MANAGING PRINCIPALS
Kevin A. Brett, P.E.
Ned Mitrovich, P.E.
Jason E. Stanton, P.E.

September 29, 2023

S. O. No. 0525-05

VIA DIGITAL UPLOAD

Mr. Paul Livingston
Pennsylvania Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222-4745

Subject: **New Sewickley Township, Beaver County**
                2023 Annual MS4 Status Update
                Report Period: July 1, 2022 to June 30, 2023

Dear Mr. Livingston:

Transmitted herewith is one copy of the 2023 Annual MS4 Status Report for the Report Period from July 1, 2022 to June 30, 2023 submitted on behalf of New Sewickley Township.

Should you have questions, please contact John W. Valinsky, E.I.T. directly (Ext. 237).

Sincerely,

Kevin A. Brett, P.E.

KAB/als

Enclosures

cc/enc: Ronald Leindecker, Township Manager (rleindecker@newsewickley.com)
         Lawrie Borgman, Secretary (secretary@newsewickley.com)

OFFICES IN: Allegheny, Beaver, Erie and Westmoreland Counties Pennsylvania; Franklin County, Ohio

846 Fourth Avenue Coraopolis, PA 15108 (412) 264-4400 Fax: (412) 264-1200	150 Pleasant Drive, Suite 204 Aliquippa, PA 15001 (412) 264-4400 Fax: (412) 264-1200	10560 Walnut Street Albion, PA 16401 (814) 756-4384 Fax: (814) 756-5638	4534 Route 136, Suite 9 Greensburg, PA 15601 (724) 837-1057 Fax: (412) 264-1200	5980 Wilcox Place, Suite J Dublin, OH 43016 (614) 395-1661

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DEPARTMENT OF ENVIRONMENTAL
PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

ANNUAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) STATUS REPORT

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

GENERAL INFORMATION			
Permittee Name:	New Sewickey Township	NPDES Permit No.:	PAG136280
Mailing Address:	233 Miller Road	Effective Date:	March 16, 2018
City, State, Zip:	Rochester, PA 15074	Expiration Date:	
MS4 Contact Person:	Ronald Leindecker	Renewal Due Date:	
Title:	Township Manager	Municipality:	New Sewickley Township
Phone:	724-774-7822	County:	Beaver
Email:	rleindecker@newsewickley.com		

Co-Permittees (if applicable):

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

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

WATER QUALITY INFORMATION

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

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

Receiving Water Name	Ch. 93 Class.	Impaired?	Cause(s)	TMDL?	WLA?
Dutchmans Run	WWF	No	N/A	N/A	N/A
Crows Run	WWF	No	N/A	N/A	N/A
Wolfe Run	WWF	No	N/A	N/A	N/A
Pine Run	WWF	No	N/A	N/A	N/A
Brush Creek	WWF	Yes	Pathogens, Organic Enrichment / Low D.O.	N/A	N/A

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	New Sewickley Township	Ronald Leindecker	724-774-7822
#2 Public Involvement/Participation	New Sewickley Township	Ronald Leindecker	724-774-7822
#3 Illicit Discharge Detection and Elimination (IDD&E)	New Sewickley Township	Ronald Leindecker	724-774-7822
#4 Construction Site Storm Water Runoff Control	New Sewickley Township	Ronald Leindecker	724-774-7822
#5 Post-Construction Storm Water Management in New Development and Redevelopment	New Sewickley Township	Ronald Leindecker	724-774-7822
#6 Pollution Prevention / Good Housekeeping	New Sewickley Township	Ronald Leindecker	724-774-7822

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: June 2023   Were updates made?   ☐ Yes   ☒ No

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

Provide educational material to target audience groups within the Township

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

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

The Township will continue distribution of educational material and stormwater information through the Township website, newsletter, and other forums. The Public Education and Outreach Program (PEOP) shall continue to be implemented and shall be re-evaluated and revised each permit year as necessary.

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

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

☐ Yes   ☐ No

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

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

If Yes, what MS4-related material does it contain?
Brochures, Information on Stormwater and links to other sites

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

5. Identify specific plans for the publication of stormwater materials for the upcoming year:
    Publish educational and informational items including links to DEP's and EPA's stormwater websites on the Township website. Periodically review, distribute or republish stormwater information available from DEP, EPA and other sources. Continue implementation of the PEOP plan.

