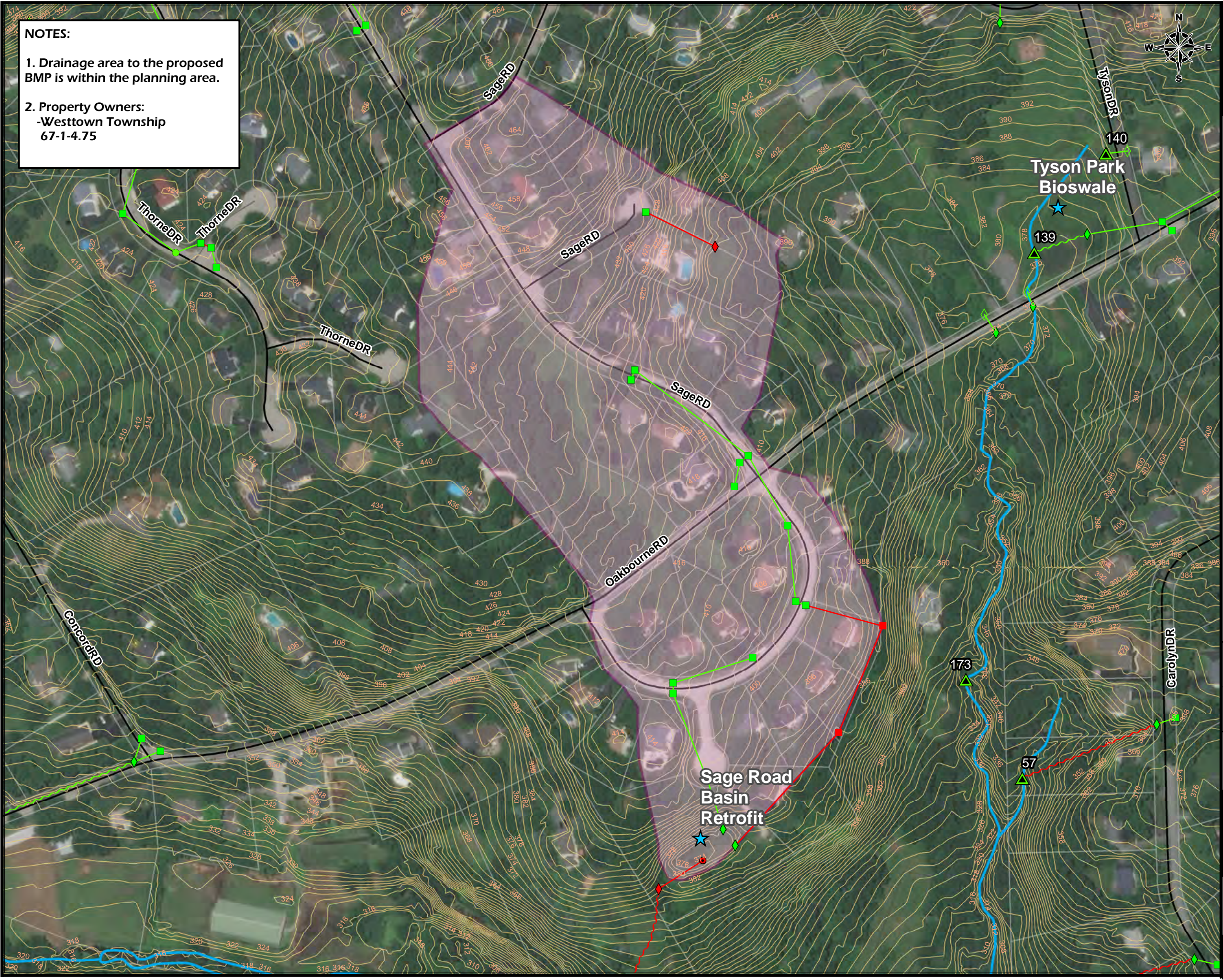
DISCLAIMER:
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MAP UPDATED: January 2019

NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Westtown Township
67-1-4.75

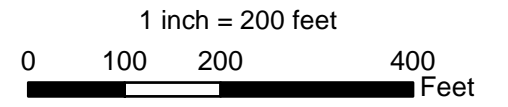


CHESTER CREEK/GOOSE CREEK TMDL/PRP

Legend

- ▲ Outfalls
- Sage Road Basin Drainage Area
- Stormwater Structures**
- Inlet, Township
- Manhole, Township
- ◇ Inflow, Township
- ◇ Outflow, Township
- ⊕ Inflow/Outflow, Township
- Riser, Township
- Inlet, State
- Manhole, State
- ◇ Inflow, State
- ◇ Outflow, State
- ⊕ Inflow/Outflow, State
- Inlet, Private
- Manhole, Private
- ◇ Inflow, Private
- ◇ Outflow, Private
- ⊕ Inflow/Outflow, Private
- Riser, Private
- Stormwater Conveyances**
- Private, Pipe
- Private, Swale
- State, Pipe
- Township, Pipe
- Township, Swale
- Stream
- Located Surface Waters
- 2ft Contours
- Roads**
- Private
- State
- Township
- Parcels
- Township Owned Parcels
- Township Boundary

Sage Road Basin Retrofit



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Westtown Township,
Chester County,
Pennsylvania

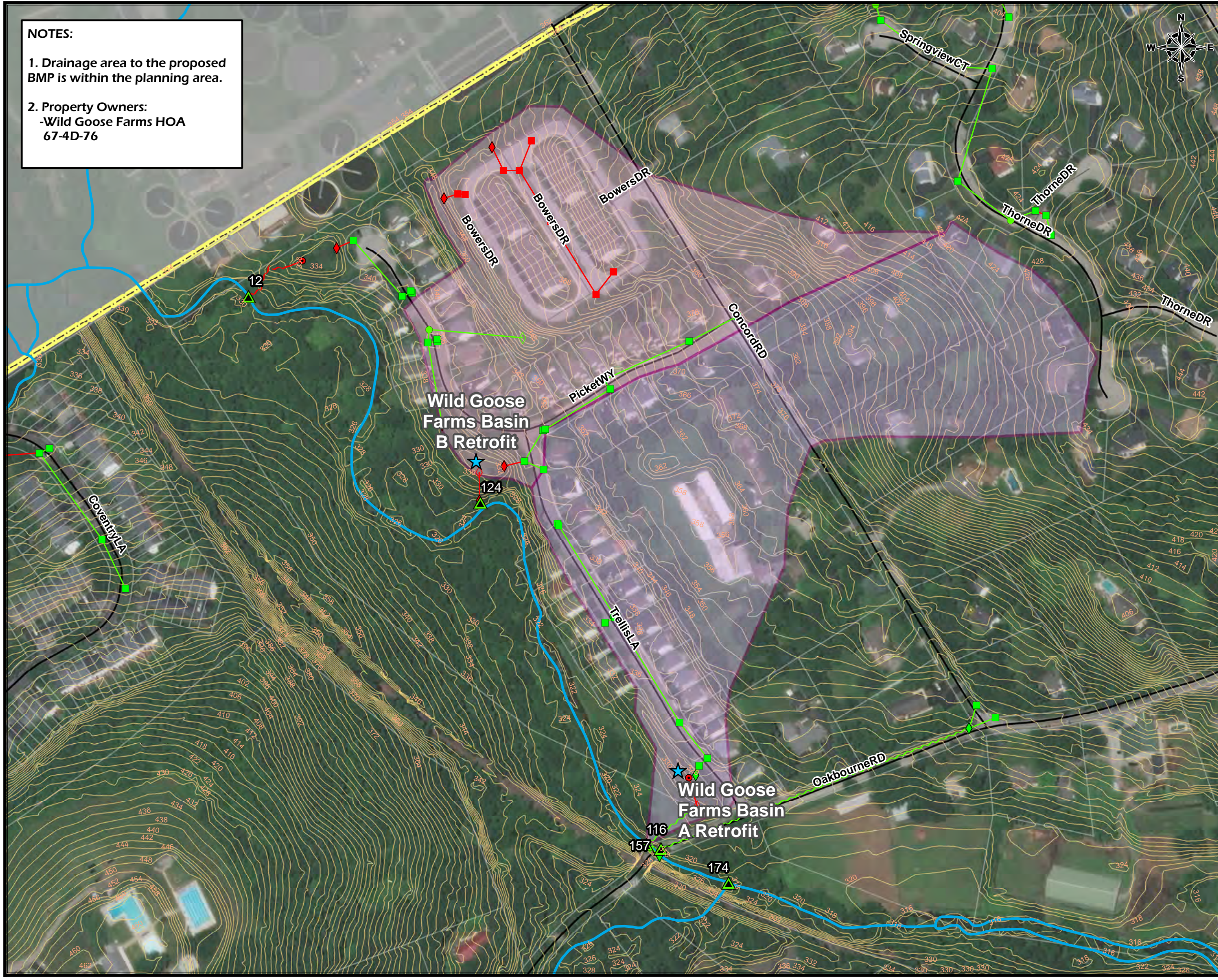
MAP UPDATED: January 2019

NOTES:

1. Drainage area to the proposed BMP is within the planning area.
2. Property Owners:
-Wild Goose Farms HOA
67-4D-76

CHESTER CREEK/GOOSE CREEK TMDL/PRP

- Legend**
- ▲ Outfalls
 - Wild Goose Farms Basin B Drainage Area
 - Wild Goose Farms Basin A Drainage Area
 - Stormwater Structures**
 - Inlet, Township
 - Manhole, Township
 - ◇ Inflow, Township
 - ◇ Outflow, Township
 - ⊕ Inflow/Outflow, Township
 - Riser, Township
 - Inlet, State
 - Manhole, State
 - ◇ Inflow, State
 - ◇ Outflow, State
 - ⊕ Inflow/Outflow, State
 - Inlet, Private
 - Manhole, Private
 - ◇ Inflow, Private
 - ◇ Outflow, Private
 - ⊕ Inflow/Outflow, Private
 - Riser, Private
 - Stormwater Conveyances**
 - Private, Pipe
 - Private, Swale
 - State, Pipe
 - Township, Pipe
 - Township, Swale
 - Stream
 - Located Surface Waters
 - 2ft Contours
 - Roads**
 - Private
 - State
 - Township
 - Parcels
 - Township Owned Parcels
 - Township Boundary



Wild Goose Farms Basin A Retrofit

Wild Goose Farms Basin B Retrofit

1 inch = 200 feet

0 100 200 400 Feet

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MAP UPDATED: January 2019



APPENDIX E

Storm Sewershed/Planning Area Map



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

PROPOSED BMPs						
BMP Number	BMP Name	Parcel Number	Local Address	Owner	Owner Type	Designation
1	Trison Park Basin Retrofit	67-2-1.29	901 Oakbourne Rd	Westtown Township	Township	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
2	Thorne Drive Basin Retrofit	67-1-3.2K		Westtown Township	Township	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
3	Sage Road Basin Retrofit	67-1-4.75		Westtown Township	Township	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
4	Wild Goose Farms Basin A Retrofit	67-4D-76		Wild Goose Farms HOA	HOA	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
5	Wild Goose Farms Basin B Retrofit	67-4D-76		Wild Goose Farms HOA	HOA	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
6	Pleasant Grove Stream Restoration	67-4M-43.1	1190 Blenheim Rd	Westtown Township	Township	Chester Creek PRP Proposed BMP
7	Dunvegan Road Basin Retrofit	67-4-28.65, 67-4-28.64	1027/1025 Dunvegan Rd	James & Colleen Brookover, James & Katherine McDermott	Private	Upper Brandywine Creek PRP Proposed BMP
8	General Greene Drive Basin B Retrofit	67-4J-77	1014 General Greene Dr	Louis & Susan McCray	Private	Upper Brandywine Creek PRP Proposed BMP
9	General Greene Drive Basin A Retrofit	67-4J-74	1008 General Greene Dr	Roman Chojnacki, Margaret Uttrodt	Private	Upper Brandywine Creek PRP Proposed BMP
10	Radley Run Stream Restoration	67-4-4.3	1130 S New St	Brent & Celeste Celek	Private	Upper Brandywine Creek PRP Proposed BMP
Not Represented	Stream Restoration					Chester Creek/Goose Creek TMDL/PRP Long Term BMP

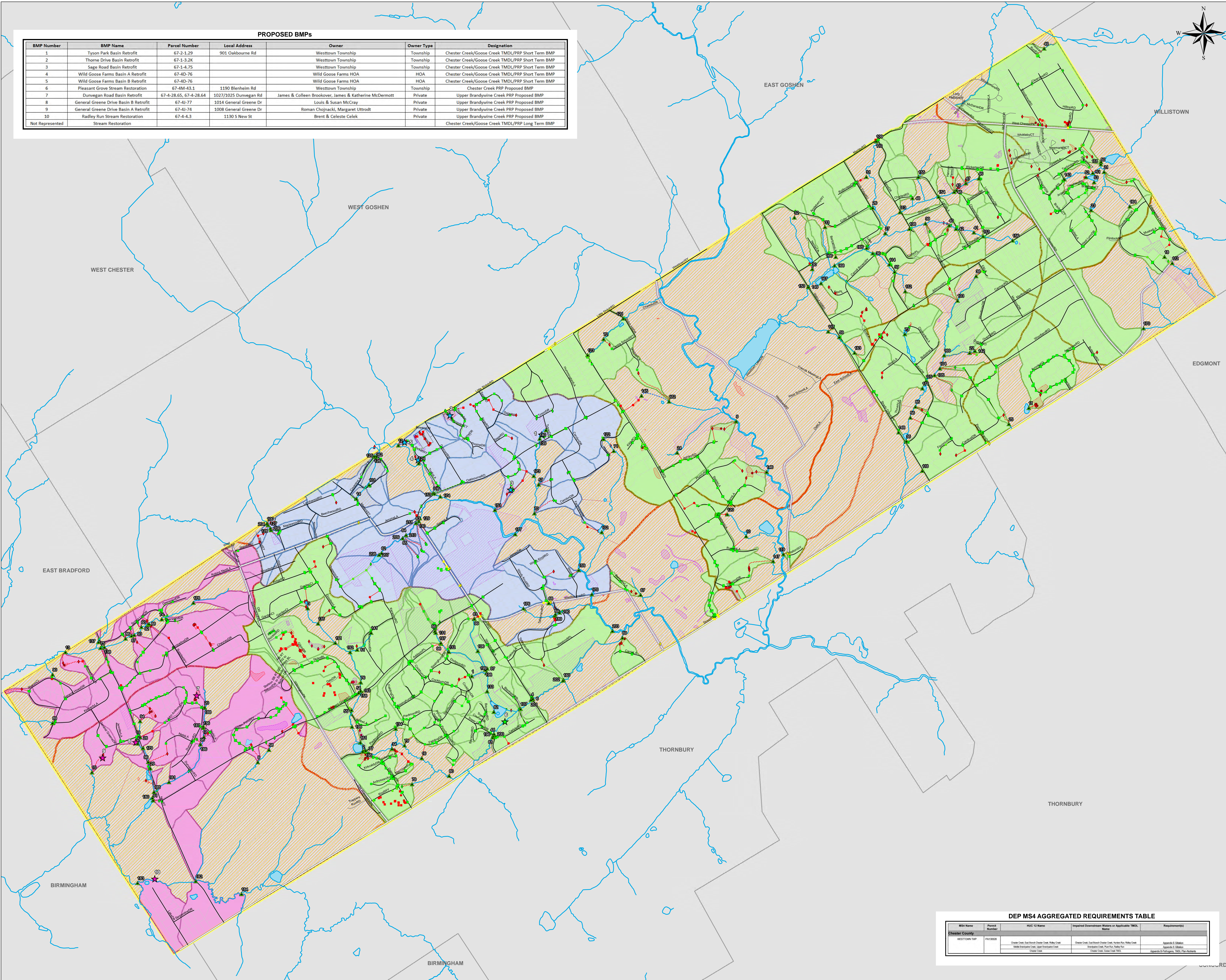
NOTES:
 1. Land cover data is derived from the National Land Cover Database 2011 (NLCD 2011).
 2. The entire Township is within the 2010 Urbanized Area.

DISCLAIMER:
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Date: 1/17/2019
 DRAWN BY: AR
 1 inch = 700 feet
 0 700 1,400 Feet



Westtown Township
 TMDL/POLLUTANT REDUCTION PLAN
 PLANNING AREA MAP
 CHESTER COUNTY, PA



- Legend**
- Outfalls
 - BMPs
 - Chester Creek PRP Proposed BMP
 - Chester Creek/Goose Creek TMDL/PRP Short Term BMP
 - Upper Brandywine Creek PRP Proposed BMP
 - Planning Area
 - East Branch
 - Goose Creek
 - Plum Run; Radley Run; Upper Brandywine
 - Parceled Areas
 - Private/Other
 - Stormwater Structures
 - Inlet, Township
 - Manhole, Township
 - Inflow, Township
 - Outflow, Township
 - Inflow/Outflow, Township
 - Riser, Township
 - Inlet, State
 - Manhole, State
 - Inflow, State
 - Outflow, State
 - Inflow/Outflow, State
 - Inlet, Private
 - Manhole, Private
 - Inflow, Private
 - Outflow, Private
 - Inflow/Outflow, Private
 - Riser, Private
 - Stormwater Conveyances
 - Private, Pipe
 - Private, Swale
 - State, Pipe
 - Township, Pipe
 - Township, Swale
 - Pre-2003 Basins
 - Existing PCSM BMPs
 - Roads
 - Private
 - State
 - Township
 - Stream
 - Located Surface Waters
 - Waterbodies
 - HUC12 Boundaries
 - Subwatersheds
 - Parcels
 - Township Owned Parcels
 - Township Boundary

DEP MS4 AGGREGATED REQUIREMENTS TABLE

MS4 Name	Permit Number	HUC 12 Name	Impaired Downstream Waters or Applicable TMDL Name	Requirements
Chester County	PA019028			
Westtown TWP				
		Chester Creek, East Branch, Goose Creek, Plum Run, Radley Run	Chester Creek, East Branch, Goose Creek, Plum Run, Radley Run	Appendix E, Section 1
		Upper Brandywine Creek, Upper Brandywine Creek	Upper Brandywine Creek, Plum Run, Radley Run	Appendix E, Section 1
		Upper Brandywine Creek	Upper Brandywine Creek, Plum Run, Radley Run	Appendix E, Section 1



APPENDIX F

Land Cover Map



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

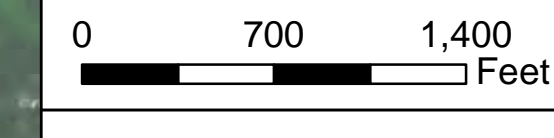
NOTES:
 1. Land cover data is derived from the National Land Cover Database 2011 (NLCD 2011).
 2. The entire Township is within the 2010 Urbanized Area.

DISCLAIMER:
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Date: 1/17/2019

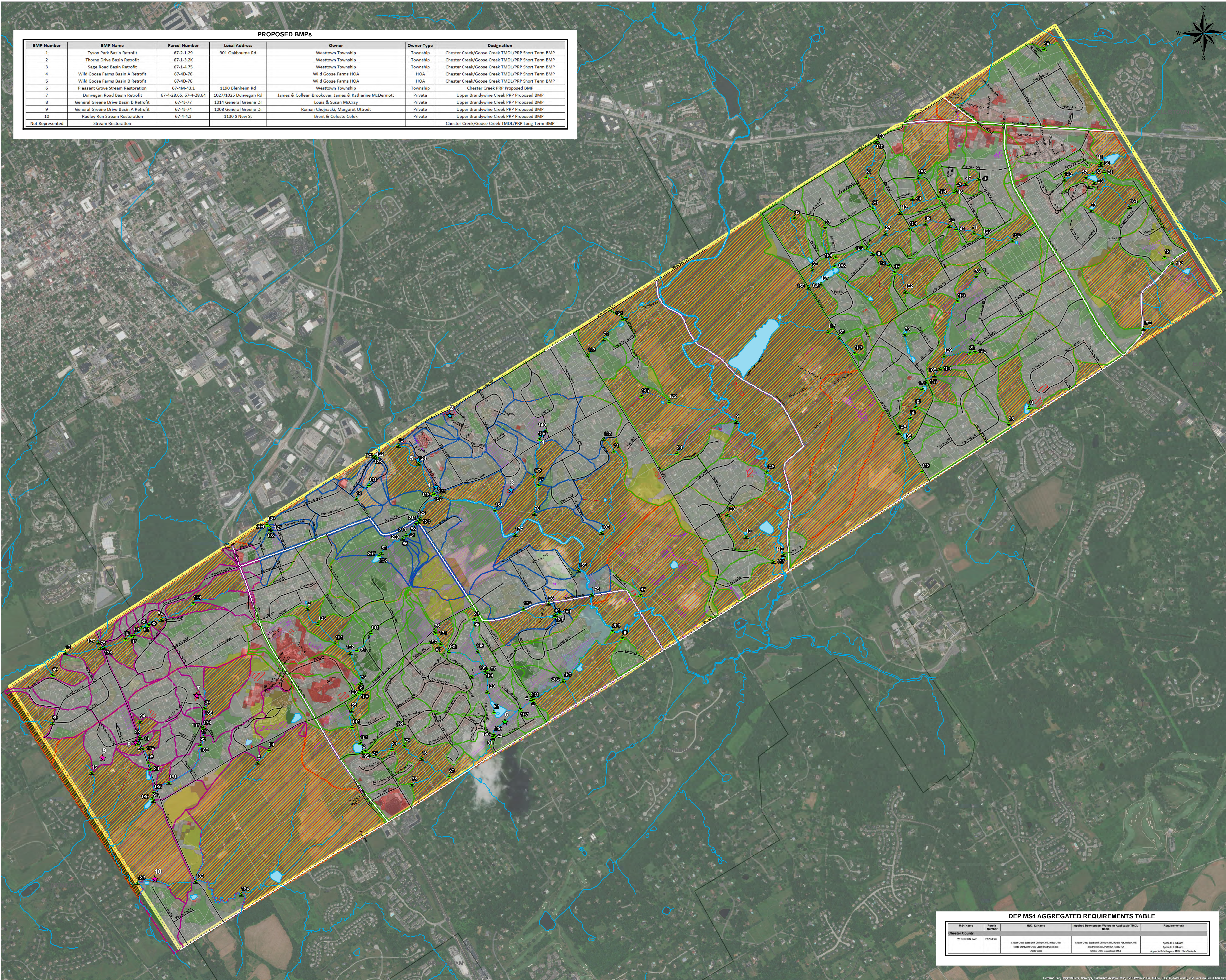
DRAWN BY: AR

1 inch = 700 feet



Westtown Township
TMDL/POLLUTANT REDUCTION PLAN
LAND COVER MAP
 CHESTER COUNTY, PA

PROPOSED BMPs						
BMP Number	BMP Name	Parcel Number	Local Address	Owner	Owner Type	Designation
1	Tyson Park Basin Retrofit	67-2-1.29	901 Oakbourne Rd	Westtown Township	Township	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
2	Thorne Drive Basin Retrofit	67-1-3.2K		Westtown Township	Township	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
3	Sage Road Basin Retrofit	67-1-4.75		Westtown Township	Township	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
4	Wild Goose Farms Basin A Retrofit	67-4D-76		Wild Goose Farms HOA	HOA	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
5	Wild Goose Farms Basin B Retrofit	67-4D-76		Wild Goose Farms HOA	HOA	Chester Creek/Goose Creek TMDL/PRP Short Term BMP
6	Pleasant Grove Stream Restoration	67-4M-43.1	1190 Blenheim Rd	Westtown Township	Township	Chester Creek PRP Proposed BMP
7	Dunvegan Road Basin Retrofit	67-4-28.65, 67-4-28.64	1027/1025 Dunvegan Rd	James & Colleen Brookover, James & Katherine McDermott	Private	Upper Brandywine Creek PRP Proposed BMP
8	General Greene Drive Basin B Retrofit	67-4I-77	1014 General Greene Dr	Louis & Susan McCray	Private	Upper Brandywine Creek PRP Proposed BMP
9	General Greene Drive Basin A Retrofit	67-4I-74	1008 General Greene Dr	Roman Chojnacki, Margaret Utrodt	Private	Upper Brandywine Creek PRP Proposed BMP
10	Radley Run Stream Restoration	67-4-4.3	1130 S New St	Brent & Celeste Celek	Private	Upper Brandywine Creek PRP Proposed BMP
Not Represented	Stream Restoration					Chester Creek/Goose Creek TMDL/PRP Long Term BMP



- Legend**
- ▲ Outfalls
 - ★ BMPs
 - ★ Chester Creek/Goose Creek TMDL/PRP Short Term BMP
 - ★ Upper Brandywine Creek PRP Proposed BMP
 - Planning Area
 - East Branch
 - Goose Creek
 - Plum Run, Radley Run, Upper Brandywine
 - Proposed Areas
 - Proposed
 - Private/Other
 - Land Cover
 - 21: Developed, Open Space
 - 22: Developed, Low Intensity
 - 23: Developed, Medium Intensity
 - 24: Developed, High Intensity
 - 41: Deciduous Forest
 - 42: Evergreen Forest
 - 43: Mixed Forest
 - 52: Shrub/Scrub
 - 71: Grassland/Herbaceous
 - 81: Hay/Pasture
 - 83: Cultivated Crops
 - 90: Woody Wetlands
 - 95: Emergent Herbaceous Wetlands
 - Roads
 - Private
 - State
 - Township
 - Waterbodies
 - Stream
 - Located Surface Waters
 - Waterbodies
 - HUC12 Boundaries
 - Subwatersheds
 - Parcels
 - Township Owned Parcels
 - Township Boundary

DEP MS4 AGGREGATED REQUIREMENTS TABLE

MS4 Name	Parcel Number	HUC 12 Name	Impaired Downstream Waters or Applicable TMDL Name	Requirements
Chester County	FACTS08			
WESTTOWN TWP	FACTS08			
		Chester Creek, East Branch, Upper Brandywine Creek	Chester Creek, East Branch, Upper Brandywine Creek, Plum Run, Radley Run	Appendix E, Section 1
		Upper Brandywine Creek, Upper Brandywine Creek	Upper Brandywine Creek, Plum Run, Radley Run	Appendix E, Section 1
		Upper Brandywine Creek	Upper Brandywine Creek, Plum Run, Radley Run	Appendix E, Section 1

WESTTOWN TOWNSHIP
Chester County, Pennsylvania, United States

**NPDES MS4
Stormwater Management Program**

Beth Uhler
October 3, 2022

Board of Supervisors Meeting
October 3, 2022

1

Why is this Program Important?

- Reduce pollutants into municipal storm sewer systems and streams.
- Protect water quality.
- It is a state and federal requirement.

2

At a Glance The Township's Program Components

Minimum Control Measures (MCMs)

1. Public Education & Outreach
2. Public Involvement & Participation
3. Illicit Discharge Detection & Elimination
4. Construction Site Stormwater Runoff Control
5. Post Construction Stormwater Management for Development & Redevelopment
6. Pollution Prevention/Good Housekeeping

Pollutant Reduction Plan (PRP)

- Proposed projects to address **sediment** reduction requirements for stream impairments.

Total Maximum Daily Load (TMDL) Plan

- Proposed projects to address **sediment and nutrient** impairment/TMDL for discharges to Goose Creek.

Pollutant Control Measures (PCMs)

- Requirements to address **pathogens** impairment for discharges to Chester Creek.

3

Public Education & Outreach (MCM #1)

2022 Highlights

- ✓ CRC Watersheds
- ✓ Christina Watersheds Municipal Partnership (CWMP)
- ✓ Website and Newsletters

2023 Goals

- ✓ Continue Outreach

Public Involvement and Participation (MCM #2)

2022 Highlights

- ✓ This Meeting!
- ✓ Updated Stormwater Ordinance
- ✓ Westtown Day

2023 Goals

- ✓ Public Meeting
- ✓ Continue Involvement with CRC, CWMP, and EAC

4

Illicit Discharge Detection & Elimination (MCM #3)

Any discharge to a MS4 or surface water that is not compose entirely of stormwater

2022 Highlights

- ✓ Screened 74 Outfalls
- ✓ Public Works Screened 21 Priority Area Outfalls

2023 Goals

- ✓ Screen at least 60 Additional Outfalls
- ✓ Screen Outfalls in Priority Areas
- ✓ Continue to track illicit discharges

What is a Priority Area?

- Prone to illicit discharges
- Historically known discharges
- High-risk activities (WWTPs, kennels, etc.)
- Older infrastructure

5

WESTTOWN TOWNSHIP
Chester County, Pennsylvania, United States

For COVID-19 updates visit: <https://www.westtownpa.org/emergency/>

COMMUNITY

- 3 NOV Election Day LEARN MORE
- 7 NOV Yard Waste Pickup LEARN MORE

MEETINGS

- 15 OCT Historical Commission LEARN MORE
- 19 OCT Board of Supervisors LEARN MORE
- 21 OCT Planning Commission LEARN MORE

6

Statewide program for issuing **NPDES Permits for Stormwater Discharges Associated with Construction Activities** through DEP, County Conservation District, and Municipality **PARTIALLY SATISFIES** these permit requirements.

Construction Site Runoff Control (MCM #4) **Post Construction Stormwater Management in New and Re-Development (MCM #5)**

7

Post Construction Stormwater Management in New and Re-Development (MCM #5)

2022 Highlights

- ✓ 64 BMPs (100%)
- ✓ 26 BMPs in need of corrective measures

2023 Goals

- ✓ Continue BMP inspection and compliance process
- ✓ Beginning inspections for BMPs associated with small projects

8

Pollution Prevention & Good Housekeeping (MCM #6)

2022 Highlights

- ✓ DEP Inspection!
- ✓ Select Staff Training

2023 Goals

- ✓ Ongoing Good Housekeeping Practices
- ✓ Staff Training

9

TMDL/Pollutant Reduction Plan

Goose Creek TMDL

All streams impaired for sediment

10

WESTTOWN TOWNSHIP TMDL BMP IMPLEMENTATION SCHEDULE


Proposed BMP	Year 1 (2022)		Year 2 (2022)		Year 3 (2023)		Year 4 (2023)	
	Activities	Costs	Activities	Costs	Activities	Costs	Activities	Costs
Open Park								
Project completed in 2018, Long-Term O&M.								
Sope Road Basin Retrofit								
Project completed in 2018, Long-Term O&M.								
Design complete, WSPD Grant application pending								
Roanoke Drive Basin Retrofit	\$16,740							
Design complete, WSPD Grant application pending								
Install and post installed								
Old Goose Farm Basin A Retrofit	\$16,600							
Design complete, WSPD Grant application pending								
Install and post installed								
Old Goose Farm Basin B Retrofit	\$16,600							
Design complete, WSPD Grant application pending								
Install and post installed								
Shoemaker Drive Stream Restoration	\$429,800							
Feasibility Study completed in 2019								
Rocky Run Stream Restoration	\$50,000							
Design complete, WSPD Grant application pending								
TOTALS:	\$502,200							

11

Pollutant Control Measures

Chester Creek (Impaired for Pathogens)

12



Pollutant Control Measures

Requirement	Due Date	
Storm Sewershed Map	September 30, 2021	✓
Source Inventory	September 30, 2022	✓
Source Investigation	September 30, 2023	✓
Enact Animal Waste Ordinance	September 30, 2023	
Document Progress in Annual Reports	Ongoing	

13



What to Expect...

- **Continued Minimum Control Measures**
- **Outfall Screening and Stormwater BMP Inspection**
- Design, and construct BMP(s) to achieve **TMDL/Pollutant Reduction Plan** goals by November 30, 2024
- Pollutant reduction requirements **post-2024**

• *DEP administratively extended the MS4 Permit to March 15, 2015*



14





THANK YOU

Beth Uhler
 Cedarville Engineering Group, LLC
buhler@cedarvilleengineering.com
 610-705-4500

15

CRC - WCT Streams Learning Day Event - May 20, 2023



CRC - WCT Streams Learning Day Event - May 20, 2023



CRC - WCT Streams Learning Day Event - May 20, 2023



CRC Tree Planting Event - April 22, 2023



CRC Tree Planting Event – April 22, 2023



CRC Tree Planting Event - April 22, 2023



WESTTOWN TOWNSHIP ENVIRONMENTAL ADVISORY COUNCIL (EAC)
Westtown Municipal Building, 1039 Wilmington Pike, West Chester, PA
Tuesday, March 28, 2023 7:00 PM

Present: EAC members Bob Yeats (Chair), Ray Dandrea (Vice Chair), Paula Kline, Russ Hatton, and Township Manager Jonathan Altshul. One guest was also present.

I. Call to Order

Bob called the meeting to order at 7:00 PM.

II. Approval of Minutes

Paula made a motion to approve the minutes of February 28, 2023. Bob seconded. The motion passed 4-0.

III. Public Comment (non-agenda items)

None

IV. Old Business

A. Planning Commission Report – Russ provided an update on the various variance applications that the Planning Commission had been reviewing, including for 819 Oakbourne and 330 Sissinghurst. Jon provided an update on the status of the conditional use application for the Westtown School’s athletic field lights and the Visual Arts Center for 1632 West Chester Pike. Jon also reported that he expected a conditional use application for a 10 acre solar array at the Westtown School.

B. Update on Plastic Bag Policy – Ray reported that he’d sent an email to the Uwchlan Township EAC regarding its plastic bag ordinance to try to gather more information. He also reported that he was researching cost-effective alternatives to the plastic dog waste bags in Township parks.

C. Update Plumly Open Space Meadow Proposal – Paula reported that two experts on managed meadows would be on site at the Plumly Open Space in mid-April to do a site assessment, along with Mark Gross and Jon. Jon explained that if the Board was agreeable to the proposal, the immediate neighbors would need to be invited to discuss the proposal with the Board. Paula indicated that she hoped that the meadow conversion could begin in 2024.

Russ asked if this project had any applicability to the maintenance plan for Crebilly Farms, to which Bob stated that it might.

D. Consider Gazette Article – Paula suggested that the EAC write an article about its co-sponsored biodiversity workshops. Bob suggested writing an article about some of the highlights in the Cadmus report. Bob also asked that Jon keep “Consider Solar Panels on Public Works Garage” as an agenda item under Old Business for future meetings.

- E. Review Energy Star Portfolio Manager Efficiency Data for Township Buildings** – Jon reported that the Oakbourne Mansion’s and the Township building’s Energy Score rating had improved slightly over the past month, but that the Public Works Garage and Wastewater Treatment Plant data didn’t appear to make sense. He indicated he would discuss these anomalies with Paula from his staff.
- F. Update on April 22 CRC Tree Planting Event at Blenheim Road Open Space** – Ray indicated that he was trying to recruit volunteers for this event from the “Vote Yes to Save Crebilly Farms” group. Paula reported that she sent the invitation to the participants in last year’s sustainability contest. Bob stated he would reach out to the people who completed the environmental survey.
- G. Update on Online Wildlife Habitats Workshops** – Paula reported that the next online wildlife habitat workshop would be a seminar on birding from the Audubon Society on April 5.

V. New Business

A. Consider Cadmus Report Recommendations

B. Review Brandywine Conservancy Sustainable Community Assessment – Climate and Renewable Energy and Energy Conservation Recommendations

Paula asked for feedback on the Cadmus Report and the Brandywine Conservancy Assessment and asked attendees what goals they would like the Township to have met around sustainability over the next 5 years. Various ideas, including switching to an electric vehicle fleet, wind farms, solar, and electric leaf blowers were discussed. Jon noted that it may be feasible to draft an amendment to the parking ordinance to mandate some number of EV charging stations or to allow applicants to apply installed charging stations as a parking credit. This suggestion would require consultation with the Township’s Traffic Engineer. Paula indicated that she would summarize the results of the discussion for the next meeting.

VI. BOS Report – March 20 - Meghan

VII. Public Comments

Joe Frisco, 311 Oakbourne Road, stated that he was grateful for the opportunity to learn more about the work the EAC does.

VIII. Announcements - None

IX. Adjournment

There being no further business, Ray moved to adjourn the meeting at 8:30pm.

Respectfully submitted,

Jonathan Altshul
Township Manager

WESTTOWN TOWNSHIP ENVIRONMENTAL ADVISORY COUNCIL (EAC)
Westtown Municipal Building, 1039 Wilmington Pike, West Chester, PA
Tuesday, January 24, 2023 7:00 PM

Present: EAC members Ray Dandrea, Gretta Flynn, Bob Yeats, Paula Kline, and Township Manager Jon Altshul.

I. Call to Order

Ray called the meeting to order at 7:03 PM.

II. Approval of Minutes

Bob made a motion to approve the minutes of November 22, 2022. Gretta seconded. The motion passed 4-0.

III. Public Comment (non-agenda items)

None

IV. Old Business

A. Planning Commission Report - None.

B. Update on Township Survey – Bob suggested that the survey results be presented to the Board of Supervisors at an upcoming meeting.

C. Update on Plastic Bag Policy – Ray stated that he had spoken with West Goshen and West Chester officials about their experiences, and noted that there are a limited number of businesses that this would apply to in Westtown, and that the larger ones, like Rite-Aid or Giant may already have corporate policies about complying with plastic bag ordinances that may simplify the roll out process. Jon suggested that the EAC get guidance from the Board of Supervisors about whether this is something the Board is interested in pursuing. It was agreed that the EAC would discuss this in the February 21 Board Workshop. Jon stated that the simpler the ordinance is the easier it will be to enforce and get businesses to voluntarily comply.

D. Update on Lawn to Meadow Conversion – Jon stated that he and Mark Gross need to meet on site with Meghan and Paula to review what is being proposed before the project should be pitched to the Board. Paula indicated that she'd follow up with some times.

E. Consider Managed Meadows Ordinance – The EAC reviewed the ordinance that had been reviewed by the Township solicitor. Jon explained the process for approving municipal Zoning Ordinances and explained that the process would probably take about 3 months before the ordinance could be adopted.

F. Consider Next Gazette Article – Bob stated that his blurb about the survey could go into the Gazette. Paula stated that she hoped to write an article about tax incentives

for electric vehicles and other “green” purchases. Jon cautioned that the Township needs to be careful not to provide tax advice and that any article about tax incentives would need to include disclaimers that residents should check with an accountant or tax attorney about individual tax matters, and suggested that the EAC stay away from these types of articles. He suggested that an article about the upcoming CRC tree planting in the Pleasant Grove Open Space may be more relevant for the Gazette.

G. Update on LED Lighting Retrofit Project – In light of the higher than budgeted proposal, Jon indicated that Paul Speigel from Practical Energy Solutions suggested that the Township get an alternative price quote directly from PECO. He will follow up for the next meeting.

H. Consider Social Media Policy – Ray stated he would ask Adam to provide any comments on the draft social media policy that was distributed in November within the next couple of days so that the Board could adopt it on February 6.

V. New Business

A. Consider Election of Officers – Ray made a motion to appoint Bob Yeats as Chair for 2023. Gretta seconded. There was no public comment, and the motion passed 4-0. Gretta made a motion to appoint Ray Dandrea as Co-Chair. Bob seconded. There was no public comment, and the motion passed 4-0. Ray made a motion to appoint Adam Kapp as Secretary for 2023. Gretta seconded. There was no public comment, and the motion passed 4-0.

B. Consider 2023 Departmental Report Schedule and BOS Workshop date – The EAC directed Jon to develop a schedule for departmental reports. The EAC had earlier agreed to attend the February 21 Workshop.

C. Review Energy Star Portfolio Manager Efficiency Data for Township Buildings – Jon reviewed the energy efficiency outputs from the Portfolio Manager online tool.

D. Announce April 22 CRC Tree Planting Event at Blenheim Road Open Space – Jon explained that CRC would be holding a tree planting event on April 22 and recommended that Bob reach out to Carly Lare, the CRC Executive Director, to see how the EAC could partner with CRC on this event.

VI. BOS Report – February 21

VII. Public Comments

None.

VIII. Announcements

Paula recommended that the EAC be a cosponsor of a series of online workshops with other area environmental group about wildlife habitats. Gretta made a motion for the EAC to co-sponsor a series of online workshops about wildlife habitats with other area environmental groups. Ray seconded. The motion passed 4-0.

IX. Adjournment

There being no further business, Bob moved to adjourn the meeting at 8:15pm.

Respectfully submitted,

Jon Altshul
Township Manager

WESTTOWN TOWNSHIP ENVIRONMENTAL ADVISORY COUNCIL (EAC)
Westtown Municipal Building, 1039 Wilmington Pike, West Chester, PA
Tuesday, November 22, 2022 7:00 PM

Present: EAC members Ray Dandrea, Adam Kapp, Bob Yeats, Paula Kline, Meghan Hanney (remotely), and Township Manager Jon Altshul.

I. Call to Order

 Meghan called the meeting to order at 7:10 PM.

II. Approval of Minutes

 Adam made a motion to approve the minutes of September 27. Paula seconded. The motion passed 5-0.

III. Public Comment (non-agenda items)

 None

IV. Old Business

A. Planning Commission Report - Jon noted that Tom asked to not be reappointed to the EAC in 2023, and that Mila Robinson was interested in taking his place as the Planning Commission representative.

B. Update on Township Survey – Bob indicated that he would compile the responses to the survey in a memo for the Board of Supervisors.

C. Update on Plastic Bag Policy – Ray provided a comparative analysis of the plastic bag ordinances in West Chester Borough, West Goshen and Easttown. Ray observed that this is a political decision for Board. Meghan suggested that the ordinance be as simple as possible. Bob and Ray indicated that they would do more research and follow up at a future EAC meeting. Adam stated that he was interested in better understanding what types of costs businesses would face in implementing a plastic bag ban. He also suggested that the policy not be called a “ban”, but something more positive like a “sustainable packaging initiative”.

D. Update on Lawn to Meadow Conversion – Jon stated that he would resend Meghan the map of the Plumly Open Space, so that she could work on a design for the proposed meadow for the January meeting. Jon noted that the Board is very familiar with managed meadows as storm water management is a central part of the work that they do. The bigger issue would be reviewing the proposal with Public Works to ensure that the meadow can be appropriately maintained. Meghan stated that she would like there to be interpretive signage associated with the meadow. Meghan also expressed concern about applying herbicides to control invasives near Chester Creek.

E. Consider Next Gazette Article – Ray indicated he would write a blurb about electric vehicles and Bob stated he would write an article on the environmental survey for the

spring Gazette. Jon noted that he and Pam Coleman would need to make edits to the EAC's winter article so that it can fit in the newsletter.

Meghan announced that the December 27 EAC meeting would be canceled due to the holidays.