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).

- Informational pamphlets are available at the Township office
- Informational packets are distributed with each building permit application
- The Township participates in the annual Beaver County COG Joint Advertisement
- An MS4 information presentation was provided by the Township Engineer at the September 5, 2023 Board of Supervisors Meeting.
- The Township newsletter includes PRP Progress information
- The Township intends to inlcude stormwater information with building permit application packages
- Handouts were available at the Township Community Days Event
- MS4 Updates are given at monthly Board of Supervisors meetings

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MCM #1 Comments:

MCM #2 – PUBLIC INVOLVEMENT/PARTICIPATION

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

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

    ☐ Yes   ☐ No

2. Date of latest annual review of PIPP: June 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:

    The Ordinance was advertised in the Township Paper of Record at discussed at several Board of Supervisor meetings prior to adoption.

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

Ordinance / SOP / Plan Name	Date of Public Notice	Date of Public Hearing	Date Enacted or Submitted to DEP
Stormwater Management Ordinance		September 6, 2022	September 6, 2022

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: September 5, 2023

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

   The Township cooperates with Beaver County COG for the annual joint MS4 ad.

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

   -The Township holds a recycling program every other Saturday
   -The Township completed the Green Water Valley Park Stormwater Control and Pollution Reduction Project as a part of its MS4 PRP requirements
   -The Township provides designated recycling bins, and a designated area at the Municipal Building for residents to drop off leaves, branches and grass clippings.
   - Township residents attended an informational presentation was provided by the Township Engineer at the June 7, 2022 Board of Supervisors Meeting and August 16, 2021 Planning Commission Meeting.
   - Township residents participated in an electronic recycling day event on July 24, 2021 and May 14, 2022.
   - Residents participated in a stormwater presentation from BCCD on February 17, 2022
   - Residents participated in a tire recycling event on May 14, 2022
   - A cleanup day was held on May 7, 2022.

MCM #2 Comments:

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

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

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

   ☐ Yes   ☐ No

2. Date of latest annual review of IDD&E program: June 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):   November 10, 2021

3. Total No. of Outfalls in MS4:   155   Total No. of Outfalls Mapped: 50

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

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

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

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

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

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

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

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

3. Date of last update or revision to map(s):   November 10, 2021

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

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

1. How many unique outfalls (and if applicable observation points) were screened during the reporting period?   0

2. Indicate the percentage of all outfalls screened in the past five years.   100%

3. Indicate the percent of outfalls screened during the reporting period that revealed dry weather flows: 0%

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: 9/6/22

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

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

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

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

Violation Date	Nature of Violation	Responsible Party	Enforcement Taken

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

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

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

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

    If Yes, what was distributed? Annual training was given to Township Staff with regard to illicit discharges. Illicit discharge information is provided to the public as part of MCM #1.

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:

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: 9/6/22

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: 9/6/22

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: 9/6/22

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.

   Reviews of stormwater facilities are completed by the Township and letters are issued to facility owners identiying maintenance items. In addition, facilities that are applied for credits towards the Township Stormwater Fee are reviewed to ensure facility is functioning as designed.

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 <u>existing structural BMPs</u> 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	Liberty Hills		HOA	40°40'33"	80°11'35"	2008	PA DEP BMP Manual	
2				° ' "	° ' "			
3				° ' "	° ' "			
4				° ' "	° ' "			
5				° ' "	° ' "			
6				° ' "	° ' "			
7				° ' "	° ' "			
8				° ' "	° ' "			
9				° ' "	° ' "			
10				° ' "	° ' "			
11				° ' "	° ' "			
12				° ' "	° ' "			
13				° ' "	° ' "			
14				° ' "	° ' "			
15				° ' "	° ' "			
16				° ' "	° ' "			

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

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

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

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

   ☐ Yes ☐ No

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

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

MCM #5 Comments:

MCM #6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

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

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

2. When was the inventory last reviewed? June 2023

3. When was it last updated? June 2023

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

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

2. Date of last review or update to written O&M program: June 2023

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

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

2. Date of last review or update to training program: June 2023   Date of latest training: See below

3. Training topics covered:

   1. September 5, 2023: General MCM Information review and Permit Status Update

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

   1. Kevin A Brett, P.E., Lennon, Smith Souleret Engineering, Inc.

5. Names of training attendees:

   1. Board of Supervisors, Secretary, Treasurer, Administrative Staff, Solicitor, Manager, Police Chief, Road Foreman, Township Residents.