F. Update on EAC Review of 2016 Sustainability Community Assessment – Paula stated that she'd revised the EAC's potential recommendations from this assessment down to three:

- 1) Having a Water Conservation Subcommittee within the EAC
- 2) Having a tree list in the Township's Subdivision and Land Development Ordinance
- 3) Having a "dark skies" initiative

With respect to the proposed tree list, Jon suggested that the EAC be prepared to answer the question of what problem a tree list is intended to solve or what is problematic about how landscaping plans are currently reviewed. He suggested that the EAC reach out to Jack Embick and Maggie Dobbs, who may be able to provide more insight on this matter than he can.

Adam suggested that the EAC develop priorities for 2023 at its January meeting.

V. New Business

A. Consider Amendment to Township Code to Permit Managed Meadows – Jon explained that most managed meadows are technically violations of the International Property Maintenance Code, which prohibits lawns over 10" tall. The EAC asked that the Planning Commission consider amendments to the Zoning Ordinance that would define "managed meadows" and carve them out from enforcement under the Property Maintenance Code.

B. Review Energy Star Portfolio Manager Efficiency Data for Township Buildings– Jon apologized for not including the materials with the packet and promised to follow up on this after Thanksgiving.

C. Consider Social Media Policy – Adam agreed to review and provide comments on the draft social media policy at the January meeting.

VI. BOS Report – December 19 –Adam

VII. Public Comments

None.

VIII. Announcements

None.

IX. Adjournment

There being no further business, Adam moved to adjourn the meeting at 8:30pm.

Respectfully submitted,

Jon Altshul
Township Manager

Westtown Township Tree Planting

Sat Apr 22nd



Come join CRC for a 75-tree riparian buffer planting in Westtown Township.

Email lynn@crcwatersheds.org to join!

calendar by Tockify



Westtown Township

11 April · 🌐



TOCKIFY.COM

Westtown Township Tree Planting

Sat 22 Apr [EDT]: Come join CRC for a 75-tree riparian buffer planting in Westtown Township. E...



2

1 share



Westtown Township

3 February · 🌐



Borough to the Border Route 202 Clean Up

Join Representative Craig Williams to help clean up Route 202 in Westtown next Saturday, February 11.

Help us clean up Route 202!



BOROUGH TO THE BORDER

with State Representative Craig Williams

Join Rep. Williams in cleaning up Route 202, the length of the 160th District from the edge of West Chester Borough to the state border in Bethel Township.

SAVE THE DATE

February 11, 18th, and 25, 2023

Saturdays starting at 9am

TO REGISTER:

✉ aweinkopff@pahousegop.com

📞 610-358-5925



@RepCraigWilliams



@RepCraigWilliams

For More Information:

repcraigwilliams.com





E-Waste Event - Sat. Sept. 17

Residents can bring unwanted electronics to the Township Building. All residents must pre-register on Eventbrite:

<https://www.eventbrite.com/.../electronics-recycling-day...>

Recycling Day

Anything with a Plug™

All residents must pre-register on Eventbrite link below-

<https://www.eventbrite.com/e/electronics-recycling-day-anything-with-a-plug-tickets-344819152367>



September 17, 2022
Westtown Township
1039 Wilmington Pike
9:00 a.m. - 12:00 p.m.

ACCEPTED ITEMS INCLUDE:

- | | |
|-------------|------------------|
| Laptops | Computers |
| Peripherals | Mice |
| Typewriters | Small Appliances |
| Telephones | Fax Machines |
| Cameras | Keyboards |
| Cell Phones | Printers |
| Calculators | |

\$30 fee per TV or computer monitor
\$100 per wooden console TV
\$10 per microwave, dehumidifier, air conditioner

WESTTOWN TOWNSHIP

is proud to offer township residents the opportunity to responsibly recycle obsolete electronics on Saturday, September 17, 2022.

This service is available to all residents and small businesses with fewer than 50 employees.

Electronics will be recycled by eForce Compliance, Philadelphia's first Certified Responsible Recycler.

We will accept all electronic devices with a plug, NO SMOKE DETECTORS, LARGE APPLIANCES or PROJECTION TVs will be accepted.

Coupon of equal or greater value provided for all TVs or monitors charged.

All Data Media Will Be Destroyed or Wiped!



Pollutant Removal Reductions using PADEP BMP Effectiveness Value Table for Proposed BMPs

BMP NAME:	Thorne Drive Basin Retrofit
MUNICIPALITY:	Westtown Township
MS4 SEWERSHED	Goose Creek
COUNTY:	Chester
BMP TYPE:	Proposed BMP
LOCATION:	Corner of Little Shiloh Rd and Thorne Dr
GPS LOCATION:	Lat: 39.947659 / Long: -75.570443
TOTAL DRAINAGE AREA TREATED (ac):	19.86
BMP EFFECTIVENESS VALUE TYPE:	Wet Pond

Developed Land Imp/Pervious Calculations:

Land Use ¹	Area (ac)	% Impervious ²	Impervious Area (ac)	Pervious Area (ac)
Developed, Open Space	9.71	19	1.84	7.87
Developed, Low Intensity	4.27	49	2.09	2.18
Shrub/Scrub	0.98	0		0.98
Deciduous Forest	4.90	0		4.90
Total	19.86		3.94	15.92

Developed Land - Pollutant Reduction:

Land Use	Area (ac)	Pollutant Loading Rates ³			BMP Effectiveness Value ⁴ (Proposed Retrofit BMP ⁵ - Existing Detention Basin BMP)			Pollutant Load Reduction		
								TN (lbs/yr)	TP (lbs/yr)	TSS [Sediment] (lbs/yr)
Impervious, Developed	3.94	21.15	1.46	1,504.78	15%	10%	50%	12.49	0.57	2962.31
Pervious, Developed	15.92	14.09	0.36	185.12	15%	10%	50%	33.65	0.57	1473.81
Total Pollutant Reduction								46.14	1.15	4,436.12

1. NLCD 2011 Land Use and Areas
2. Highest % of impervious used from each NLCD 2011 definition per PADEP
3. From PADEP PRP Instructions Attachment B - Developed Land Loading Rates for PA Counties
4. Per PADEP NPDES BMP Effectiveness Values Table
5. Assumed the retrofit was an extended detention basin





Annual MS4 Status Report

APPENDIX C

MCM #3

Illicit Discharge Detection & Elimination



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

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CedarvilleEng.com



July 12, 2023

Stormwater Management Program

DRY WEATHER OUTFALL FIELD SCREENING REPORT



Prepared For:

Westtown Township
Chester County, Pennsylvania
1039 Wilmington Pike
West Chester, PA 19382

Prepared By:



Cedarville Engineering Group, LLC
Pottstown, Pennsylvania | Pensacola, Florida
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CedarvilleEng.com

Cedarville Engineering Group, LLC (CEG) is a **Federally Certified 8(a)/EDWOSB & DBE/WBE Company** specializing in civil engineering, environmental consulting, geospatial and construction services for federal, state, municipal, private and institutional clients. The CEG team of professionals ensure successful projects from concept to planning and design, through permitting and construction, to project acceptance, operations and maintenance. We deliver value through innovation.

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PROJECT OVERVIEW

1.0 Introduction	1
2.0 Methods.....	1
3.0 Results	2
4.0 Conclusion	3

APPENDICES

Appendix A - Outfall Screening Map

Appendix B - Outfall Screening Summary

Appendix C - Dry Weather Outfall Field Screening Reports



1.0 Introduction

Cedarville Engineering Group, LLC (CEG) performed routine outfall field screenings on behalf of Westtown Township as required by Minimum Control Measure (MCM) #3 “Illicit Discharge Detection and Elimination” (IDD&E) of the National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Individual Permit No. PAI130528.

Westtown Township has two hundred three (203) outfalls within their regulated MS4 that are each required to be inspected once within the five (5) year permit term. Annual outfall screenings are only required if previous problems have been reported or known sources of dry weather flows occur on a continual basis. Fifty-five (55) outfalls were inspected across the Township in 2023, and fifty-eight (58) outfalls remain to be screened during the 2024 annual inspection. See **Appendix A** for a Map of Westtown Township outfalls.

Sixteen (16) of the Township outfalls are assumed discharge points that were created per the guidance from the Pennsylvania Department of Environmental Protection (PA DEP) for the purpose of capturing existing pollutant loads resulting from overland flow as part of the Township’s Total Maximum Daily Load (TMDL)/Pollutant Reduction Plan. These outfalls are assumed for pollutant load modeling purposes only and are not associated with a physical location, and thus will not be screened as part of MCM #3.

2.0 Methods

Outfalls were assessed per the IDD&E protocol outlined in MCM #3, BMP #4 of the NPDES MS4 Individual Permit and the Township’s IDD&E Program. Outfalls are evaluated a minimum of 48 hours after the last precipitation event to ensure any flows observed are not stormwater-related (i.e. dry weather flow). If screenings reveal dry weather flow, then discharge from the outfall and surrounding area are inspected visually for color, odor, turbidity, sheen, floating or submerged solids, and adverse effects on plants or animals in proximity to the outfall.

If dry weather flow contains potential, suspect, or obvious illicit discharge, then field and/or laboratory testing is required, and samples will be collected to determine if flow is illicit. Testing parameters include, but are not limited to: pH, conductivity, *E. Coli* and fecal coliform bacteria, metals, suspended solids, dissolved solids, oils, ammonia, surfactants, chlorine, and fluoride.

Observations of each outfall are recorded during the inspection and regardless of the presence of dry weather flow. All outfall inspection information is recorded digitally using an ArcGIS Online Survey123 Form, which was developed from the Outfall Reconnaissance Inventory/Sample Collection Field Sheet and provided by the US Environmental Protection Agency. Written justification is provided for all outfalls that contain dry weather flow, especially those where illicit discharge is determined to be unlikely.

The results of outfall inspections and actions taken to remove or correct illicit discharges are required to be summarized in the Annual MS4 Status Report.

3.0 Results

Outfall field screenings were conducted on March 16 and March 30, 2023. Dry weather flow was present in five (5) of the fifty-five (55) outfalls, but no physical indicators of potential illicit discharge were observed. In all cases, illicit discharges were determined to be unlikely and the dry weather flows appeared to originate from naturally occurring sources such as pond discharges, perennial or intermittent streams, spring seeps, and/or other groundwater sources. Per the instructions of the Outfall Reconnaissance Inventory/Sample Collection Field Sheet and the Township’s IDD&E Program, sampling and laboratory testing is not required for dry weather flows that are unlikely to contain illicit discharges. **Table 1** below describes the five (5) outfalls where dry weather flow was observed.

Table 1. Outfalls with Dry Weather Flow

Outfall ID	Pipe Type	Pipe Diameter (in)	Shape	Flow Present	Illicit Discharge Determination	Outfall Condition	Subwatershed	Notes
8	RCP	18	Circular	Yes	Unlikely	Good	Radley Run	Flow due to naturally occurring sources.
35	RCP	24	Circular	Yes	Unlikely	Good	East Branch Chester Creek	Flow due to naturally occurring sources
43	RCP	24	Box	Yes	Unlikely	Good	East Branch Chester Creek	Flow due to naturally occurring sources
110	HDPE	36	Circular	Yes	Unlikely	Good	East Branch Chester Creek	Flow & sheen due to naturally occurring sources
149	Open	18	Trapezoid	Yes	Unlikely	Good	East Branch Chester Creek	Flow due to naturally occurring sources

Outfall #117 is a metal structure located off Walnut Hill Road and adjacent to an unnamed tributary on Westtown School property (UPI 67-2-25). Outfall #117 was not located during either of the two (2) site visits due to dense ground cover and is assumed to be buried by debris. Outfall #163 is a concrete structure located off Johnny’s Way and is also on Westtown School property (UPI 67-2-27.45). Flow from Outfall #163 is blocked by a woodchip stockpile that has filled the pipe with debris.

A summary of all outfall field investigations can be found in **Appendix B**. Details of each outfall inspection, including photo documentation and observations of structural condition are reported in **Appendix C**.

4.0 Conclusion

Fifty-five (55) outfalls were screened across Westtown Township as required by MCM #3 of the NPDES MS4 Permit. Dry weather flows were present in five (5) of these outfalls, and illicit discharges were determined to be unlikely since physical indicators were not reported in four (4) of the five (5) outfalls. A clear, odorless oil sheen was observed from Outfall #110 and is likely due to bacterial growth and flow from a neighboring wetland.

It is recommended that Outfalls #117 and #163 be located and excavated to ensure proper functionality.



APPENDIX A

Outfall Screening Map



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



NOTES:
 1. Field screening was not conducted for the "Outfalls Not Screened/Assumed Discharge Points for TMDL/PRP".
 2. The entire Township is consists of 2010 Urbanized Area

DISCLAIMER:
 This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. Infrastructure ownership information is displayed for general planning purposes. It may not be accurate and is not legal or definitive.

DRAWN BY: WH
 DATE: 4/12/23
 1 INCH = 700 FEET
 0 350 700 1,400 US Feet



WESTTOWN TOWNSHIP
**DRY WEATHER OUTFALL
 FIELD SCREENING MAP**
 CHESTER COUNTY, PA

- Legend**
- ▲ Outfalls Screened in 2023
 - ▲ Outfalls Not Screened/Assumed Discharge Points for TMDL/PRP
 - ▲ Observation Points
 - Private Road
 - State Road
 - Township Road
 - FEMA Streams
 - Township Boundary



APPENDIX B

Outfall Screening Summary



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

WESTTOWN TOWNSHIP 2023 OUTFALL SCREENING SUMMARY

Outfall ID	Type	Pipe Type	Shape	Pipe Diameter (in)	Flow Present	Illicit Discharge Determination	Outfall Condition	Subwatershed:	Drain Priority Area?	Field Screening Notes
8	Outfall	RCP	Circular	18	Yes	Unlikely	Good	Radley Run	Non-priority	Conveying groundwater breakthrough.
12	Outfall	CMP	Circular	12	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
24	Observation point	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
26	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
27	Observation point	RCP	Circular	12	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
30	Observation point	RCP	Circular	30	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
31	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
32	Observation point	RCP	Box	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
33	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
34	Observation point	RCP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
35	Outfall	RCP	Circular	24	Yes	Unlikely	Good	East Branch Chester Creek	Non-priority	Conveying groundwater breakthrough.
39	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
40	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
41	Observation point	RCP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
42	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
43	Observation point	RCP	Box	24	Yes	Unlikely	Good	East Branch Chester Creek	Non-priority	Conveying groundwater breakthrough.
46	Observation point	RCP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
58	Outfall	RCP	Circular	18	No	Unlikely	Good	Radley Run	Non-priority	
59	Outfall	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	

WESTTOWN TOWNSHIP 2023 OUTFALL SCREENING SUMMARY

Outfall ID	Type	Pipe Type	Shape	Pipe Diameter (in)	Flow Present	Illicit Discharge Determination	Outfall Condition	Subwatershed:	Drain Priority Area?	Field Screening Notes
63	Outfall	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
64	Outfall	CMP	Elliptical	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
65	Outfall	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
66	Outfall	CMP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
67	Outfall	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
69	Outfall	RCP	Circular	30	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
76	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
97	Observation point	RCP	Circular	12	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
98	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
106	Observation point	RCP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
108	Observation point	Open	Trapezoid	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
109	Outfall	CMP	Circular	36	No	Unlikely	Good	East Branch Chester Creek	Non-priority	Standing water in the pipe from settling.
110	Outfall	HDPE	Circular	36	Yes	Unlikely	Good	East Branch Chester Creek	Non-priority	Flow from wetland swale across the street.
116	Outfall	CMP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
117	Observation point	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	Needs maintenance
118	Outfall	Open	Trapezoid	12	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
119	Observation point	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
121	Outfall	Open	Trapezoid	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	

WESTTOWN TOWNSHIP 2023 OUTFALL SCREENING SUMMARY

Outfall ID	Type	Pipe Type	Shape	Pipe Diameter (in)	Flow Present	Illicit Discharge Determination	Outfall Condition	Subwatershed:	Drain Priority Area?	Field Screening Notes
123	Outfall	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
124	Outfall	CMP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
129	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
131	Outfall	RCP	Circular	36	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
135	Observation point	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
138	Observation point	CMP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
149	Outfall	Open	Trapezoid	18	Yes	Unlikely	Good	East Branch Chester Creek	Non-priority	Flow from wetland swale.
150	Outfall	Open	Trapezoid	Swale	No	Unlikely	Good	East Branch Chester Creek	Non-priority	Outfall assumed to be drainage swale along the road.
151	Observation point	CMP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
153	Outfall	Open	Trapezoid	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
154	Outfall	Open	Trapezoid	12	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
155	Outfall	Open	Trapezoid	36	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
157	Outfall	Open	Trapezoid	30	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
163	Outfall	RCP	Circular	24	No	Unlikely	Good	East Branch Chester Creek	Non-priority	Needs maintenance
165	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
166	Observation point	RCP	Circular	18	No	Unlikely	Good	East Branch Chester Creek	Non-priority	
179	Outfall	Open	Trapezoid	18	No	Unlikely	Good	Radley Run	Non-priority	
195	Outfall	Open	Trapezoid	Swale	No	Unlikely	Good	East Branch Chester Creek	Non-priority	



APPENDIX C

Dry Weather Outfall Field Screening Reports



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DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 12:15
Number: 8	Outfall/Observation Point: Outfall
Lat/Long: 39.925, -75.58880	Inspector(s): Jack Shuey
Subwatershed: Radley Run	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/24/23	Amount of Previous Precipitation: 0.81in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? Yes				
Flow description (if present): Moderate				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume	100ml	Liter	Bottle
	Time to fill	3.5	Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature		49	° Fahrenheit	Thermometer
pH		6.5	PH Units	Test strip/Probe
Ammonia		0	Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **No**

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

No

Notes: Outfall is conveying freshwater. The storm drain 20 ft up is dry.


Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 10:56
Number: 12	Outfall/Observation Point: Outfall
Lat/Long: 39.94564, -75.574987	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential, Other
Date of Previous Precipitation: 3/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular,	12	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 15:02
Number: 24	Outfall/Observation Point: Observation Point
Lat/Long: 39.94398, -75.5502	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:09
Number: 26	Outfall/Observation Point: Observation Point
Lat/Long: 39.960927, -75.53246	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely


Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:04
Number: 27	Outfall/Observation Point: Observation Point
Lat/Long: 39.95956, -75.5318566	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	12	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Full of leaves





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 11:41
Number: 30	Outfall/Observation Point: Observation Point
Lat/Long: 39.957277, -75.537979	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	30	In water: No
				With sediment: No
Open				
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall presumed to be overland flow to this storm drain due to a piped stream that flows through the system.



Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:15
Number: 31	Outfall/Observation Point: Observation Point
Lat/Long: 39.962795, -75.5337968	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:


Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:28
Number: 32	Outfall/Observation Point: Observation Point
Lat/Long: 39.96086, -75.5393	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Box, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:21
Number: 33	Outfall/Observation Point: Observation Point
Lat/Long: 39.959799, -75.5357547	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall was screened from 2 observation points on the street. 1 photo of each dry culvert box on the street which converge before leading to the outfall.


Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 10:09
Number: 34	Outfall/Observation Point: Observation Point
Lat/Long: 39.92427, -75.57612	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:01
Number: 35	Outfall/Observation Point: Outfall
Lat/Long: 39.9449998, -75.53002	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? Yes				
Flow description (if present): Trickle				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume	100ml	Liter	Bottle
	Time to fill	20	Seconds	Stopwatch
Flow #2	Flow depth	0	Inches	Tape measure
	Flow width	2"	Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature		48	° Fahrenheit	Thermometer
pH		6.5	PH Units	Test strip/Probe
Ammonia		0	Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **No**

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely


Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Flow from groundwater breakthrough

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 13:57
Number: 39	Outfall/Observation Point: Observation Point
Lat/Long: 39.958767, -75.526976	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
 A photograph showing the interior of a pipe or manhole. The walls are concrete and appear wet. There is a significant amount of debris, including leaves and twigs, piled up against the left wall. A bright light source is visible at the top right, creating a strong glare.		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
 A photograph of a manhole opening in a concrete sidewalk. A metal grate with diagonal slats is in place. Above the grate, a concrete pipe extends horizontally. A blue spray-painted mark is visible on the top of the pipe. The surrounding area is grass and asphalt.		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 13:52
Number: 40	Outfall/Observation Point: Observation Point
Lat/Long: 39.959052, -75.52613	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 14:10
Number: 41	Outfall/Observation Point: Observation Point
Lat/Long: 39.959406, -75.522679	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment:
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Observation point. Storm drain above culvert which passes piped drainage swale beneath the street. Some standing water.

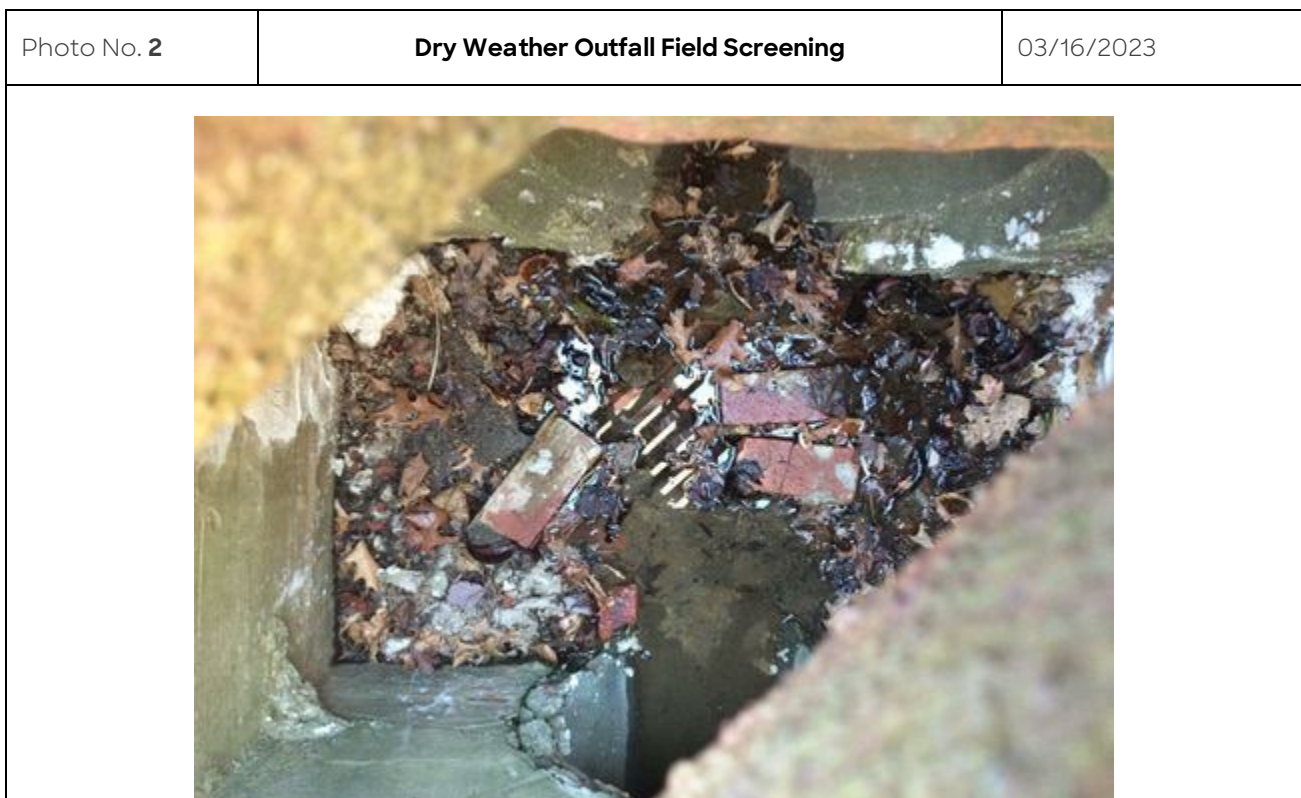


Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 13:44
Number: 42	Outfall/Observation Point: Observation Point
Lat/Long: 39.95954, -75.5251	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 14:16
Number: 43	Outfall/Observation Point: Observation Point
Lat/Long: 39.96182, -75.5245598	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Box, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? Yes				
Flow description (if present): Trickle				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume	Inaccessable	Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **No**

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:



Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:48
Number: 46	Outfall/Observation Point: Observation Point
Lat/Long: 39.9629, -75.525296	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 12:12
Number: 58	Outfall/Observation Point: Outfall
Lat/Long: 39.9254, -75.587598	Inspector(s): Jack Shuey
Subwatershed: Radley Run	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: Partially
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:20
Number: 59	Outfall/Observation Point: Outfall
Lat/Long: 39.9522, -75.53579	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:


Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:46
Number: 63	Outfall/Observation Point: Outfall
Lat/Long: 39.9387, -75.57296	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential, Open Space
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:42
Number: 64	Outfall/Observation Point: Outfall
Lat/Long: 39.93836, -75.57338	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Open Space
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Elliptical, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely


Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:50
Number: 65	Outfall/Observation Point: Outfall
Lat/Long: 39.9379, -75.573687	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential, Open Space
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: Partially
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 10:40
Number: 66	Outfall/Observation Point: Outfall
Lat/Long: 39.93287, -75.57231	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Pipe very degraded

Notes: Spring under cutting the outfall structure.


Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 16:11
Number: 67	Outfall/Observation Point: Outfall
Lat/Long: 39.93533, -75.55516	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall inspected as surface drainage from street gutters entering storm grate.

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 15:14
Number: 69	Outfall/Observation Point: Outfall
Lat/Long: 39.93107, -75.55587	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	30	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:



Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 15:26
Number: 76	Outfall/Observation Point: Observation Point
Lat/Long: 39.92937, -75.58009	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Small amount of standing water. Little to know flow in the culvert.





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 15:52
Number: 97	Outfall/Observation Point: Observation Point
Lat/Long: 39.93044, -75.56685	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	12	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Some standing water inside storm culvert.





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 16:02
Number: 98	Outfall/Observation Point: Observation Point
Lat/Long: 39.9317, -75.5726	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 15:47
Number: 106	Outfall/Observation Point: Observation Point
Lat/Long: 39.93184, -75.56778	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 13:29
Number: 108	Outfall/Observation Point: Observation Point
Lat/Long: 39.95947, -75.52906	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Trapezoid	2	
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall assumed to be storm grate at the culvert. White pipe under neighbors' property.



Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:50
Number: 109	Outfall/Observation Point: Outfall
Lat/Long: 39.96555, -75.531967	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban/Residential
Date of Previous Precipitation: 3/11/23	Amount of Previous Precipitation: 0.23in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Elliptical, Single	36	In water: No
				With sediment: No
Open				
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall has some standing water from pipe settling. Neighboring pipe appears to have minor issues not associated with this outfall.





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 12:41
Number: 110	Outfall/Observation Point: Outfall
Lat/Long: 39.96559, -75.53194	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	HDPE	Circular, Single	36	In water: No
				With sediment: No
Open				
In-stream? Yes				
Flow present? Yes				
Flow description (if present): Moderate				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume	100	Liter	Bottle
	Time to fill	7.5	Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature		55	° Fahrenheit	Thermometer
pH		6	PH Units	Test strip/Probe
Ammonia		0	Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **Yes**

Indicator	Present?	Description	Relative Severity
Odor			
Color		Clear	
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **Yes**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality		Oil sheen	
Pipe benthic growth		Brown	

Overall outfall characterization for an illicit discharge: Unlikely


Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: It is probable that the wetland across the street is contributing to the flow and sheen observed here. The sheen is likely produced naturally by bacteria which are known to proliferate in wetland environments.

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:08
Number: 116	Outfall/Observation Point: Outfall
Lat/Long: 39.94244, -75.5717947	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	
2. If yes, collected from:	
3. Intermittent flow trap set?	
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:24
Number: 117	Outfall/Observation Point: Observation Point
Lat/Long: 39.95283, -75.536283	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: Fully
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall could not be located due to thick debris. Flow screened from nearby street drain. It is recommended the outfall be cleaned out to allow for proper discharge (see map below).



Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 13:53
Number: 118	Outfall/Observation Point: Outfall
Lat/Long: 39.9429, -75.5286	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential, Open Space
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Earthen	Trapezoid	12	
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall considered to be overland flow areas surrounding piped stream crossing.

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 12:53
Number: 119	Outfall/Observation Point: Observation Point
Lat/Long: 39.9373, -75.54064	Inspector(s): Jack Shuey
Subwatershed: Eash Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 14:40
Number: 121	Outfall/Observation Point: Outfall
Lat/Long: 39.95388, -75.55495	Inspector(s): Jack shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: Yes
				With sediment: No
Open	Concrete	Trapezoid	24	
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall assumed to be the drainage into the culvert which pipes the stream beneath the street.

Photo No. 1

Dry Weather Outfall Field Screening

03/16/2023



Photo No. 2

Dry Weather Outfall Field Screening

03/16/2023



Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 14:51
Number: 123	Outfall/Observation Point: Outfall
Lat/Long: 39.95136, -75.55819	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:02
Number: 124	Outfall/Observation Point: Outfall
Lat/Long: 39.94432 , -75.57340	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:34
Number: 129	Outfall/Observation Point: Observation Point
Lat/Long: 39.94047, -75.57378	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	n/a	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall inaccessible. Street drain used for observation. No audio or visual indications of flow.

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 10:36
Number: 131	Outfall/Observation Point: Outfall
Lat/Long: 39.93295, -75.57222	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	36	In water: No
				With sediment: Partially
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 15:36
Number: 135	Outfall/Observation Point: Observation Point
Lat/Long: 39.93455, -75.5814	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 12:34
Number: 138	Outfall/Observation Point: Observation Point
Lat/Long: 39.9312 , -75.601447	Inspector(s): Jack Shuey
Subwatershed: Plum Run	Contributing Drainage Area Land Use: Suburban Residential, Open Space
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:



Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:32
Number: 149	Outfall/Observation Point: Outfall
Lat/Long: 39.95567, -75.5383	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation:	Amount of Previous Precipitation:
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water:
				With sediment:
Open	Earthen	Trapezoid	18	
In-stream? Yes				
Flow present? Yes				
Flow description (if present): Trickle				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume	100ml	Liter	Bottle
	Time to fill	13	Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH		6	PH Units	Test strip/Probe
Ammonia		0	Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **No**

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall assumed to be overland flow from Wetland swale.

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:37
Number: 150	Outfall/Observation Point: Outfall
Lat/Long: 39.95565, -75.538554	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water:
				With sediment:
Open	Earthen	Trapezoid		
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall inspected as overland flow through drainage swale.

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:21
Number: 151	Outfall/Observation Point: Observation Point
Lat/Long: 39.94217, -75.565465	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall blocked by wire fence. Basin emergency spillway grate used as observation point.

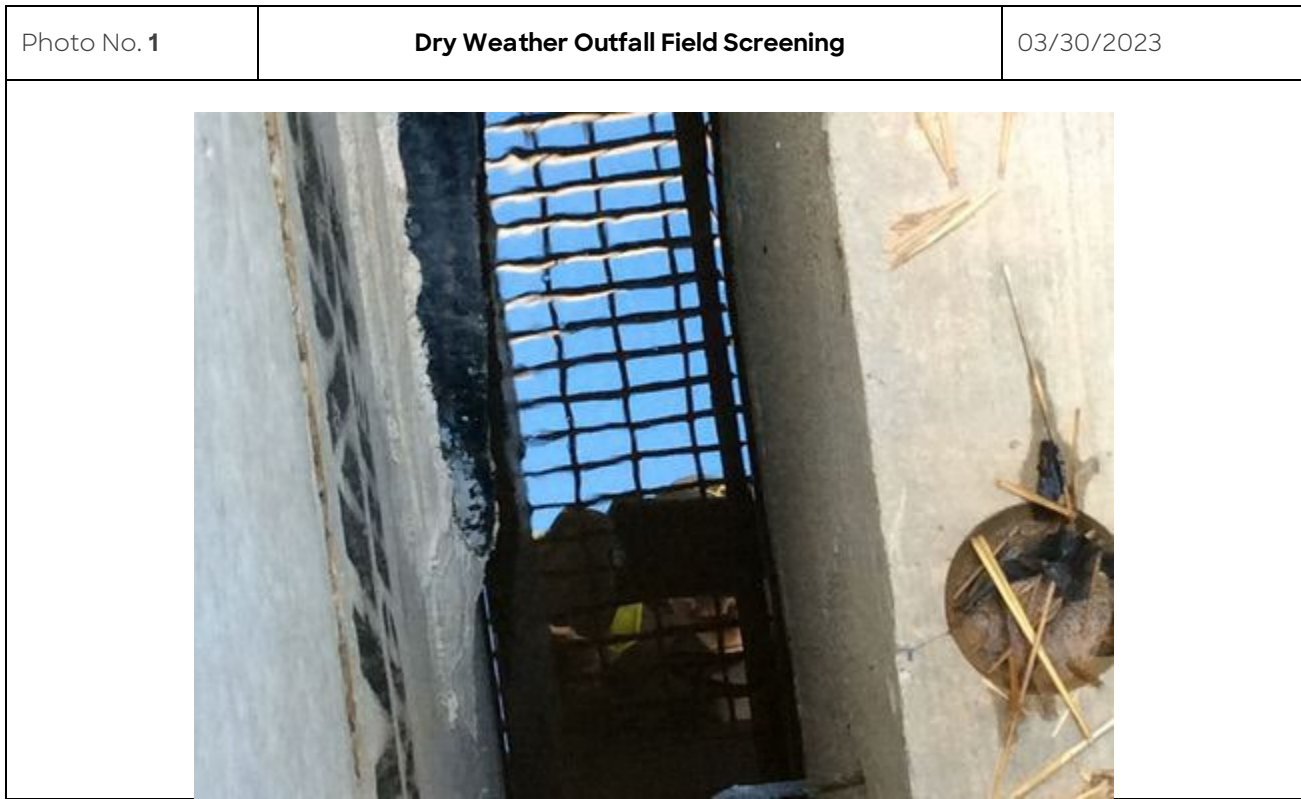


Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 14:05
Number: 153	Outfall/Observation Point: Outfall
Lat/Long: 39.95888, -75.5226978	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Trapezoid	24	
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Road drainage into culvert which passes a stream beneath the street.





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 13:19
Number: 154	Outfall/Observation Point: Outfall
Lat/Long: 39.96176, -75.526759	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed		,		In water: No
				With sediment: No
Open	Other	Trapezoid	12	
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Open asphalt drainage on either side of the street above the culvert.

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 13:09
Number: 155	Outfall/Observation Point: Outfall
Lat/Long: 39.9630, -75.52827	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water:
				With sediment:
Open	Concrete	Trapezoid	36	
In-stream? Yes				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Open asphalt drainage on culvert structure.


Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/16/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 11:12
Number: 157	Outfall/Observation Point: Outfall
Lat/Long: 39.942267, -75.572196	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Trapezoid	30	
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 14:10
Number: 163	Outfall/Observation Point: Outfall
Lat/Long: 39.9505, -75.5335	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment: Fully
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Wood chip stockpile has blocked the flow path and filled in the pipe. It is recommended the Township clear the blocked flow path. See site location below.



Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3

Dry Weather Outfall Field Screening

03/30/2023





DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 11:59
Number: 165	Outfall/Observation Point: Observation Point
Lat/Long: 39.95843, -75.533078	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/16/2023	Time: 11:54
Number: 166	Outfall/Observation Point: Observation Point
Lat/Long: 39.95798, -75.535815	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/11/23	Amount of Previous Precipitation: 0.23 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/16/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/16/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 12:28
Number: 179	Outfall/Observation Point: Outfall
Lat/Long: 39.92528, -75.59851	Inspector(s): Jack Shuey
Subwatershed: Radley Run	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation: 03/24/23	Amount of Previous Precipitation: 0.81 in
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Earthen	Trapezoid	18	
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		



DRY WEATHER OUTFALL FIELD SCREENING

Westtown Township | NPDES ID: PAI130528

Date: 03/30/2023	Time: 10:20
Number: 195	Outfall/Observation Point: Outfall
Lat/Long: 39.924726, -75.57885	Inspector(s): Jack Shuey
Subwatershed: East Branch Chester Creek	Contributing Drainage Area Land Use: Suburban Residential
Date of Previous Precipitation:	Amount of Previous Precipitation:
Responsible Official Name: Jack Shuey	Signature: <i>John Shuey</i>

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water:
				With sediment:
Open	Earthen	Trapezoid		
In-stream? No				
Flow present? No				
Flow description (if present):				



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Quantitative Characterization

(Field Data for Flowing Outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Seconds	Stopwatch
Flow #2	Flow depth		Inches	Tape measure
	Flow width		Feet, Inches	Tape measure
	Measured length		Feet, Inches	Tape measure
	Time of travel		Seconds	Stopwatch
Temperature			° Fahrenheit	Thermometer
pH			PH Units	Test strip/Probe
Ammonia			Milligram per Liter	Test strip

Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	


Any non-illicit discharge concerns?

Notes: Outfall considered to be the sheet flow and drainage patterns surrounding the pond outlet.

Photo No. 1	Dry Weather Outfall Field Screening	03/30/2023
		

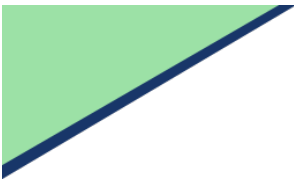
Photo No. 2	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 3	Dry Weather Outfall Field Screening	03/30/2023
		

Photo No. 4	Dry Weather Outfall Field Screening	03/30/2023
		

WESTTOWN TOWNSHIP PRIORITY OUTFALLS

Outfall ID	Type	Pipe Type	Shape	Outfall Condition	Subwatershed:	Drain Priority Area?	Address
14	Outfall	CMP	Circular	Good	East Branch Chester Creek	Yes	Lat: 39.941942, Long: -75.579037
25	Observation Point	CMP	Circular	Good	East Branch Chester Creek	Yes	1132 CARDINAL DR WEST CHESTER PA
37	Observation Point	HDPE	Circular	Good	East Branch Chester Creek	Yes	1425 CARROLL BROWN WY WEST CHESTER PA
45	Outfall	RCP	Circular	Good	East Branch Chester Creek	Yes	1542 WICKERTON DR WEST CHESTER PA
47	Observation Point	RCP	Circular	Good	East Branch Chester Creek	Yes	501 CHESTERVILLE WY WEST CHESTER PA
48	Outfall	Open	Concrete	Good	East Branch Chester Creek	Yes	1504 CHARLES RD WEST CHESTER PA
55	Outfall	HDPE	Circular	Good	East Branch Chester Creek	Yes	1101 KOLBE LA WEST CHESTER PA
56	Observation Point	RCP	Circular	Good	East Branch Chester Creek	Yes	1018 ROBIN DR WEST CHESTER PA
57	Observation Point	RCP	Circular	Good	East Branch Chester Creek	Yes	1020 CAROLYN DR WEST CHESTER PA
70	Observation Point	Open	Earthen	Good	East Branch Chester Creek	Yes	816 OAKBOURNE RD WEST CHESTER PA
88	Observation Point	CMP	Circular	Good	Plum Run	Yes	704 SPRING LINE DR WEST CHESTER PA
89	Observation Point	HDPE	Circular	Good	Plum Run	Yes	820 GENERAL HOWE DR WEST CHESTER PA
111	Observation Point	RCP	Circular	Good	Hunters Run	Yes	1638 GREEN LA WEST CHESTER PA
113	Outfall	Open	Concrete	Good	East Branch Chester Creek	Yes	1501 GRANT RD WEST CHESTER PA
115	Outfall	Open	Concrete	Good	East Branch Chester Creek	Yes	1005 ROBIN DR WEST CHESTER PA
122	Outfall	RCP	Circular	Good	East Branch Chester Creek	Yes	925 HUNT DR WEST CHESTER PA
139	Observation Point	RCP	Circular	Good	East Branch Chester Creek	Yes	901 OAKBOURNE RD WEST CHESTER PA
140	Outfall	RCP	Circular	Good	East Branch Chester Creek	Yes	901 OAKBOURNE RD WEST CHESTER PA
145	Observation Point	HDPE	Circular	Good	East Branch Chester Creek	Yes	1007 SHILOH RD WEST CHESTER PA
156	Outfall	Open	Concrete	Good	East Branch Chester Creek	Yes	1545 JOHNNYS WY WEST CHESTER PA
159	Observation Point	RCP	Circular	Good	East Branch Chester Creek	Yes	1085 WOOD LA WEST CHESTER PA
172	Observation Point	CMP	Circular	Good	East Branch Chester Creek	Yes	1013 SHILOH RD WEST CHESTER PA



Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 14:56
Number: 14	Outfall/Observation Point: Outfall
Lat/Long: -75.57902, 39.94193	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

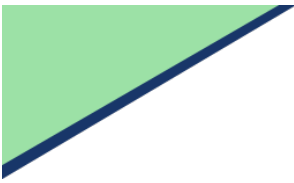
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #14





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:20
Number: 25	Outfall/Observation Point: Observation Point
Lat/Long: -75.52082, 39.94591	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	N/A	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

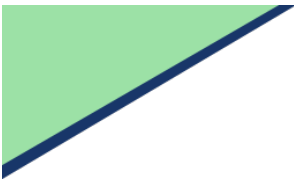
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #25





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 15:13
Number: 37	Outfall/Observation Point: Observation Point
Lat/Long: -75.53066, 39.95654	Inspector(s): WH, AR
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	HDPE	Circular, Single	N/A	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

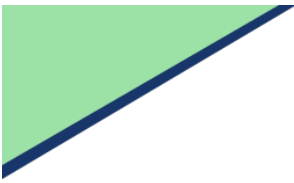
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #37





Dry Weather Outfall Field Screening

Westtown Township

NPDES ID: PAI130528

Date: 07/13/2023	Time: 13:37
Number: 45	Outfall/Observation Point: Outfall
Lat/Long: -75.52298, 39.96279	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	N/A	In water: Partially
				With sediment: No
Open				
In-stream? Yes				
Flow present? Yes				
Flow description (if present): moderate				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

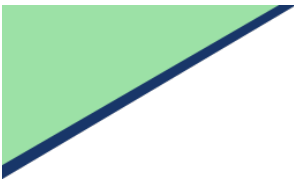
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: small fish observed

Outfall #45





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 13:30
Number: 47	Outfall/Observation Point: Observation Point
Lat/Long: -75.52415, 39.96248	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	N/A	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

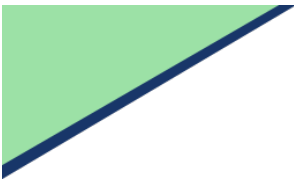
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #47





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 13:45
Number: 48	Outfall/Observation Point: Outfall
Lat/Long: -75.52891, 39.96155	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Parabolic		
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

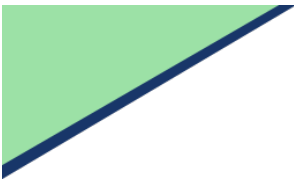
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: The inlet is the headwaters to the stream, which is conveying ground water within the inlet box. The outfall is the swale drainage from municipal road into the inlet.