MCM #6 Comments:

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)	September 2019	☐	September 2019
Source Inventory	September 2020	☐	September 2020
Investigation of Suspected Sources	September 2022	☐	September 2022
Ordinance/SOP for Controlling Animal Wastes		☐	September 2022

PCM Comments:

There are no suspected sources of PCMs in the Township.

POLLUTANT REDUCTION PLANS (PRPs) AND TMDL PLANS

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

Type of Plan	Submission Date	DEP Approval Date	Surface Waters Addressed by Plan
☐ Chesapeake Bay PRP (Appendix D)			Chesapeake Bay
☒ Impaired Waters PRP (Appendix E)	9/2017	4/9/2019	Brush Creek
☐ TMDL Plan (Appendix F)			
☐ Combined Chesapeake Bay / Impaired Waters PRP			Chesapeake Bay,
☐ Combined PRP / TMDL Plan			
☐ Joint Plan *(if checked, list the name of the MS4 group or names of all entities participating in the joint plan below)*			
Joint Plan Participants:			

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

Type of Plan	TSS Load Reduction (lbs/yr)	TP Load Reduction (lbs/yr)	TN Load Reduction (lbs/yr)
☐ Chesapeake Bay PRP (Appendix D)			
☒ Impaired Waters PRP (Appendix E)	59,332		
☐ TMDL Plan (Appendix F)			
☐ Combined Chesapeake Bay / Impaired Waters PRP			
☐ Combined PRP / TMDL Plan			

3. Date Final Report Demonstrating Achievement of Pollutant Load Reductions Due: September 30, 2023

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

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

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

   If Yes to #4, describe the plan modifications.

5. Summary of progress achieved during reporting period.

   Construction of the first project has been completed

6. Anticipated activities for next reporting period.

   Concepts and property acquisition has begun for the 2nd project

PRP/TMDL Plan Comments:

NEW BMPs FOR PRP/TMDL PLAN IMPLEMENTATION

Table 2. List all <u>new structural BMPs</u> installed and <u>ongoing non-structural BMPs</u> implemented <u>during the reporting period</u> 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)
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	
						° ' "	° ' "		☐	☐	

BMP INVENTORY FOR PRP/TMDL PLAN IMPLEMENTATION

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

BMP No.	BMP Name	DA (ac)	% Imp.	BMP Extent	Units	Latitude	Longitude	Date Installed	Annual Sediment Load Reduction (lbs/yr)	Date of Latest Inspect-ion	Satis-factory?
1	Green Valley Park	6.79	20	9500	SF	40°44'28"	80°11'51"	2022	2440	Summer 2023	☒
						° ' "	° ' "				☐
						° ' "	° ' "				☐
						° ' "	° ' "				☐
						° ' "	° ' "				☐

						° ' ”	° ' ”				☐

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).

Ronald Leindecker

Name of Responsible Official

724-774-7822

Telephone No.

Signature

9/21/2023

Date

EDUCATIONAL MATERIAL AND PUBLIC PARTICIPATION

PUBLIC PARTICIPATION AMD INVOLVEMENT

1. New Sewickley Township Website Newsletter Stormwater Information

STORMWATER Q & A

What is the Concept of Stormwater Management?
Stormwater Management is the process of controlling the stormwater runoff that comes primarily from impervious surfaces like parking lots, driveways, and rooftops.

What is the importance of stormwater management?
Effective stormwater management provides environmental, social, and economic benefits to local communities. When stormwater management is done well, streams, rivers, and lakes are cleaner; flood risks are reduced; costs due to flood damage decrease; and community quality of life increases.

What are some ideas for stormwater management?
Some of the green infrastructure and low impact development practices the EPA uses to reduce stormwater runoff and pollution are: green roofs, rain barrels and cisterns, permeable pavements, bioretention areas, vegetated swales/dry swales, curb and gutter elimination, vegetated filter strips, sand and organic filters, constructed wetlands, and riparian buffers.