Outfall #48





Dry Weather Outfall Field Screening

Westtown Township

NPDES ID: PAI130528

Date: 07/13/2023	Time: 14:23
Number: 55	Outfall/Observation Point: Outfall
Lat/Long: -75.57993, 39.92746	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	HDPE	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? Yes				
Flow present? Yes				
Flow description (if present): Trickle				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume	130	Liter	Bottle
	Time to fill	.4	Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		45	°F	Thermometer
pH		6.5	pH Units	Test strip/Probe
Ammonia		0	mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **No**

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

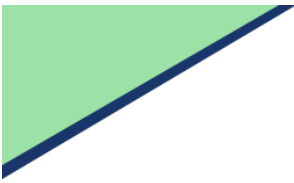
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Flow is from wet basin.

Outfall #55





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:24
Number: 56	Outfall/Observation Point: Observation Point
Lat/Long: -75.5296, 39.94654	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? **No**

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

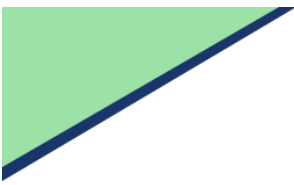
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #56





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 14:57
Number: 57	Outfall/Observation Point: Observation Point
Lat/Long: -75.56279, 39.94258	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	24	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #57



Outfall #57





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:01
Number: 70	Outfall/Observation Point: Observation Point
Lat/Long: -75.56325, 39.94064	Inspector(s): MG
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Earthen	Parabolic		
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #70





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 14:43
Number: 88	Outfall/Observation Point: Observation Point
Lat/Long: -75.59814, 39.93431	Inspector(s): MG, PC
Subwatershed: Plum Run	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #88





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 14:38
Number: 89	Outfall/Observation Point: Observation Point
Lat/Long: -75.60655, 39.92707	Inspector(s): MG, PC
Subwatershed: Plum Run	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	HDPE	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? YES				
Flow description (if present): trickle				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

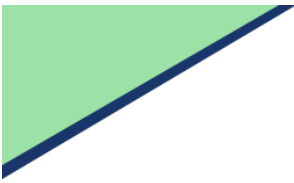
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #89





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 07/13/2023	Time: 13:59
Number: 111	Outfall/Observation Point: Observation Point
Lat/Long: -75.51204, 39.96369	Inspector(s): MG
Subwatershed: Hunters Run	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	N/A	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

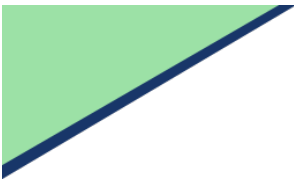
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: cleared grass from inlet

Outfall #111





Dry Weather Outfall Field Screening

Westtown Township

NPDES ID: PAI130528

Date: 07/13/2023	Time: 13:46
Number: 113	Outfall/Observation Point: Outfall
Lat/Long: -75.53007, 39.9606	Inspector(s): MG,PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Parabolic		
In-stream? No				
Flow present? Yes				
Flow description (if present): moderate				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

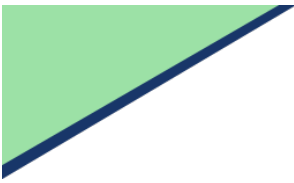
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Defined swale outfall. Fish observed in water.

Outfall #113





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:27
Number: 115	Outfall/Observation Point: Outfall
Lat/Long: -75.52811, 39.94898	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use:

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Parabolic		
In-stream? Yes				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

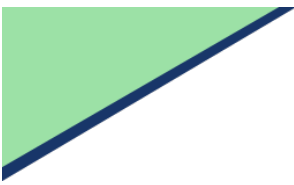
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Outfall is the roadside swale draining municipal road runoff to the inlet that discharged directly to the stream.

Outfall #115





Dry Weather Outfall Field Screening

Westtown Township

NPDES ID: PAI130528

Date: 06/02/2023	Time: 14:54
Number: 122	Outfall/Observation Point: Outfall
Lat/Long: -75.5569, 39.94556	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	NA	In water: Fully
				With sediment: Fully
Open				
In-stream? Yes				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

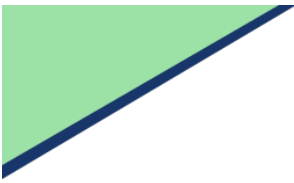
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #122





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:06
Number: 139	Outfall/Observation Point: Observation Point
Lat/Long: -75.56161, 39.94593	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

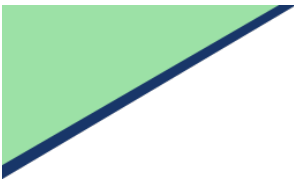
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Could not locate pipe end where the outfall is. Used the upstream inlet as the observation point.

Outfall #139





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 14:43
Number: 140	Outfall/Observation Point: Outfall
Lat/Long: -75.56205, 39.94633	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential, Open Space

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

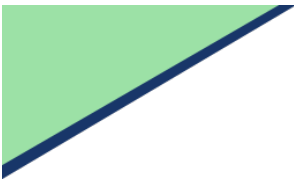
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: too much vegetation to get a clear view of outfall

Outfall #140





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:11
Number: 145	Outfall/Observation Point: Observation Point
Lat/Long: -75.55343, 39.94848	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	HDPE	Circular, Single	12	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

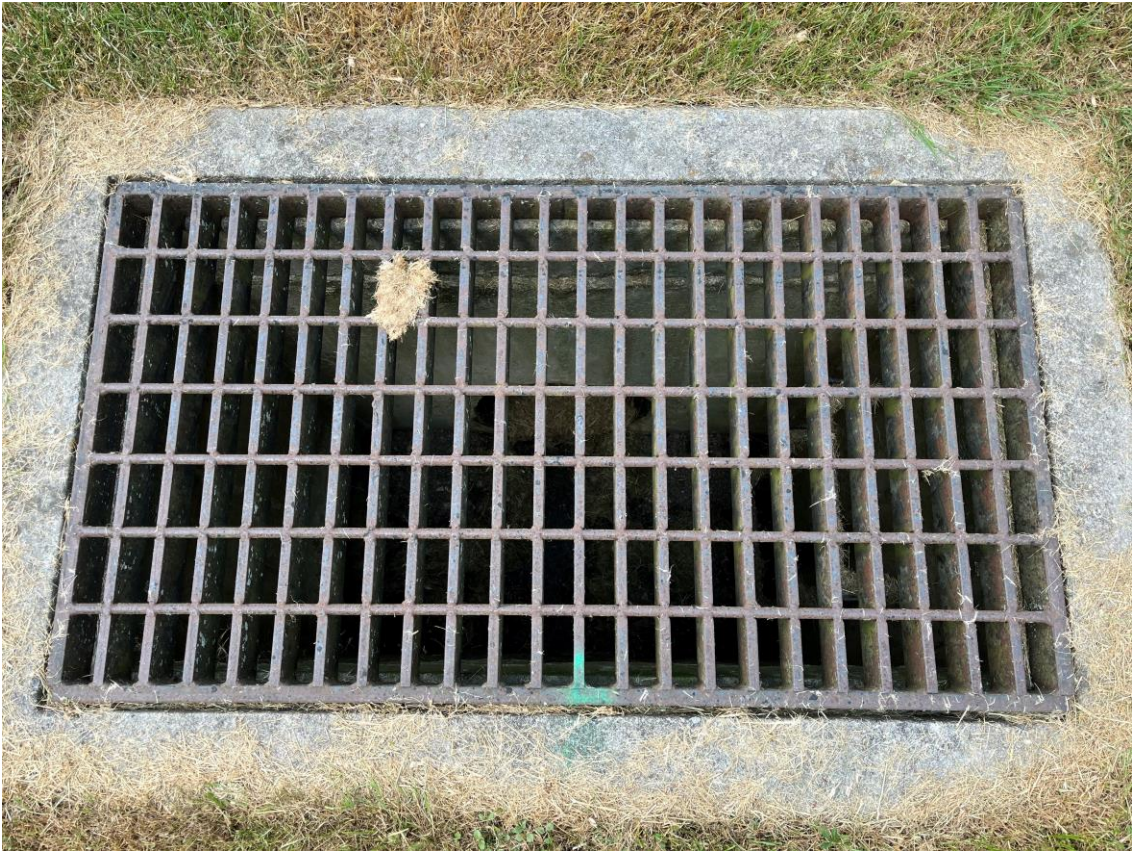
Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #140





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 15:32
Number: 156	Outfall/Observation Point: Outfall
Lat/Long: -75.52012, 39.95848	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed				In water: No
				With sediment: No
Open	Concrete	Parabolic		
In-stream? No				
Flow present? Yes				
Flow description (if present): Moderate				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? **No**

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

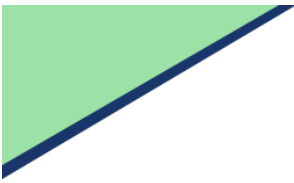
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes: Inlet is conveying a stream. The drainage from municipal roads into the inlet is the outfall.

Outfall #156





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 14:36
Number: 159	Outfall/Observation Point: Observation Point
Lat/Long: -75.5594, 39.93662	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	RCP	Circular, Single	18	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter	Result	Unit	Equipment
Flow #1	Volume	Liter	Bottle
	Time to fill	Sec	
Flow #2	Flow depth	In	Tape measure
	Flow width	Ft, In	Tape measure
	Measured length	Ft, In	Tape measure
	Time of travel	S	Stop watch
Temperature		°F	Thermometer
pH		pH Units	Test strip/Probe
Ammonia		mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

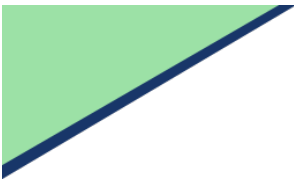
1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #159





Dry Weather Outfall Field Screening

Westtown Township
NPDES ID: PAI130528

Date: 06/02/2023	Time: 14:49
Number: 172	Outfall/Observation Point: Observation Point
Lat/Long: -75.55102, 39.94804	Inspector(s): MG, PC
Subwatershed: East Branch Chester Creek	Land Use: Suburban Residential

Outfall Description

Pipe Type	Material	Shape	Dimensions (in.)	Submerged
Closed	CMP	Circular, Single	NA	In water: No
				With sediment: No
Open				
In-stream? No				
Flow present? No				
Flow description (if present):				

Quantitative Characterization

(field data for flowing outfalls)

Parameter		Result	Unit	Equipment
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mG/L	Test strip



Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?

Indicator	Present?	Description	Relative Severity
Odor			
Color			
Turbidity			
Floatables			

Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? No

Indicator	Present?	Description	Comments
Outfall Damage			
Deposits/Stains			
Abnormal Vegetation			
Poor pool quality			
Pipe benthic growth			

Overall outfall characterization for an illicit discharge: Unlikely

Data Collection

1. Sample for the lab?	No
2. If yes, collected from:	
3. Intermittent flow trap set?	No
4. Flow trap type:	

Any non-illicit discharge concerns?

Notes:

Outfall #172



**ILLICIT DISCHARGE FIELD SCREENING PROGRAM
Data Collection Form**

STRUCTURE #: Sewer Lateral cleanout Date: 3/14/2023 Time: 10:00

STRUCTURE OWNER: TOWNSHIP PENNDOT PRIVATE DEVELOPMENT _____

TIME SINCE LAST RAIN: ≥72 hours <72 hours
QUANTITY OF LAST RAIN: ≥0.1 inches <0.1 inches
INSPECTION TEAM: _____

Westtown Public Works Department, Jon Altshul (Township Manager)

SITE DESCRIPTION:

LOCATION (Narrative Description): Sewage overflow identified at a lateral clean-out located at 1528 Pennsbury but associate with the sewer lateral that serves 1527 Johnny's Way. Small amount of sewage identified flowing into storm sewer system.

STRUCTURE TYPE: OPEN CHANNEL MANHOLE OUTFALL OTHER: Sewer lateral

DOMINANT WATERSHED LAND USES: INDUSTRIAL COMMERCIAL RESIDENTIAL UNKNOWN
OTHER: _____

FLOW ESTIMATION:

WAS FLOW OBSERVED? NO YES IF YES, PLEASE ANSWER a. - d. BELOW.
a. WIDTH OF WATER SURFACE (feet): minimal
b. APPROXIMATE DEPTH OF WATER (feet): minimal
c. APPROXIMATE FLOW VELOCITY (feet per second): minimal
d. FLOW RATE (cubic feet per second) = a x b x c = minimal

VISUAL OBSERVATIONS:

WAS A PHOTO TAKEN? NO YES (Roll and Photo Number: _____)

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

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

CLARITY: CLEAR CLOUDY OPAQUE

FLOATABLES: NONE OILY SHEEN GARBAGE/SEWAGE OTHER: _____

DEPOSITS/STAINS: NONE SEDIMENTS OILY OTHER: _____

VEGETATION CONDITION: NONE NORMAL EXCESSIVE GROWTH INHIBITED GROWTH

STRUCTURAL CONDITION: NORMAL CONCRETE CRACKING METAL CORROSION OTHER: _____

BIOLOGICAL: MOSQUITO LARVAE BACTERIA/ALGAE OTHER: _____

FIELD ANALYSIS:

WATER TEMP: n/a °F / °C CHLORINE (Total): n/a mg/l
pH: n/a COPPER: n/a mg/l
PHENOL: n/a mg/l DETERGENTS: n/a mg/l

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

COMMENTS: _____

DATA SHEET FILLED OUT BY: (signature): _____ DATE: 3/17/23

(print name): Karen Cerenzia



The picture is of the front yard of 1528 Pennsbury. The cleanout on the right connects to 1527 Johnnys Way. Right now the wastewater is to the top of the cleanout, presumably because no one's home and running water. However, you can see bits of toilet paper, which suggests that once they start flushing toilets, taking showers and doing laundry it will start overflowing again and running into the creek



Annual MS4 Status Report

APPENDIX D

MCM #5

PCSM BMP Inventory



ceg

Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



Westtown Township 2023 PCSM BMP Inventory

BMP #	BMP Type	Qty	BMP Address	Site Name	NPDES #	Date Installed	Latitude	Longitude	Last Inspected	Inspection Status
2A	Subsurface Infiltration Facility	1	750 Westbourne Road	WCASD - Thornbury Elementary	PAG02001511003-R	6/5/2012	39.93450253	-75.55518408	4/21/2023	Inaccessible
2B	Rain Garden/Bioretenion Area	1	750 Westbourne Road	WCASD - Thornbury Elementary	PAG02001511003-R	10/23/2014	39.93455835	-75.5549872	4/21/2023	Compliant
2C	Water Quality Inlet Insert	1	750 Westbourne Road	WCASD - Thornbury Elementary	PAG02001511003-R	10/23/2014	39.93465981	-75.5551821	4/21/2023	Violation
2D	Snout	2	750 Westbourne Road	WCASD - Thornbury Elementary	PAG02001511003-R	10/23/2014	39.93442603	-75.55492336	4/21/2023	Compliant
3	Subsurface Infiltration Facility	1	1470 Johnny's Way	WCASD - Penn Wood Elementary	PAG02001511013-R	4/5/2012	39.95314448	-75.52681351	4/21/2023	Violation
6A	Infiltration Basin	1	1502 West Chester Pike	Proposed Giant Building Expansion	PAG02001516023		39.96494608	-75.52701206	3/31/2023	Violation
6B	Vegetative Swale	1	1502 West Chester Pike	Proposed Giant Building Expansion	PAG02001516023		39.96465194	-75.52607748	3/31/2023	Compliant
6C	Snout	1	1502 West Chester Pike	Proposed Giant Building Expansion	PAG02001516023		39.96470341	-75.5261139	3/31/2023	Violation
7	Detention Basin	1	1568 West Chester Pike, West Chester, PA 19382	West Chester Jaguar/Land Rover	PAG2001503042		39.96506656	-75.52449692	3/31/2023	Violation
8	Extended Detention Basin	2	Jefferson Center/Westtown Reserve/Gardens	Joseph McCawley	PAG2001503044-R	7/3/2005	39.93194287	-75.58289349	3/31/2023	Violations
9	Seepage Bed	1	1041 Wilmington Pike, West Chester, PA 19382	Westtown/E Goshen Police Station	PAG2001503083		39.9335367	-75.58540435	3/31/2023	Violation
10A	Detention Basin	10	1100 Shiloh Rd, West Chester, PA 19382	Bayard Rustin High School	PAG2001503086		39.93776278	-75.55568169	4/20/2023	Violations (7)
10B	Infiltration Trench	2	1100 Shiloh Rd, West Chester, PA 19382	Bayard Rustin High School	PAG2001503086		39.93330709	-75.54855841	4/20/2023	Compliant
10C	Underground Storage Infiltrator	2	1100 Shiloh Rd, West Chester, PA 19382	Bayard Rustin High School	PAG2001503086		39.93456415	-75.55071615	4/20/2023	Inaccessible (1)
10D	Grass Swale w/ Check Dam	4	1100 Shiloh Rd, West Chester, PA 19382	Bayard Rustin High School	PAG2001503086		39.93725932	-75.55017994	4/20/2023	Violations (3)
11A	Infiltration Forebay	1	900 South Concord Road	Liberty Square Townhouse HOA	PAG2001503090	4/13/2011	39.94583796	-75.57352401	3/31/2023	Violation
11B	Detention Basin	1	900 South Concord Road	Liberty Square Townhouse HOA	PAG2001503090	4/13/2011	39.94521046	-75.57301411	3/31/2023	Violation
12A	Sediment Forebay	2	6 Cavanaugh Ct, West Chester, PA 19382	St. Simon & Jude Church	PAG2001503100-R		39.96459074	-75.52103807	3/31/2023	Violations
12B	Detention Basin	2	6 Cavanaugh Ct, West Chester, PA 19382	St. Simon & Jude Church	PAG2001503100-R		39.96436482	-75.52100366	3/31/2023	Violations
13	Detention Basin	2	10 W Pleasant Grove Rd, West Chester, PA 19382	Westminster Presbyterian Church	PAG2001503105		39.9259118	-75.58453482	3/31/2023	Violations
14	Seepage Bed	1	1007 Shiloh Road	O'Brien Subdivision	PAG2001504007		39.94822332	-75.55308146	3/31/2023	Compliant
15A	Berm w/ Subsurface Recharge	3	Westbourne Rd	J & A Construction	PAG2001504052		39.93580694	-75.56166574	4/20/2023	Inaccessible (1)
15B	Level Spreader	2	Westbourne Rd	J & A Construction	PAG2001504052		39.93575902	-75.56152795	4/20/2023	Compliant
16A	Rain Garden/Bioretenion	2	975 Westtown Rd, West Chester, PA 19382	Westtown School	PAG2001505075/PAG2001504012	12/31/2013	39.94797431	-75.53706722	4/21/2023	Compliant
16B	Level Spreader	1	975 Westtown Rd, West Chester, PA 19382	Westtown School	PAG2001505075/PAG2001504012	12/31/2013	39.94786311	-75.53698722	4/21/2023	Compliant
16C	Porous Bituminous Concrete	1	975 Westtown Rd, West Chester, PA 19382	Westtown School	PAG2001505075/PAG2001504012	12/31/2013	39.94786311	-75.53698722	4/21/2023	Compliant
16D	Grass Swale	1	975 Westtown Rd, West Chester, PA 19382	Westtown School	PAG2001505075/PAG2001504012	12/31/2013	39.94786311	-75.53698722	4/21/2023	Compliant
16E	Permanent Vegetative Stabilization	2	975 Westtown Rd, West Chester, PA 19382	Westtown School	PAG2001505075/PAG2001504012	12/31/2013	39.94786311	-75.53698722	4/21/2023	Compliant
17A	Detention Basin	1	1645 West Chester Pike	Friends of PA Leadership Charter School	PAI011505037		39.96603163	-75.51131786	4/21/2023	Compliant
17B	In-Ground Detention Bed	1	1646 West Chester Pike	Friends of PA Leadership Charter School	PAI011505037		39.96647635	-75.51155903	4/21/2023	Compliant
18A	Level Spreader	1	WAWA SR 003/SR 352	WAWA	PAI011507043	12/31/2009	39.96782234	-75.52658992	3/31/2023	Compliant
18B	Rain Garden/Bioretenion	2	WAWA SR 003/SR 352	WAWA	PAI011507043	12/31/2009	39.96712015	-75.52676408	3/31/2023	Compliant
18C	Snout	1	WAWA SR 003/SR 352	WAWA	PAI011507043	12/31/2009	39.96721921	-75.52754647	3/31/2023	Compliant
21A	Subsurface Infiltration Facility	1	Hidden Pond Way (Part of Arborview)	Greenstone Dev. Group		12/31/2005	39.9254297	-75.58916176	3/31/2023	Compliant
21B	Detention Basin	2	Hidden Pond Way (Part of Arborview)	Greenstone Dev. Group			39.9254397	-75.5891618	3/31/2023	Violation (1)
24	Seepage Bed	3	500 East Pleasant Grove Road	Homeowners		12/1/2013	39.93281227	-75.57207812	4/20/2023	Violation (1)
45A	Infiltration Bed	2	1196 Westbourne Road	Michael & Pamela Hayes		6/12/2018	39.93190412	-75.55294353	3/31/2023	Compliant
45B	Rain Garden	2	1196 Westbourne Road	Michael & Pamela Hayes		6/12/2018	39.93130079	-75.55295692	3/31/2023	Compliant
46	Infiltration Basin	1	1015 Shiloh Road	Andrew & Christine Costagiola			39.946441	-75.553903	3/31/2023	In accessible

Inspection Status: "Violation" indicates the need for corrective action(s) and the issuance of a Letter of Non-Compliance or Violation based on **Table 1.0** and **Appendix C**. For sites with multiple BMPs, the number of violations are indicated in parenthesis
 For Operation & Maintenance requirements, refer to the PA Stormwater BMP Manual.



Westtown Township 2023 LT1A BMP Inventory

BMP #	BMP Type	Parcel ID	Physical Address	Current Owner	O&M Recorded Date	Inspection Interval (yr)	Installation Year	Last Inspected	Inspection Status
1	Underground Infiltration Bed	67-1-4.35	911 Sage Road	Kenneth & Rikki Newlander	3/31/2022	once/2 yrs	2021	2023	Compliant
6A	Infiltration Berm	67-2-4.2H	922 Hunt Dr	Patrick & Christine Philbin	4/22/2019	once/2 yrs	2019	2023	Compliant
6B	Level spreader	67-2-4.2H	922 Hunt Dr	Patrick & Christine Philbin	4/22/2019	once/2 yrs	2019	2023	Compliant
7A	Infiltration Berm	67-2-4.2L	925 Hunt Dr	Steven Christie & Patricia Kirk	5/15/2018	once/2 yrs	2018	2023	Compliant
7B	Level spreader	67-2-4.2L	925 Hunt Dr	Steven Christie & Patricia Kirk	5/15/2018	once/2 yrs	2018	2023	Compliant
10	Rain Garden	67-2Q-13	1418 Johnnys Way	Stephen & Amy Costa	8/25/2020	once/2 yrs	2020/2021	2023	Compliant
11A	Dry Well #1	67-2R-85	1133 Cardinal Drive	Keith & Christie Skinner	2/28/2020	once/2 yrs	2020	2023	Compliant
11B	Dry Well #2	67-2R-85	1133 Cardinal Drive	Keith & Christie Skinner	2/28/2020	once/2 yrs	2020	2023	Compliant
14A	Infiltration Trench #1	67-3-144.6	1078 Powderhorn Drive	Michael & Jacqueline DiBartolomeo	8/4/2020	once/2 yrs	2020	2023	Compliant
14B	Infiltration Trench #2	67-3-144.6	1078 Powderhorn Drive	Michael & Jacqueline DiBartolomeo	8/4/2020	once/2 yrs	2020	2023	Compliant
14C	Rain Barrel #1	67-3-144.6	1078 Powderhorn Drive	Michael & Jacqueline DiBartolomeo	8/4/2020	once/2 yrs	2020	2023	Compliant
14D	Rain Barrel #2	67-3-144.6	1078 Powderhorn Drive	Michael & Jacqueline DiBartolomeo	8/4/2020	once/2 yrs	2020	2023	Compliant
15	Underground Infiltration Bed	67-3-19	111 E Hilltop Road	Maureen Meehan	6/27/2019	once/2 yrs	2019	2023	Not build to plan - Review needed
17	Curtain Drain/Infiltration Trench	67-3-78	1551 Marlboro Road	Kristen Grady	7/7/2020	once/2 yrs	2020	2023	Compliant
19	Underground Infiltration bed	67-4-28.42A	1001 Dunvegan Road	Terry Beck	11/16/2022	Annually first 5 yrs, once/3 yrs after	2021	2023	Compliant
20	Dry Well	67-4-28.48	1046 W Niels Lane	Timothy & Amy Murnane	11/21/2019	once/2 yrs	2020	2023	Compliant
22A	Infiltration Trench #1	67-4-9.14	116 Piper Lane	Edward & Katie Keegan	11/17/2020	once/2 yrs	2021	2023	Not build to plan - Review needed
22B	Infiltration Trench #2	67-4-9.14	116 Piper Lane	Edward & Katie Keegan	11/17/2020	once/2 yrs	2021	2023	Not build to plan - Review needed
24	Infiltration bed	67-4-93.3	620 Oakbourne Rd	Mimi & Robert Snyder	10/7/2019	once/2 yrs	2020	2023	Compliant
25	Infiltration Bed	67-4C-1.1	311 Larchwood Rd (Wedgewood Estates)	Lesley Skimms	7/27/2020	once/2 yrs	2020/2021	2023	Compliant
28	Infiltration Bed	67-4G-124	1018 Dogwood Lane	Amy & Jeff Kennedy	2/16/2022	once/2 yrs	2022	2024	Compliant
31	Rain Garden	67-4J-43	900 General Howe Dr. (824 Kimberly Lane)	Boxwood Investments, LLC (John Curtain)	1/27/2021	once/2 yrs	2021	2023	Compliant
35	Seepage Bed	67-5-32	1056 Preserve Lane	Patrick Daley	3/4/2022 3/15/2022	once/2 yrs	2022	2023	Compliant
38	Infiltration Bed	67-5-63	1045 Preserve Lane	Brian O'Neill	10/29/2018	once/2 yrs	2019	2023	Compliant



Annual MS4 Status Report

APPENDIX E

MCM #6

Pollution Prevention & Good Housekeeping



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

~NPDES MS4~

Outfall Field Screening and Pollution Prevention & Good Housekeeping

Amanda Reitbauer
Project Manager

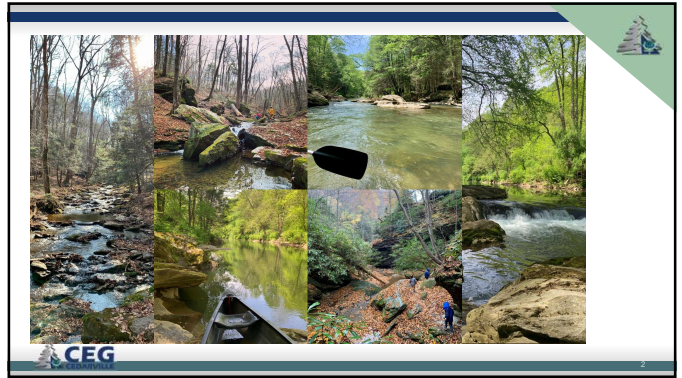
Karen Cerenzia
Project Manager



WESTTOWN TOWNSHIP
Chester County, Pennsylvania, United States

Employee Training
March 28, 2023

1



2



3

Why is the Township's Stormwater Management Program important?

- Reduce pollutants into municipal storm sewer systems and streams.
- Protect water quality.
- It is a state and federal requirement.




4

Minimum Control Measures

1. Public Education & Outreach
2. Public Involvement & Participation
- ★ 3. Illicit Discharge Detection & Elimination
4. Construction Site Stormwater Runoff Control
5. Post Construction Stormwater Management for Development & Redevelopment
- ★ 6. Pollution Prevention/Good Housekeeping

Annual Status Report



5

Now, let's learn more about Illicit Discharge Detection & Elimination!



(MCM #3)

6

MS4 Permit Requirements for Illicit Discharge Detection and Elimination

6 Best Management Practices (BMPs)

- BMP #1:** Written IDD&E Program
- BMPs #2 and #3:** Mapping
- BMP #4:** Dry Weather Outfall Field Screening
- BMP #5:** Ordinance Prohibiting Non-Stormwater Discharges into the MS4
- BMP #6:** Educational outreach specific to IDD&E

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7

MCM #3 - IDD&E

What is an Illicit Discharge?

- Any discharge (or seepage) to a MS4 that is not composed entirely of stormwater.
- Does not refer to discharges authorized under a NPDES permit.

Pet waste

Leaking dumpsters

Grass clippings

Sediment runoff from construction sites

Parking lot trash

Leaf litter

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MCM #3 - IDD&E

How do you detect an Illicit Discharge?

- What to look for:
 - Discoloration
 - Clarity/ sedimentation
 - Oily sheen
 - Odor
 - Floating solids
 - Suspended solids
 - Foam
 - Other visible indicators of pollution

EXAMPLES.....

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Motor vehicle fluids (oil, etc.)

Color: Rainbow sheen
Odor: Petroleum or gasoline smell

Soaps, detergents

Color: White, grey, cloudy
Odor: Laundry detergent, soaps, or none at all

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Sediment

Color: Brown, orange/yellow, "chocolate milk"
Odor: None

Restaurant Grease

Color: Yellow, golden, brown
Odor: Cooking grease, petroleum

Sewage

Color: Grey
Odor: Sulfur, fecal matter

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What Do You Do When You See An Illicit Discharge?

- **Resident:** Call Municipality
- **Public Works:** Report to MS4 point person



DOCUMENT!!!

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MCM #3 - IDD&E Outfall Field Screening

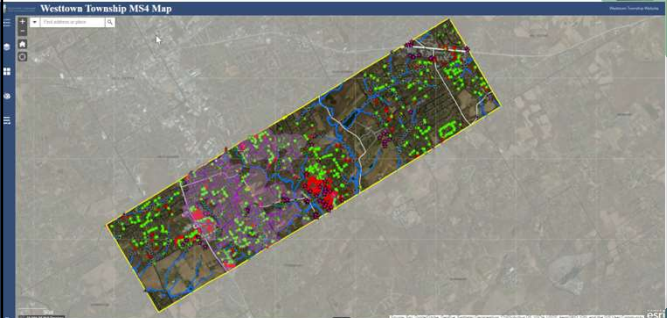

- **What is an Outfall?**
 - A point source where an MS4 discharges stormwater to surface waters...
- **How often?**
 - Once per permit term
 - Priority Areas and known Continual Dry Weather Flows: Annually
- **When?**
 - "Dry weather" is anytime following the initial 48 hours after a stormwater producing event.
- **What?**
 - Dry weather flows
 - Color, Turbidity, Sheen, Floating or submerged solids, Odor
- **Sampling**
 - Compliance & Enforcement per IDD&E Program
 - Documentation, documentation, documentation.

13



MAPPING

Westtown Township MS4 Map

14

MCM #3 - IDD&E Outfall Field Screening Survey123


15

3800-FM-SCW0521 12/2015
MS4 Outfall Field Screening Report

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

MS4 OUTFALL FIELD SCREENING REPORT


BACKGROUND INFORMATION	
Permittee Name:	NPDES Permit No.: PA
Date of Inspection:	Outfall ID No.:
Land Uses in Outfall Drainage Area (Select All):	Latitude: _____
<input type="checkbox"/> Industrial <input type="checkbox"/> Urban Residential	Longitude: _____
<input type="checkbox"/> Commercial <input type="checkbox"/> Suburban Residential	Dry Weather Inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Open Space <input type="checkbox"/> Other:	Date of Previous Precipitation:
Inspector Name(s):	Amount of Previous Precipitation: in
	Were Photographs Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Are Photographs Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No



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MS4 Outfall Field Screening Report

OUTFALL DESCRIPTION				
TYPE	MATERIAL	SHAPE	DIMENSIONS	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other	<input type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other <input type="checkbox"/> Other	Diameter: _____ in	<input type="checkbox"/> In Water <input type="checkbox"/> With Sediment
<input type="checkbox"/> Open Channel	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other	Depth: _____ in Top Width: _____ in Bottom Width: _____	



17



Submerged: More than 1/2 below water




Partially submerged: Bottom is below water

Fully submerged: Can't see outfall



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MS4 Outfall Field Screening Report

Trickle Flow: Very narrow stream of water Moderate Flow: Steady stream, but very shallow depth Significant flow (Source is a fire hydrant discharge)

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

Description of Flow Rate: Trickle Moderate Significant N/A

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MS4 Outfall Field Screening Report

DRY WEATHER FLOW EVALUATION

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

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

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

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

20

MS4 Outfall Field Screening Report

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

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

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

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MS4 Outfall Field Screening Report

ILLICIT DISCHARGES

Is the dry weather flow an illicit discharge? Yes No

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

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

Inspector Comments:

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MS4 Outfall Field Screening Report

RESPONSIBLE OFFICIAL CERTIFICATION


I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Responsible Official Name _____ Signature _____

Telephone No. _____ Date _____

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MS4 Outfall Field Screening Report



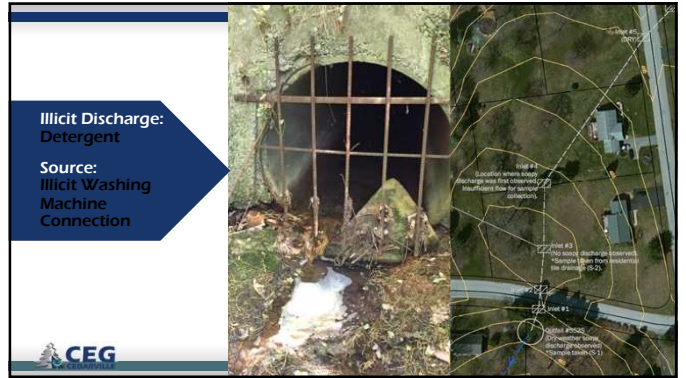
Common Test Parameters:

- pH
- Conductivity
- Fecal Coliform bacteria
- Heavy Metals
- Chemical Oxygen Demand (COD)
- 5-day Biochemical Oxygen Demand (BOD5)
- Total Suspended Solids (TSS)
- Total Dissolved Solids (TDS)
- Oil and Grease
- Total Residual Chlorine (TRC)
- Ammonia-nitrogen

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25



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Eliminating an Illicit Discharge

- Voluntary Compliance
- Enforcement
 - Enforcement Notice
 - Notice of Violation
 - Citation
 - Cease & Desist Order
 - Penalties and fines

Program Documentation

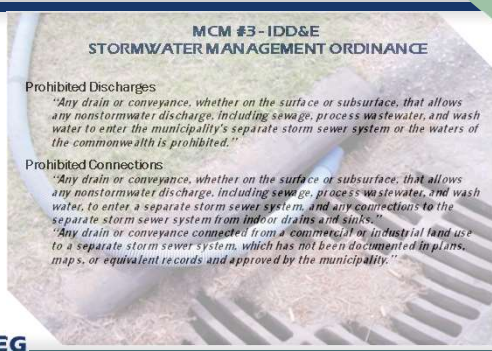


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MCM #3 - IDD&E STORMWATER MANAGEMENT ORDINANCE

Prohibited Discharges
"Any drain or conveyance, whether on the surface or subsurface, that allows any nonstormwater discharge, including sewage, process wastewater, and wash water, to enter the municipality's separate storm sewer system or the waters of the commonwealth is prohibited."

Prohibited Connectors
"Any drain or conveyance, whether on the surface or subsurface, that allows any nonstormwater discharge, including sewage, process wastewater, and wash water, to enter a separate storm sewer system, and any connectors to the separate storm sewer system from indoors, drains and sinks."
"Any drain or conveyance connected from a commercial or industrial land use to a separate storm sewer system, which has not been documented in plans, maps, or equivalent records and approved by the municipality."




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MCM #3 - IDD&E STORMWATER MANAGEMENT ORDINANCE

Authorized Discharges

- Discharges from firefighting activities.
- Potable water sources including dechlorinated water line and fire hydrant flushings.
- Irrigation drainage.
- Routine external building washdown (which does not use detergents or other compounds).
- Air conditioning condensate.
- Water from individual residential car washing.
- Spring water from crawl space pumps.
- Uncontaminated water from foundation or from footing drains.
- Flows from riparian habitats and wetlands.
- Lawn watering.
- Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.
- **Dechlorinated swimming pool discharges.**
- Uncontaminated groundwater.



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**Now, let's learn more about
Pollution Prevention & Good
Housekeeping!**



(MCM #6)

31

**How can you prevent illicit discharges from
municipal facilities?**



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**MCM #6
Pollution Prevention and Good Housekeeping**


- Goal of the Operation & Maintenance (O&M) Program is:
 - to prevent/reduce pollutants from municipal operations to the maximum extent practical



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Good Housekeeping

- Maintain a clean and orderly work environment.
- Prevent pollutant discharges into floor drains.
- Regularly inspect and maintain equipment.
- Proper chemical storage.
- Have spill clean-up materials present and accessible.



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Oops...



35

Hazardous Spill Clean-up Sheet

Inventory Sheet No.: _____ Date of Spill: _____
 Storage Facility Name & Address: _____
 Preparer Name(s): _____ Time of Spill: _____

What was spilled and how much?
Approximately 1/2 gallon of oil.

How long after the spill occurred did clean-up operations commence?
Within 5 minutes.

How was the spill cleaned up and how was the material disposed of?
Oil dry powder was applied to the spill and given time to absorb. The powder was swept up and disposed of in a sealed bag.

Are there any other actions that need to be undertaken regarding this spill?
No.

Contractor/Public Works Personal Contact Information
 Employer: _____
 Name: _____
 Phone Number: _____
 Address: _____

Additional Comments _____

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Materials Storage & Handling

- Containers, drums, and bags stored away.
- All chemicals stored in a designated cabinet.
- Chemical, fluids and supplies kept indoors.
- If outside, containers to be covered and placed on platforms.
- Contain spill with dike, berm, or absorbent materials and dispose of properly after use.

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Materials Log

Year: _____
Municipality: _____

Material	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
Salt (amount used)												
Yard Waste (amount collected)												
Street Sweeping (amount collected)												
Other:												
Other:												

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Stormwater Inspections

- **What to inspect:**
 - BMPs
 - Storm Drain Inlets
 - Storm Sewer Piping, Drainage Channels, and Outfalls

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Township-owned Stormwater BMPs

- Inspect after severe weather to ensure proper functioning.
- All inspections, results, and recommendations are to be documented.

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Storm Drain Inlets

- Inspect to determine trash/sediment load and overall condition of the structure.
- Check for evidence of illegal dumping or illicit discharges.
- **Document!!!**

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Storm Sewer Piping, Drainage Channels, and Outfalls

- Inspect for:
 - Trash, debris, sediment build-up, obstructions, and water quality
- **Document!!!**

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Storm Sewer System Operation & Maintenance Form

Date of Inspection: _____ Facility Name: _____
 Inspector: _____ Facility Location: _____

Components/Items to Check	Problems Observed	Maintenance/Repairs Necessary		Comments	Location (House #, Distance from Intersection)
		Yes	No / N/A		
Catch Basin/Drop Inlet	☐ Detention of Structure				
	☐ Draggled Inlets During or After Storm Events				
Storm Manhole	☐ Deposits in Structure				
	☐ Detention of Structure				
Storm Sewer Piping	☐ Draggled Pipe				
	☐ Detention of Pipe				
Ditches/Swales	☐ Excessive Vegetation				
	☐ Debris (branches, litter, garbage, etc.)				
Roadside/Cross Culverts	☐ Excessive Station				
	☐ Draggled Pipe				
	☐ Detention of Pipe				

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Municipal Vehicle Maintenance

- Store oils, grease, and lubricants **indoors**.
- Use **dry cleanup methods** for spills instead of hosing down work areas.
- **Recycle** materials when possible.
 - Antifreeze, used oil, mineral spirits, solvents, etc.
- **Inspect** vehicles for leaks.



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Municipal Facility Operation & Maintenance Form


Date of Inspection: _____ Facility Name: _____
 Inspector: _____ Facility Location: _____

Category	Components/Items to Check	Problems Observed	Maintenance/Repairs Necessary	Comments / Action Items
			Yes No N/A	
Olefin	Problems with storage areas	☐ Chemicals not properly labeled		
	☐ Improper storage of materials	☐ Spills		
Hazardous Waste Management	☐ Only when required	☐ Excessive amount of materials		
	☐ Only when required	☐ Excessive amount of materials		
Hazardous Waste Management	☐ Only when required	☐ Excessive amount of materials		
	☐ Only when required	☐ Excessive amount of materials		
Waste and Recycling	☐ Only when required	☐ Excessive amount of materials		
	☐ Only when required	☐ Excessive amount of materials		
Waste and Recycling	☐ Only when required	☐ Excessive amount of materials		
	☐ Only when required	☐ Excessive amount of materials		
Waste and Recycling	☐ Only when required	☐ Excessive amount of materials		
	☐ Only when required	☐ Excessive amount of materials		
Waste and Recycling	☐ Only when required	☐ Excessive amount of materials		
	☐ Only when required	☐ Excessive amount of materials		

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EPA/DEP Audits

- **Non-compliance is costly**
 - Four central PA communities were fined in 2010 for stormwater violations. One community was fined \$177,500.
- **What do they want to see?**
 - Clean work spaces
 - Labeled chemicals/containers
 - Signage
 - Preparedness for spills
 - DOCUMENTATION!

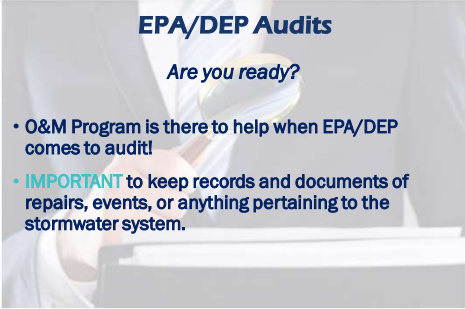


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EPA/DEP Audits

Are you ready?