Stormwater fun facts:
· One inch of rain during a storm generates more than 600 gallons of water running off of a 1,000-square-foot roof.
· During the summer, outdoor water use amounts to 40 percent of household use.
· Everyone lives in a watershed. The first inch of rainstorm runoff generally carries 90 percent of the pollution.

2. New Sewickley Township Green Valley Park Stormwater Control and Pollution Reduction Project

New Sewickley Township Stormwater Fee Info

MS4 Annual Report: 2021-2022
Inspection Report: 2022 Inspection Report

Purpose

After years of discussions about the continued unfunded mandates and requirements handed down to Townships like New Sewickley regarding Stormwater runoff and pollution reduction requirements the Township Engineer's completed a study to develop an equitable and fair Stormwater Management Fee system. The study was completed in August 2020 and was the basis for the Stormwater Fee Ordinance that was passed in December 2020. The study was completed to establish a dedicated revenue source for anticipated expenses associated with stormwater management infrastructure improvements and compliance with the Township's regulatory requirements imposed by the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit issued to the Township by Pennsylvania Department of Environmental Protection (PADEP). A reasonable basis by which to establish the user fee system would be on the user's anticipated contribution of stormwater runoff to the MS4 system or surface waters, best measured as the amount of impervious area contained on a property.

Analysis of Property Types

The basis of the user fee was determined according to the present use of the parcel. For analysis, parcels were generally categorized into four groups as follows:

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1. Single Family Residential Property (A parcel containing and individual single family dwelling unit with a lot area of ten acres or less)
2. Large Single Family Residential Property (A parcel containing and individual single family dwelling unit with a lot area of more than ten acres)
3. Non Single Family Residential Property (Any developed property that is not a Single Family Residential Property or a Large Single Family Residential Property, including, commercial and office buildings, public industrial and manufacturing buildings, well pads, oil and gas facilities, multi-family dwellings, places of worship, parking lots or garages, schools and other educational facilities, etc. This includes individual units in a condominium association).
4. Vacant Land (Properties with fewer than 600 square feet of impervious area and no dwelling)

Assessment of Fees for Individual Properties

To equitably assess fees for individual properties, an Equivalent Residential Unit (ERU) was established to represent the typical amount of impervious area on a Single-Family Residential Property in the Township. This value was based a statistical sample size of selected parcels. The ERU was determined to be 6,800 square feet. The intent of analysis of Single-Family Residential Properties was to establish a reasonable, representative value of all such properties for use as the ERU. This ERU is to be used as the fee basis for all Township properties as follows:

1. Single Family Residential Property – 1 ERU
2. Large Single-Family Residential Property – Determined based on actual impervious area proportionate to 1 ERU, rounded to the nearest one-half
   For example, a property with 25,000 square feet of impervious area would be assessed at 3.5 ERU.
3. Non Single Family Residential Property – Determined based on actual impervious area rounded to the nearest one-half

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3. Non Single Family Residential Property – Determined based on actual impervious area rounded to the nearest one-half

General Information about Stormwater and the Township's Pollutant Reduction Projects that are required to be completed.

In the case of stormwater, the amount of polluted water running off someone's property is related to how much of the land is covered in hard surfaces—for example, rooftops, driveways, and patios—and for commercial properties, paved parking lots and service roads. More hard surfaces result in more runoff. Stormwater fees are therefore charged based on the area of these surfaces that exist on a property.

Stormwater fees help local governments pay for infrastructure projects and services that clean up pollution and reduce the amount of stormwater runoff reaching nearby streams and rivers as required by the DEP and EPA. While there is a wide range of solutions, most projects aim to slow down the runoff from developed areas by creating ways for more of it to soak into the ground, instead of rushing down driveways and streets directly into sewers and streams. When runoff can soak into the ground, there is less of it to cause flooding. In addition, it is cleaned as it filters through the soil.

Examples of practices that accomplish this include rain gardens, bioswales, green roofs, forested streamside buffers, permeable pavements, among others. In other parts of Pennsylvania, communities have plans—or are in the process of creating plans—that outline specific, on-the-ground projects to reduce stormwater pollution. Each of these projects has identifiable costs for which the stormwater fees will be used.

The fees stay local; they are used to fund stormwater projects that reduce pollution and decrease local flooding in the communities where they are collected. The fees are a dedicated funding source to help communities meet their stormwater permit requirements. They may not be used for other purposes.

Stormwater fees are not a "tax" on the rain. Property owners are not charged related to how much rain or snow falls; they are charged based on the area of their property that can't soak up water. In other words, properties with more hard surfaces pay more in stormwater fees because they contribute to more of the problem. Properties with fewer hard surfaces pay less, because they contribute less to the problem.

New Sewickley Stormwater Fee Questions and Answers

Will this bill be yearly?

Yes, to meet the PA DEP and US EPA requirements, the Township will be required to continue yearly pollution reduction projects, maintenance of those pollution reduction structures, testing and maintenance of our storm water conveyance systems and other stormwater related projects.

Can I appeal the amount?

Yes, you can appeal the calculation of the Equivalent Residential Units (ERUs) on your property by using this form. All applications will be reviewed by the Township Engineer. Also, you can request a copy of the calculation of your properties ERUs to understand how the Township Engineering firm calculated your stormwater fee. Appeal Application (revised)

How was my property's ERU calculated?

The minimum amount is $6 per month ($72 per year). The measure of impervious ground cover for a typical single-family residential Property used in assessing the fees for each parcel of Property, and which has been determined to be 6,800 square feet. Every property in New Sewickley that has at least 600 square feet of impervious surfaces will receive a minimum stormwater fee of $6 per month.

What is an impervious surface?

An impervious surface is a surface that has been compacted or covered with a layer of material preventing water from soaking into the ground. Impervious surfaces increase stormwater runoff and contribute pollutants. Example of impervious areas include; sidewalks, rooftops, compacted soils, gravel surfaces, roadways, parking lots, buildings, and other man-made structures.

Who is collecting this Fee?

Jordan Tax Service is collecting the fee.

What if I don't pay the Stormwater Fee?

What if I don't pay the Stormwater Fee?

Just like a utility bill such as water or sewer, the Township can lien the property for unpaid stormwater fees.

Click here for a printable PDF of this information.

Is there a way for me to report illicit discharge?

Yes, please print off the following form and mail to New Sewickley Township, 233 Miller Road, Rochester, PA 15074, or email to info@newsewickley.com. iddcomplaintform

References

Ord 228 – Stormwater Management Ordinance – September 2022

Ord 229 Jordan Tax Service for Collection of Fees Liens for MS4

Stormwater Fee Report and Study – August 2020

2020 Annual MS4 Status Report

2021-2022 Annual Report 2021-2022

NDPES MS4 Permit issued by DEP in 2018

Pollution Reduction Plan – Approved by PA DEP in 2018

Ordinance 202 – New Sewickley Township MS4 Operation and Maintenance Ordinance – December 2015

Ordinance 166 – Stormwater Management Ordinance – September 2004

Res 06-22 Stormwater Fees Credits

What is Stormwater

Stormwater 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.

Stormwater becomes a problem when it picks up debris, chemicals, dirt and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal

water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing and providing drinking water.

Federal stormwater Regulations and the Pennsylvania Stormwater Management Act require counties and municipalities to develop and implement a stormwater management program. These regulations, along with the Federal Cleanwater Act, govern what local municipalities must do to reduce discharge of pollutants into local rivers, streams, lakes and water sheds.

Communities that discharge stormwater into any waterway that the DEP identifies as "impaired", are required to develop a "Pollutant Reduction Plan" (PRP). New Sewickley Township falls into that category. Because every MS4 faces unique stormwater challenges, each management plan is unique. This is a non-funded federally mandated program. Each of the "Pollutant Reduction Plans" (PRP) must be designed by our Township Engineers, constructed by our township employees and outside experts for many years to come. It is going to be expensive and get increasingly expensive in the years to come as the number of PRP sites increases.

Four specific areas of the Township have been identified by DEP as stormwater management areas. They are designated as MS4-1 9th Ext. Street Area, MS4-2 Northern Portion of Rt. 989, MS4-2 Southern Portion of Rt. 989 and MS4-3 Sunflower Corners Area.   See the maps below

KEY CONCEPTS

STORMWATER occurs when it rains or when snow melts.