- O&M Program is there to help when EPA/DEP comes to audit!
- **IMPORTANT** to keep records and documents of repairs, events, or anything pertaining to the stormwater system.



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Tips

- Designate a Public Works staff member to conduct more frequent routine inspections.
- Always **DOCUMENT** inspections, screenings and O&M activities.
- Don't just write it down. Take **PHOTOS**.
- Notify Supervisor/Manager immediately if there appears to be an **illicit discharge** and/or safety concern.

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Resources

County Conservation District
Local Watershed Organizations
PA Department of Environmental Protection
(PA DEP)
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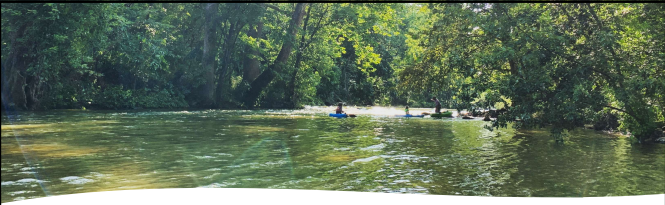


Homeowners Guide to Stormwater BMP Maintenance
What You Need to Know to Take Care of Your Property

About Stormwater Management Pages 1-4
PA Regulations for Stormwater Pages 5-7
Home Stormwater BMP Descriptions Pages 8-22

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QUESTIONS?

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Now Let's Go Check Out an Outfall!

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Westtown Staff Training - 3/28/23
Sign-in Sheet

Joe Barr public works

Kathey Archibald - admin

Mike Fitzsimmons - Public works

Kevin Buckingham - Public works

SCOTT FERRIS - PUBLIC WORKS

Liudmila Carter - Plowing

JONATHAN ALTSHUL - ADMIN

FAM COLEMAN - ADMIN



Annual MS4 Status Report

APPENDIX F

PCM Source Investigation Report



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



September 14, 2023

Westtown Township Pollution Control Measures 2023 Source Investigation



Prepared By:



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

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CedarvilleEng.com

Cedarville Engineering Group, LLC (CEG) is a **Federally Certified 8(a)/EDWOSB & DBE/WBE Company** specializing in civil engineering, environmental consulting, geospatial and construction services for federal, state, municipal, private and institutional clients. The CEG team of professionals ensure successful projects from concept to planning and design, through permitting and construction, to project acceptance, operations and maintenance. We deliver value through innovation.

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1. INTRODUCTION

On behalf of Westtown Township, Cedarville Engineering Group, LLC (CEG) completed a Pollutant Control Measure (PCM) Source Investigation of pathogens as part of the Township’s National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Individual Permit (PAI130528) requirements issued by the Pennsylvania Department of Environmental Protection (DEP). In addition to the Stormwater Management Program, the implementation of PCMs is necessary to identify and control pollutant loadings within a sewershed where stormwater outfalls discharge to impaired surface waters.

In Westtown Township, Chester Creek is listed as impaired for pathogens; therefore, the following steps must be completed as specified in Appendix B of the NPDES MS4 permit.

- ❖ Develop a storm sewershed map, delineating the drainage area for all outfalls that discharge to Chester Creek.
- ❖ Develop an inventory of all known and suspected sources of fecal coliform within the storm sewershed.
- ❖ Investigate known and suspected sources of pathogens.
- ❖ Enforce Ordinances that prohibit illicit/illegal connections and discharge to sewage.
- ❖ Enact an Ordinance or SOP requiring proper management of animal and pet waste.
- ❖ Notify DEP in writing of any confirmed pathogen sources.
- ❖ Document progress and ongoing implementation of PCMs in the Annual MS4 Status Report by the dates listed in Table 1 below.

Table 1: Pathogen Requirements & Due Dates

REQUIREMENT	DUE DATE	STATUS
Storm Sewershed Map	September 30, 2021	Completed 2019
Source Inventory	September 30, 2022	Completed 2022
Source Investigation	September 30, 2023	Completed 2023

REQUIREMENT	DUE DATE	STATUS
Pet Waste Ordinance	September 30, 2023	Completed 2019
Notification of Sources	Within 90 days of findings	Ongoing
Documentation	Annually with MS4 Report	Ongoing

2. BACKGROUND

Pathogens are disease-causing organisms originating from both animal and human sources that reach surface waters through leaking septic systems and sanitary sewer lines, domestic pets and wildlife, urban stormwater, and agricultural runoff. Pathogens pose serious risks to human health, particularly in recreational waters, and violate water quality standards that can impact drinking water supplies.

Pennsylvania Code §93.7 for *Specific water quality criteria* indicates a geometric mean of 126 colony forming units (cfu) per 100 milliliters (ml) as the maximum acceptable pathogen level during the swimming season (May 1 – September 30). Throughout the remainder of the year, maximum contaminant levels (MCL) for pathogens should not exceed 2,000 cfu/100 ml.

The 2022 PCM Source Inventory Report prepared by CEG (dated Aug 1, 2022) indicates there are 99 on-site septic systems located within the Township’s PCM storm sewershed, and of these, three (3) are reported to be failing or malfunctioning based on data from 2020-2021. Further analysis of the sewershed map revealed only two (2) of these on-lot septic systems are actually suspected of failing; therefore, the pathogen source inventory (from the 2022 Report) has been corrected in **Table 2** below.

Table 2: Pathogen Source Inventory Results from 2022 Report (Corrected)

Map No.	Owner Name	Site Address	Parcel No	EPA My Property Database	Facility Type	Known or Suspected Source?
1	Randy Miles	912 Tyson Drive	67-2-1.26	No Records	Failing On-lot Septic System	Suspected
2	Cherrie Cleary	1055 Windy Knoll Road	67-5E-36	No Records	Failing On-lot Septic System	Suspected

Based on the PCM Source Inventory results, the following three (3) outfalls were identified for further investigation:

- ❖ Outfall 3 (Control): Discharge from residential properties without on-lot septic systems
- ❖ Outfall 139: Discharge from parcel with reported malfunctioning or repaired on-lot septic system (as of 2020-2021 data)
- ❖ Outfall 159: Discharge from parcel with reported malfunctioning or repaired on-lot septic system (as of 2020-2021 data)

3. METHODOLOGY

Outfalls are assessed during both dry and wet weather per the IDD&E protocol outlined in MCM #3, BMP #4 of the NPDES MS4 Individual Permit and the Township’s IDD&E Program. During dry weather sampling, outfalls are evaluated a minimum of 48 hours after the last precipitation event to ensure any flows observed are not stormwater-related (i.e. dry weather flow). If screenings reveal dry weather flow, then discharge is sampled for pathogen testing. During wet weather, all outfalls are sampled for pathogens and the standard physical measurements are recorded. Water samples are collected, labeled, sealed, and stored on ice prior to laboratory analysis.

4. DRY WEATHER SAMPLING RESULTS

The dry weather evaluation was performed on May 31, 2023. Outfall 3 was the only site with dry weather flow. **Table 3** below summarizes the dry weather sampling event including the laboratory results of pathogen testing. Site photos are included in **Appendix A**. Overall, fecal coliform levels are below the MCL in discharge from Outfall 3 during dry weather.

Table 3. Dry Weather Sampling Results

Outfall ID	Sewershed Size (ft ²)	Sample Collected	pH	Temperature (°C)	Fecal Coliform (cfu/100mL)
3	376,722	Yes	6.32	15.2	5
139	285,504	No	-	-	-
159	130,837	No	-	-	-

5. WET WEATHER SAMPLING RESULTS

Wet weather sampling was performed on August 10, 2023, during a medium to heavy rainfall event. **Table 4** below summarizes the wet weather sampling results. Overall, laboratory data show that bacterial levels exceed water quality standards during wet weather at all three (3) sites evaluated. Moderate flow was observed from Outfall 3, and as the control sample, resulted in the lowest concentration of pathogens among the sites tested.

Outfall 139 was sampled from the outlet located in-line with the observation point and wingwall of the culvert located underneath Oakbourne Road and east of Tyson Park’s parking lot. Discharge from Outfall 139 revealed elevated pH and the highest levels of pathogens relative to any other site during wet weather.

Runoff was observed entering the observation points of Outfall 159, but no water was found discharging from the actual outfall. Pipe material is believed to be corrugated metal that has deteriorated, causing runoff seepage from the conveyance between the outfall and observation point; therefore, the sample was collected from the observation point. Results show elevated pH and fecal coliform bacteria levels from Outfall 159.

Table 4. Wet Weather Sampling Results

Outfall ID	Sewershed Size (ft²)	Site Description	pH	Temperature (°C)	Fecal Coliform (cfu/100mL)
3	376,722	Control	6.81	20.1	1,700
139	285,504	Malfunctioning/repaired on-lot septic systems	7.58	22.3	20,000
159	130,837	Malfunctioning/repaired on-lot septic systems	7.61	24.3	7,400

6. CONCLUSIONS AND RECOMMENDATIONS

The PCM Source Investigation of pathogens from three (3) outfalls in Westtown Township reveals fecal coliform bacterial levels that exceed the permissible threshold for water quality standards during wet weather. The laboratory results are evidence that stormwater runoff delivers high concentrations of bacteria to surface waters during rainfall events. Sources of pathogens include both human and animal waste.

Based on Township data from 2020-2021, there are nearly 100 on-lot septic systems present on private property within Westtown Township; therefore, CEG recommends the Township review this list of parcels for updates and to verify the status of those near Outfalls 139 and 159 prior to pursuing notification and enforcement of violations.

Outfall 3 is considered the control sample since all discharge originates from residential properties without on-lot septic systems. Given the control sample shows elevated levels of fecal coliform bacteria during wet weather, suggests animal waste (horses, dogs, birds, etc.) as a source of pathogens. Westtown Township code §49-102B for *Restrictions of Dogs* requires proper disposal of dog waste on public and private property resulting from the amended ordinance enacted in February 2019. Additionally, equestrian trails are available in several parks within Chester County including Westtown Township, and horses are known contributors of solid waste to nearby surface waters.

Westtown Township is dedicated to monitoring pathogens discharging from its MS4 to Chester Creek and will continue to maintain PCM requirements throughout the remainder of the current permit term and the next NPDES MS4 Permit cycle.



APPENDIX A

Photographic Log



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

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CedarvilleEng.com



PHOTOGRAPHIC LOG

Client Name: **Westtown Township**

Site Location: **Outfall 3, Dry Weather**

Project No. **0236-23-0007**

Photo No.
1

Date:
5/31/23

Direction Photo Taken:



Description:

View of **Outfall 3. Dry weather flow observed.**

Photo No.
2

Date:
8/10/23

Direction Photo Taken:



Description:

View of **Outfall 3 at time of sample - Wet Weather**



PHOTOGRAPHIC LOG

Client Name: Westtown Township

Site Location: Outfall 139, Dry Weather

Project No. 0236-23-0007

Photo No.
3

Date:
5/31/23

Direction Photo Taken:

Description:
Overview of observation point for **Outfall 139**.



Photo No.
4

Date:
5/31/23

Direction Photo Taken:

Description:
View inside observation point for **Outfall 139**





PHOTOGRAPHIC LOG

Client Name: **Westtown Township**

Site Location: Outfall 159, Dry Weather

Project No. 0236-23-0007

Photo No.
5

Date:
5/31/23

Direction Photo Taken:

Description:

Overview of observation point for **Outfall 159**



Photo No.
6

Date:
5/31/23

Direction Photo Taken:

Description:

View inside observation point for **Outfall 159**





PHOTOGRAPHIC LOG

Client Name: **Westtown Township**

Site Location: Outfall 139, Wet Weather

Project No. 0236-23-0007

Photo No.
7

Date:
8/10/23

Direction Photo Taken:

Description:

View of **Outfall 139** at time of sample.



Photo No.
8

Date:
8/10/23

Direction Photo Taken:

Description:

View of **Outfall 159**, no flow observed discharging from outfall.





PHOTOGRAPHIC LOG

Client Name:

Site Location:

Project No. 0236-23-0007

Photo No.

Date:

9

8/10/23

Direction Photo Taken:

Description:

View of **Outfall 159** observation point.



Photo No.

Date:

10

8/10/23

Direction Photo Taken:

Description:

View of **Outfall 159** observation point.





APPENDIX B

PCM Source Investigation Map



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

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DEP MS4 REQUIREMENTS TABLE

WESTTOWN TWP	PAI130528	Yes	TMDL Plan, SP, P			
				Brandywine Creek	Appendix E-Sitation (4)	Cause Unknown (5), Other-Habitat Alterations, WaterFlow Variability (4c)
				East Branch Chester Creek	Appendix E-Sitation (5)	Cause Unknown (5), WaterFlow Variability (4c)
				Ridley Creek	Appendix E-Sitation (5)	Cause Unknown (5), WaterFlow Variability (4c)
				Radley Run	Appendix E-Sitation (4)	Cause Unknown (5), WaterFlow Variability (4c)
				Chester Creek	Appendix B-Pathogens (5), Appendix E-Sitation (5)	Cause Unknown (5), Flow Alterations, Other-Habitat Alterations, WaterFlow Variability (4c)
				Goose Creek TMDL	TMDL Plan-Nutrients (4)	Cause Unknown (4)
				Hunters Run	Appendix E-Sitation (5)	Cause Unknown (5), WaterFlow Variability (4c)
				Plum Run	Appendix E-Sitation (4)	WaterFlow Variability (4c)

Map No.	Owner Name	Site Address	Parcel No	EPA My Property Database	Facility Type	Known or Suspected Source?
1	Randy Miles	912 Tyson Drive	67-2-126	No Records	Falling On-lot Septic System	Suspected
2	Cherrie Cleary	1055 Windy Knoll Road	67-5E-36	No Records	Falling On-lot Septic System	Suspected

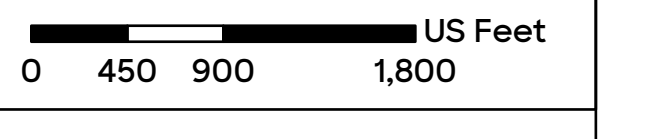
NOTES:
 1. Parcels layer provided by the Township (2023).
 2. The entire municipality is covered by the 2010 Urbanized Area.
 3. This map only reflects stream impairments that require Pollutant Control Measures (i.e. metals and/or acidity due to abandoned mine drainage, pathogens, and priority organic compounds-PCBs). Westtown Township has outfalls that discharge to stream segments listed as impaired for pathogens. This map does not show all stream impairments within the MSA.

DISCLAIMER:
 This product is for informational purposes and may not have been prepared for, or be suitable for legal engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. Infrastructure ownership information is displayed for general planning purposes. It may not be accurate and is not legal or definitive.

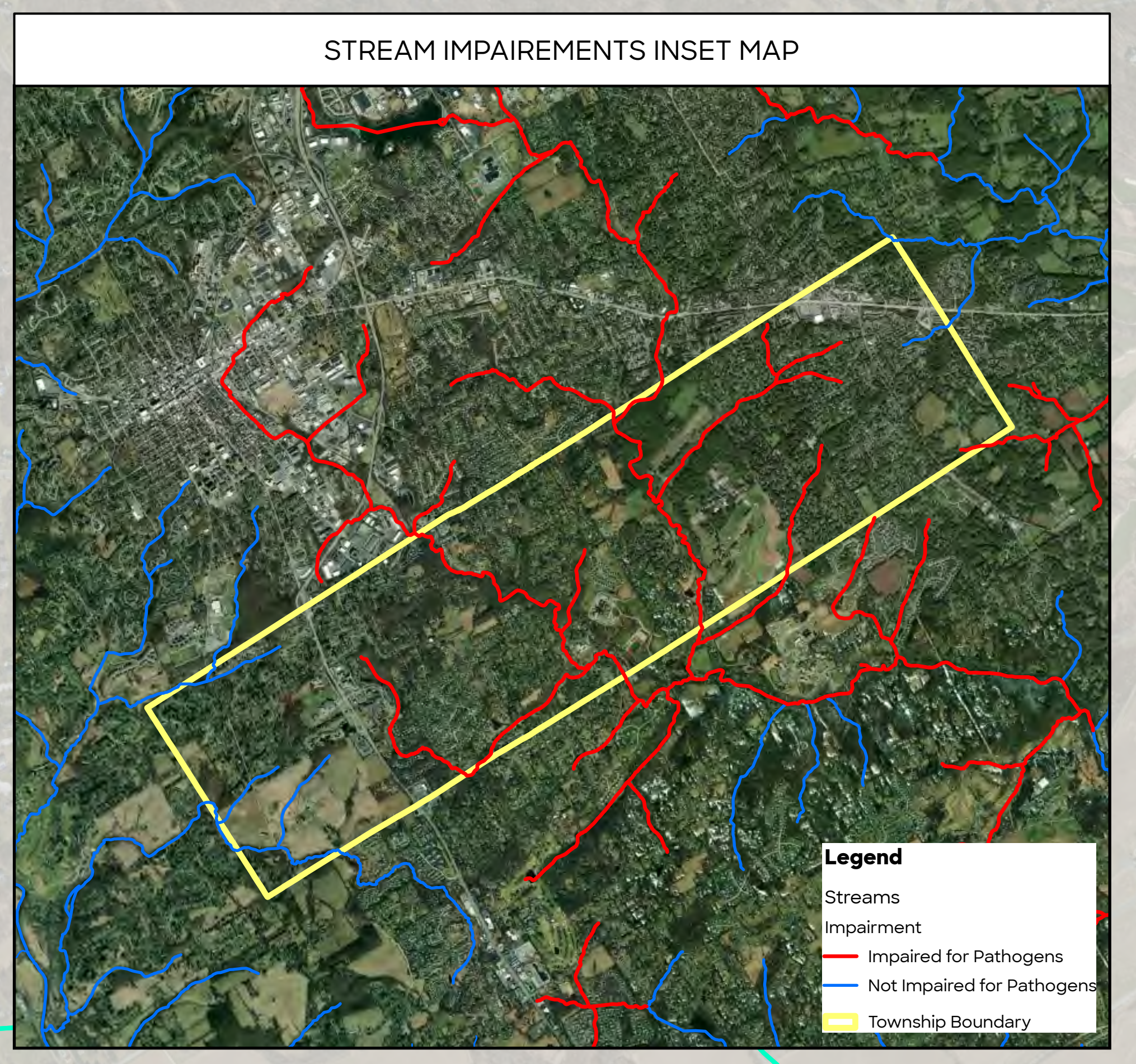
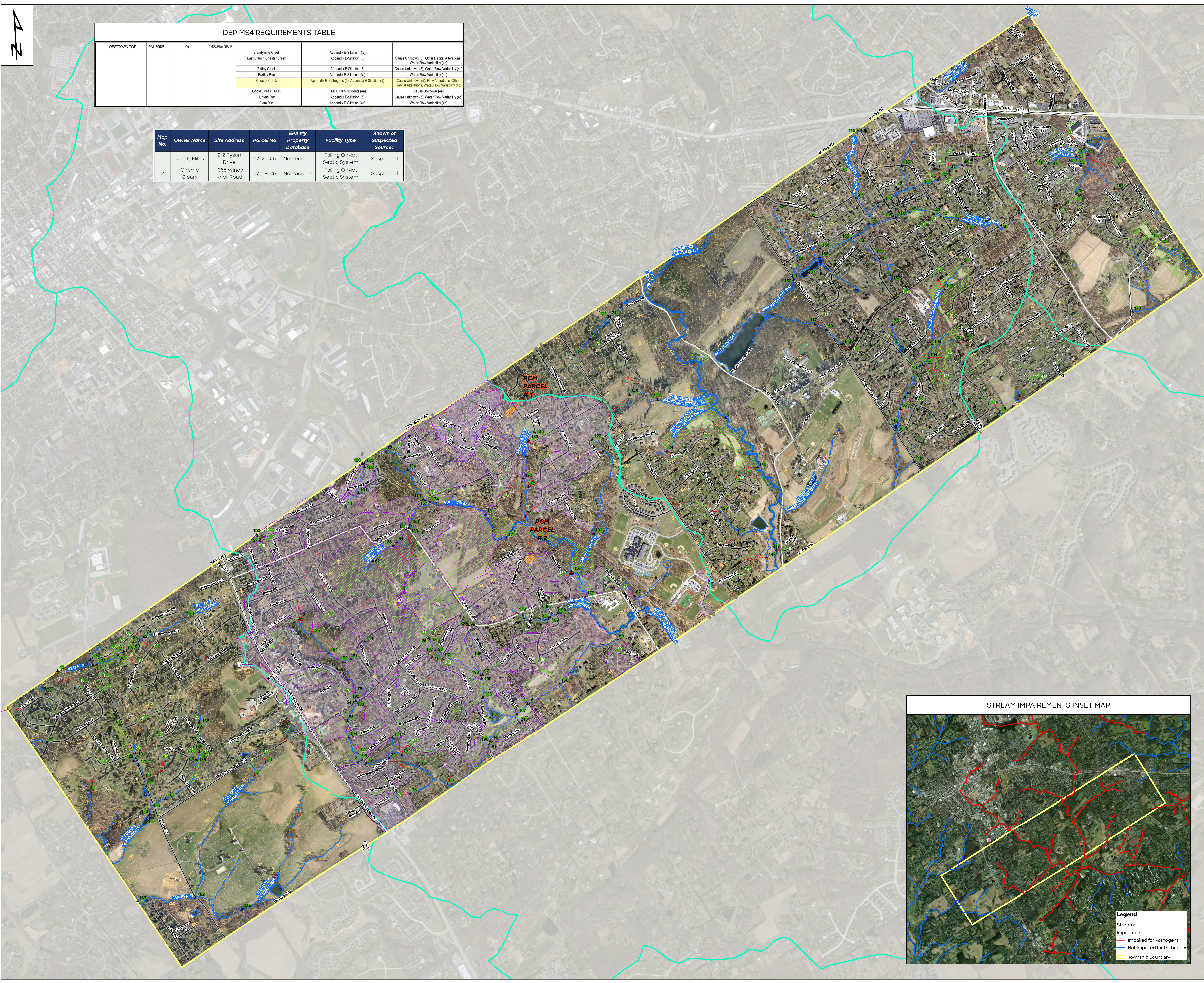
DRAWN BY: WH

DATE: 9/7/2023

1 INCH = 900 FEET



WESTTOWN TOWNSHIP
**POLLUTANT CONTROL MEASURES -
 PATHOGENS**
SOURCE INVESTIGATION MAP
 CHESTER COUNTY, PA



Legend

Outfalls

- ▲ Sampled (3, 199, 199)
- Not Sampled
- Observation Points
- Sewershed Drainage Areas
- ▭ PCH Parcels
- Township Inflow
- ▭ Township Inlet
- Township Manhole
- Township Outflow
- Township Riser
- Private Inflow
- ▭ Private Inlet
- ▭ Private Manhole
- Private Outflow
- Private Riser
- State Inflow
- ▭ State Inlet
- ▭ State Manhole
- State Outflow
- Private Pipe
- State Pipe
- Township Pipe
- Private Swale
- Township Swale
- ▭ Township Boundary
- Contours
- FEMA Streams
- Unmapped Tributaries
- ▭ Township Owned Parcels
- ▭ HUC12
- ▭ Parcels
- Roads
- State
- Township

Streams Impairment

- Impaired for Pathogens
- Not Impaired for Pathogens



APPENDIX C

Laboratory Results



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



Results Report

Order ID: 3E06221

Cedarville Engineering Group, LLC
159 High Street, Suite 500
Pottstown, PA 19464

Project: WTT PCM

Attn: Jack Shuey

Regulatory ID:

Sample Number: 3E06221-01
Collector: SSW

Site: OF-3D
Collect Date: 05/31/2023 9:30 am

Sample ID:
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
-------------------------------	--------	-------	--------	------	----	-----------	----	---------------	----

Microbiology

Fecal Coliform	5	cfu/100ml	SM 9222-D	1	1	05/31/23	BCB	05/31/23 15:54	BCB
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Sample Receipt Conditions:

All samples met the sample receipt requirements for the relevant analyses.