STORMWATER RUNOFF is a term used to describe rain and snow melt that is unable to infiltrate into the ground.

IMPERVIOUS SURFACES, such as roads, parking lots, roof tops, and compacted land, do not allow for any infiltration into the ground. The presence of impervious surfaces results in an increase in the amount of stormwater runoff.

NON-POINT SOURCE POLLUTION is pollution that comes from many sources. As stormwater makes its way across the surface and into our local waterways, it brings with it non-point source pollution. Causes of non-point source pollution include oils, fertilizer, pesticides, animal waste, trash, and organic matter.
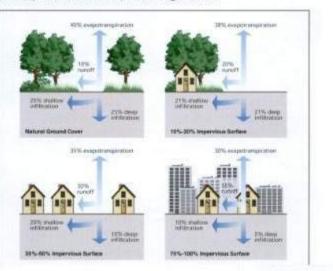
Poorly managed stormwater can lead to stream bank erosion. This can affect stream quality and habitat and cause property damage.
Photo: envirolaknw.com

Environmental Consequences

- Erosion
- Polluted waterways through non-point sources such as oils, pesticides, trash, fertilizers, etc.
- Loss of aquatic habitat
- Lack of groundwater recharge
- Elevated concentrations of nutrients such as phosphorus

Land Owner / Economic Consequences

- Localized flooding damages
- Land destabilization
- Loss of recreation and tourism income
- Transportation infrastructure and sewer system damage

Stormwater is usually not treated before entering our waterways. Therefore, pollutants that enter storm drains have direct environmental impacts on our waterbodies. Photo: Wilmingtonnc.gov

primary cause of water pollution nationally.

- As little as 10% of impervious cover in a watershed can cause degraded stream conditions.
- Public and private drinking water sources can be affected by poorly managed stormwater.

Source: EPA

STORMWATER SOLUTIONS: BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) refer to the suite of options available to avoid and/or minimize damages associated with stormwater. BMPs can include the installation of stormwater management controls as well as practices that prevent stormwater pollution. See below for some examples of effective BMPs for common land use types.

Residential BMPs

- Rain gardens
- Rain barrels
- Pervious walkways and patios
- Landscaping with native plants
- Minimization of pesticide

Commercial Development BMPs
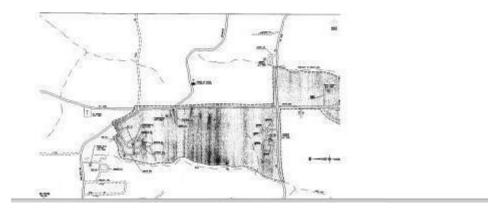
- Vegetated swales
- Pervious pavement
- Preservation of existing undeveloped land
- Constructed wetlands
- Capture and reuse of stormwater for irrigation

MS4-1 Area (Harvey Run Road & 9th Street Area)

MS4 – 2 Area (Route 989 Northern Portion)

3. New Sewickley Township Website Garbage Collection Information

Garbage Collection

502778736

New Sewickley Township does not have a contract with any specific garbage hauler. Residents wishing to receive garbage service are advised to contact any local garbage haulers providing services within the municipal boundaries of New Sewickley Township and enter into a contract with the company of their choice. Listed below are two companies that service New Sewickley Township.

Name	Phone
Joseph J. Brunner, Inc.	724-775-6665
Valley Waste Services	724-843-9373

Changes to the Burning Ordinance

New Sewickley Township has been fortunate each year to receive a grant under Act 101 for our recycling program. The amount varies each year depending on the volume of tonnage reported from the refuse haulers. Amounts have ranged from $8,000.00 to approximately $14,000.00.

It has been brought to the Township's attention that there are additional grants available for a considerable amount of funding. However, to be eligible to receive a grant, DEP said that the Township needed to make changes to our Burning Ordinance.

On July 11, 2017, upon the recommendation of the Department of Environmental Protection (DEP), the Board of Supervisors amended the Township Burning Ordinance to include the following.