Units P/A = Present/Absent
Units P/F = Pass/Fail

The test *pH, Lab* is performed in the Laboratory as soon as possible. These results are not appropriate for compliance with NPDES, SDWA, or other regulatory programs that require analysis within 15 minutes of sample collection and should be considered for informational purposes only.

**pH, Final* for ASTM leachate is performed by method SM 4500-H-B.

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of STL.

Results are considered Preliminary unless report is signed by authorized representative of STL.

Reviewed and Released By:

Michael Major
Project Manager I

Report Generated On: 06/05/2023 2:31 pm 3E06221
STL_Results Revision #2.1 Effective: 09/01/2022





SUBURBAN TESTING LABS



3E06221
Sean Osborne

TAT (Check One): Standard 24hr 48hr 72hr Other _____
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: _____

Client Name: Cedarville Engineering Group

Address: 159 E High Street
Pottstown PA

Contact Name: Karen Cerenzia, Sam Wachsmuth

Phone: _____

Email: kc Cerenzia@CedarvilleEng.com

P.O. Info: Swachsmuth@CedarvilleEng.com

Project Name: WTT PCM

Address: _____

Regulatory ID (SDWA/Permit #): _____

Comments:

STL Sample Number	Sample Description / Site ID:	Date Sampled	Time Sampled	Samplers Initials	Test(s) Requested:	Bottle Quantity	See Codes Below				Comments / Field Data:
							Matrix	Sample Type	Bottle Type	Preservative	
	OF-3D	5/31/23	0930	SSW	F. Coliform	1	NPW	G	P	N	
	(1) micro										

client Dropoff

Relinquished By: <u>Sam Wachsmuth</u>	Count: <u>1</u>	Date: <u>5/31/23</u>	Temp °C: _____	Sample Conditions Submitted with COC? <u>Y</u> N	Matrix Key NPW = Non-Potable Water Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg) PW = Potable Water (not for SDWA compliance) SDWA = Safe Drinking Water Act Potable Sample	Bottle Type Key P = Plastic G = Glass GA = Glass Amber VOA = 40mL G or GA PP = Sterile Polypropylene PS = Sterile Polystyrene HDPE = High Density Polyethylene O = Other
Received By:		Date: _____	Temp °C: _____			
Relinquished By:		Date: _____	Temp °C: _____	All containers in tact? <u>Y</u> N	Sample Type Key G = Grab C = Composite 8HC = 8 Hr. Composite 24HC = 24 Hr. Composite	SDWA Sample Types D=Distribution E=Entry Point R=Raw C=Check S=Special M=Maximum Residence
Received in Lab By: <u>[Signature]</u>	Count: <u>1</u>	Date: <u>5.31.23</u>	Temp °C: <u>13.6</u>	Tests within holding times? <u>Y</u> N 40 mL VOA vials free of headspace? <u>Y</u> N		



Results Report

Order ID: 3H03878

Cedarville Engineering Group, LLC
159 High Street, Suite 500
Pottstown, PA 19464

Project: Stormwater Analysis

Attn: Jack Shuey

Regulatory ID:

Sample Number: 3H03878-01
Collector: SJW

Site: OF-139W
Collect Date: 08/10/2023 1:00 pm

Sample ID:
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
-------------------------------	--------	-------	--------	------	----	-----------	----	---------------	----

Microbiology

Fecal Coliform 20000 cfu/100ml SM 9222-D 1 1 08/10/23 KGB 08/10/23 19:00 KGB

Sample Number: 3H03878-02
Collector: SJW

Site: OF-159W
Collect Date: 08/10/2023 12:25 pm

Sample ID:
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
-------------------------------	--------	-------	--------	------	----	-----------	----	---------------	----

Microbiology

Fecal Coliform 7400 cfu/100ml SM 9222-D 1 1 08/10/23 KGB 08/10/23 18:40 KGB

Sample Number: 3H03878-03
Collector: SJW

Site: OF-3W
Collect Date: 08/10/2023 12:00 pm

Sample ID:
Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
-------------------------------	--------	-------	--------	------	----	-----------	----	---------------	----

Microbiology

Fecal Coliform 1700 cfu/100ml SM 9222-D 1 1 08/10/23 KGB 08/10/23 18:40 KGB

Sample Receipt Conditions:

All samples met the sample receipt requirements for the relevant analyses.

Units P/A = Present/Absent
Units P/F = Pass/Fail

Report Generated On: 08/15/2023 7:39 am 3H03878
STL_Results Revision #2.1 Effective: 09/01/2022





SUBURBAN TESTING LABS

The test *pH, Lab* is performed in the Laboratory as soon as possible. These results are not appropriate for compliance with NPDES, SDWA, or other regulatory programs that require analysis within 15 minutes of sample collection and should be considered for informational purposes only.

**pH, Final* for ASTM leachate is performed by method SM 4500-H-B.

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of STL.

Results are considered Preliminary unless report is signed by authorized representative of STL.

Reviewed and Released By:

Larissa Cates
Project Manager I

Report Generated On: 08/15/2023 7:39 am 3H03878
STL_Results Revision #2.1 Effective: 09/01/2022





3H03878
Larissa Cates

TAT(Check One): Standard 24hr 48hr 72hr Other
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: _____

Client Name: Cedarville Engineering Group
Address: 159 E High Street
Pottstown PA 19464
Contact Name: Sam Wachsmith

Phone: 610.502.4323
Email: Swachsmith@CedarvilleEng.com
P.O. Info: _____

Project Name: WTT PCM
Address: _____
Regulatory ID (SDWA/Permit #): _____

Comments:

STL Sample Number	Sample Description / Site ID:	Date Sampled	Time Sampled	Samplers Initials	Test(s) Requested:	Bottle Quantity	See Codes Below				Comments / Field Data:
							Matrix	Sample Type	Bottle Type	Preservative	
	OF-139W	8/10/23	1300	SW	Total coliform * Fecal Coliform	1	NPW	G	P	N	
	OF-159W	" "	1225	SW	" "	1	NPW	G	P	N	
	OF-3W	" "	1200	SW	" "	1	NPW	G	P	N	
					* Per client call with Sam. Change from TC to Fecal.						
	(3) micro										
					client dropoff						

Relinquished By:	Count: 3	Date: 8-10-23	Temp °C: _____	Sample Conditions Submitted with COC? <input checked="" type="radio"/> Y / N	Matrix Key NPW = Non-Potable Water Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg) PW = Potable Water (not for SDWA compliance) SDWA = Safe Drinking Water Act Potable Sample	Bottle Type Key P = Plastic G = Glass GA = Glass Amber VOA = 40mL G or GA PP = Sterile Polypropylene PS = Sterile Polystyrene HDPE = High Density Polyethylene O = Other	
Received By:		Time: 1430	Temp °C: _____				Number of containers match number on COC? <input checked="" type="radio"/> Y / N
Relinquished By:		Date:	Temp °C: _____	All containers in tact? <input checked="" type="radio"/> Y / N	Sample Type Key G = Grab C = Composite 8HC = 8 Hr. Composite 24HC = 24 Hr. Composite	SDWA Sample Types D=Distribution E=Entry Point R=Raw C=Check S=Special M=Maximum Residence	Preservative Key A = Ascorbic Acid C = HCl H = HNO ₃ N = Sodium Thiosulfate OH = NaOH S = H ₂ SO ₄ O = Other NA = None Required
Received in Lab By:	Count: 3	Date: 8/10/23	Temp °C: 14.7	Tests within holding times? <input checked="" type="radio"/> Y / N			
		Time: 1434	Acceptable: <input checked="" type="radio"/> Y / N	40 mL VOA vials free of headspace? <input checked="" type="radio"/> Y / N			

Signing this form indicates your agreement with STL's Standard Terms and Conditions unless otherwise specified in writing. SLF059 Rev. 1.5 Effective April 24, 2020. Shaded areas are for STL use only.



APPENDIX D

Animal Waste Ordinance



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com

**WESTTOWN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA**

ORDINANCE 2021-01

AN ORDINANCE AMENDING THE CODE OF THE TOWNSHIP OF WESTTOWN, SPECIFICALLY, CHAPTER 49, ANIMALS, ESTABLISHING ARTICLE I, DOGS, §49-100, REGARDING THE PURPOSE OF THE ARTICLE; §49-101, REGARDING THE ADDITION OF DEFINITIONS; §49-102, REGARDING RESTRICTIONS OF DOGS; §49-103, REGARDING RUNNING OF DOGS AT LARGE; §49-104, REGARDING THE PROHIBITION OF CONTINUOUS BARKING OF DOGS; §49-105, REGARDING THE ISSUANCE OF WARNINGS; AND §49-106, REGARDING VIOLATIONS AND ENFORCEMENT.

BE IT ENACTED AND ORDAINED by the Board of Supervisors of Westtown Township, Chester County, Pennsylvania, that Part II, General Legislation, Chapter 49, Animals, of the Code of the Township of Westtown shall be amended to establish Article I, Dogs, as follows:

SECTION 1. Part II, General Legislation, Chapter 49, Animals, Article I, Dogs, of the Code is hereby established to include the following sections:

Article I. Dogs.

§ 49-100 Purpose.

The intent of this Article is to establish reasonable regulations governing the keeping of dogs in order to protect human and dog health and reduce the safety and nuisance hazards of straying dogs or incessant noise of dogs. Nothing in this Article shall be construed or enforced in such a way as to conflict with Pennsylvania's Right to Farm Act (RTFA), 3 P.S. § 951 et seq., the Agricultural Area Security Law (AASL), 3 P. S. § 901 et seq., the Agriculture Communities and Rural Environment (ACRE) Law, 3 P.S. § 311 et seq., or other state law or statute which prohibits inconsistent regulation by a local municipality.

§ 49-101 Definitions.

OWNER

Includes every person having a right of proprietorship or ownership in a dog and every person who keeps or harbors such dog or has it in his care and any person who permits a dog to remain on or about any premises occupied by him.

RUNNING OF DOGS AT LARGE

Shall mean any dog not under immediate control, not on a leash or lead, not at heel, not beside a competent person, not in a vehicle driven or parked, or not confined within the property limits of his owner, except as provided below.

A dog shall not be considered to be "running at large" in the following circumstances:

Dogs Used for Hunting or Tracking. Dogs used for hunting or tracking shall not be deemed to be running at large provided any such dog is wearing a collar with a tag showing the name and telephone number of the owner of the dog and the hunting or tracking is being conducted with the permission of the landowner.

Field trials or training. During field trials or formal obedience, agility, or similar training periods when the dog is accompanied by its owner or custodian.

Fenced dog park or exercise area. When the dog is in a securely fenced, specifically designated dog park or dog exercise area established by a governmental entity, a homeowner's association, or a community organization, where the fencing is designed to prevent a dog from escaping.

Service dog; when leashing is not required. When the dog is a service animal whose handler, because of a disability, is unable to use a harness, leash, or other tether, or the use of such a device would interfere with the service dog's safe and effective performance of work or tasks, provided that the service dog is otherwise under the handler's control through voice control, signals, or other effective means.

Public service training. During search and rescue and similar public service training when the dog is accompanied by its owner or custodian, or by a qualified handler, provided the owner, custodian, or handler has the express permission of the owner or occupant of the property on which the dogs are being trained.

Farm dogs. When the dog is a working farm dog that is either guarding or herding cows, fowl, goats, sheep, swine, or other domestic animals normally raised on a farm.

§ 49-102 Restrictions of Dogs.

- A. The owners of every dog within the Township of Westtown shall at all times take reasonable care and precaution to prevent the dog from leaving the real property limits of its owner, possessor, or custodian, and ensure that:

1. It is securely and humanely enclosed within a house, building, fence, pen or other enclosure out of which it cannot climb, dig, jump, or otherwise escape on its own volition; and that such enclosure is securely locked at any time the animal is left unattended; or
 2. It is securely and humanely restrained by an invisible containment system. If using an invisible containment system, a sign must be posted on the property indicating that the system is in place; or
 3. It is on a leash or lead and under the control of a competent person; or it is off leash or lead and obedient to and under voice command of a competent person who is in the immediate proximity of the dog any time it is not otherwise restrained.
- B. No person shall permit a dog which is under his or her custody or control, either by leash or lead, restraint, verbal command or otherwise, to deposit feces upon any other person's private property or on any public property, including but not limited to sidewalks, pathways, streets, parking lots, parks, waters or other public property of any kind. All persons exercising custody or control of dogs shall be required to immediately cleanup and remove any feces resulting from the dog's presence on any such public or private property, for proper disposal as solid waste.

§ 49-103 Running of Dogs at Large.

It shall be unlawful for the owner or keeper of any dog to permit such dog to run at large in Westtown Township. Any such dog found to be running at large, whether licensed or unlicensed, shall be subject to seizure, detention and disposition by the Westtown-East Goshen Regional Police Department or agency employed by the Township to carry out such seizure, detention or disposition in accordance with the provisions of the Pennsylvania Dog Law, as amended from time to time.

§ 49-104 Continuous Barking of Dogs Prohibited.

No person shall own, possess, harbor or control any dog which howls or barks continuously or incessantly for a period of 10 minutes or makes such noise intermittently for 1/2 hour or more to the disturbance of any person at any time of the day or night, regardless of whether the dog is situated in or upon private property; provided, however, that at the time the dog is making such noise, no person is trespassing or threatening to trespass upon private property in or upon which the dog is situated or for any other cause which teased or provoked the dog.

§ 49-105 Issuance of Warnings.

Prior to the issuance of a citation for a violation of § 49-104, a warning shall be issued to the owner of the dog. Upon notification that a person is violating § 49-

104, the Regional Police, Code Enforcement Officer or Zoning Officer may issue a warning to the owner of the dog. The warning shall be hand-delivered or sent by certified mail, return receipt requested, and shall include a copy of § **49-104** and a notice that a fine will be imposed for the second and all subsequent violations in accordance with § **49-106C**.

§ 49-106 Violation and Enforcement Provision.

- A. Any person who violates or permits the violation of any provision of this Article, except § **49-104**, shall, upon being found liable therefor in a criminal enforcement proceeding commenced by the Township before a Magisterial District Justice, pay a fine for each such violation in an amount not less than \$50 and not more than \$200, plus all court costs, including reasonable attorney fees, incurred by the Township. No judgment shall be imposed until the date of the determination of a violation by the Magisterial District Justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of criminal procedure.
- B. Any person who is found liable for any second or subsequent offense for a violation of any provision of this Article, except § **49-104**, shall, upon being found liable therefor in a criminal enforcement proceeding commenced by the Township before a Magisterial District Justice, pay a fine for each such violation in an amount not less than \$200 and not more than \$600, plus all court costs, including reasonable attorney fees, incurred by the Township. No judgment shall be imposed until the date of the determination of a violation by the Magisterial District Justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of criminal procedure.
- C. Violation of § **49-104**.
 - 1. Any person who violates or permits the violation of § **49-104** of this Article shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Township before a Magisterial District Justice, pay a fine in the following amounts, plus all court costs, including reasonable attorneys' fees, incurred by the Township:
 - (a) First violation in any calendar year: fine of \$25.
 - (b) Second violation in any calendar year: fine of \$50.
 - (c) Third and subsequent violations in any calendar year: fine of no less than \$100 and no more than \$600.

2. Each violation on any single day shall be considered a separate violation from any violation involving the same owner on any other day, including consecutive days.
3. No judgment shall be imposed until the date of the determination of a violation by the Magisterial District Justice. If the defendant neither pays nor timely appeals the judgment, the Township may enforce the judgment pursuant to the applicable rules of civil procedure.

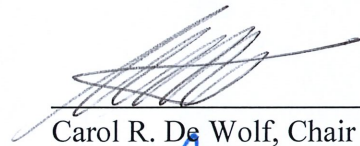
SECTION 2. If any sentence, clause, section or part of this Ordinance is, for any reason, found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts of this Ordinance. It is hereby declared as the intent of the Board of Supervisors that this Ordinance would have been adopted had such unconstitutional, illegal, invalid sentence, clause, section or part thereof not been included herein.

SECTION 3. All ordinances or parts of ordinances conflicting with any provisions of this ordinance are hereby repealed insofar as the same affects this ordinance.

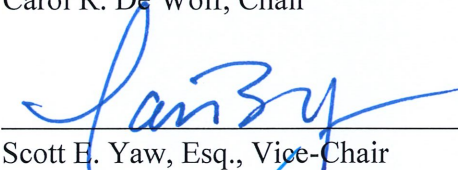
SECTION 4. This amendment shall take effect and be in full force and effect five (5) days from and after the date of its final passage and adoption.

ENACTED AND ORDAINED by the Board of Supervisors of Westtown Township this 1st day of February, 2021.

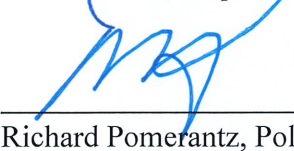
**WESTTOWN TOWNSHIP
BOARD OF SUPERVISORS**



Carol R. De Wolf, Chair

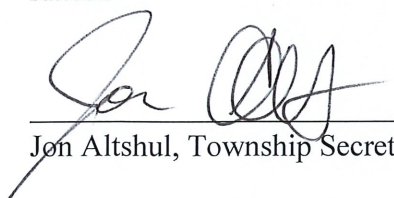


Scott E. Yaw, Esq., Vice-Chair



Richard Pomerantz, Police Commissioner

Attest:



Jon Altshul, Township Secretary



Annual MS4 Status Report

APPENDIX F

PCM Source Investigation Report



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



Annual MS4 Status Report

APPENDIX G

MS4 Infrastructure Map



Cedarville Engineering Group, LLC

Pottstown, Pennsylvania | Pensacola, Florida

P: 610-705-4500 E: info@CedarvilleEng.com

CedarvilleEng.com



NOTES:
 1. Parcels layer provided by the County (2023).
 2. The entire Township is covered by the 2010 Urbanized Area.

DISCLAIMER:
 This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. Infrastructure ownership information is displayed for general planning purposes. It may not be accurate and is not legal or definitive.

DRAWN BY: WH

DATE: 8/22/23

1 INCH = 700 FEET

0 350 700 1,400 US Feet



WESTTOWN TOWNSHIP

MS4 INFRASTRUCTURE MAP

CHESTER COUNTY, PA

Legend

Outfalls	State Outflow
Observation Points	Private Pipe
PCSM BIFIS	State Pipe
Township Inflow	Township Pipe
Township Inlet	Private Swale
Township Manhole	Township Swale
Township Outflow	Township Boundary
Township Rise	Streams
Private Inflow	Unmapped Tributaries
Private Inlet	HUC12
Private Manhole	Surrounding Municipalities
Private Outflow	Parcels
Private Riser	Private Road
State Inflow	State Road
State Inlet	Township Road
State Manhole	