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On July 11, 2017, upon the recommendation of the Department of Environmental Protection (DEP), the Board of Supervisors amended the Township Burning Ordinance to include the following.

- Residents are no longer permitted to burn any materials that the Township recycles, such as paper or cardboard. (*Recycling bins are located in the Municipal Parking Lot*)
- Days of burning have been limited to Thursday, Friday and Saturday. (*Recreational fires for cookouts are permitted at all times*)
- You are no longer permitted to burn leaves, branches or grass clippings. (*The Township has made available a designated area at the municipal building for Township residents to bring their leaves, branches and grass clippings*).

Ord 209

Visits: 7503

4. New Sewickley Township Website Recycling Information

New Sewickley
TOWNSHIP

233 Miller Road Rochester, PA 15074 | 724-774-7822 | info@newsewickley.com

About Us •   Our Government •   Departments •   Business •   Community •   Forms •   News & Events •   Newsletter

Recycling

Home / Business / Recycling

download (1)

Recycling is held at the Township Building the second and fourth Saturday of each month from 9 a.m. to 12 noon. There are volunteers here those two days to assist any resident who may need help.

Our containers are open 24 hours if those two Saturdays are not convenient for you.

How To Prepare Your Recycled Materials

Glass – Clear, Brown, Green Bottles and Jars
1. Rinse – Remove styrofoam labels.
2. Remove metal lids and rings.
3. Do not break glass
4. Do not include auto glass, light bulbs, procelain, ceramic, plate glass, crystal or   mirrors.

Aluminum, Bi-Metal & Tin Food and Beverage Container and Aluminum Foil
1. Rinse thoroughly, crush cans. Plastic Bottles and Jugs Only
1. Rinse throughly, remove caps.
2. Flatten to save space
3. Containers must have the three arrow recycling logo, with the numbers 1 or 2 inside it.

Newspapers and Cardboard
1. Newspapers are to be in paper bags.

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1. Newspapers are to be in paper bags.
2. No plastic bags.
3. Corragated cardboard only.
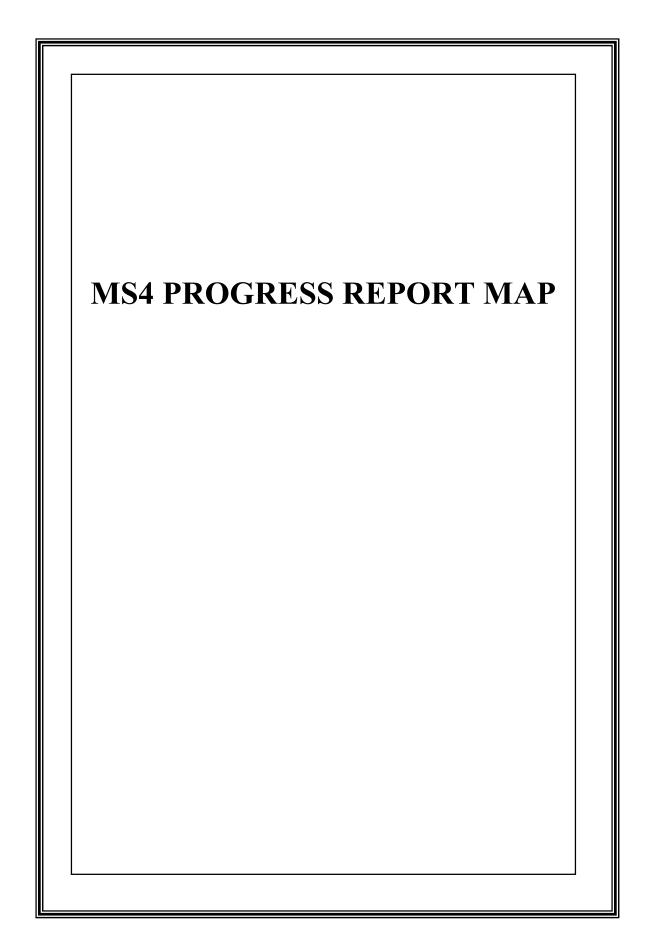
If you or a group (church, organization, etc.) are looking to volunteer your time, please call Laura Miles at 724-624-0187, to help oversee the recycling program on the 2nd and 4th Saturdays each month.
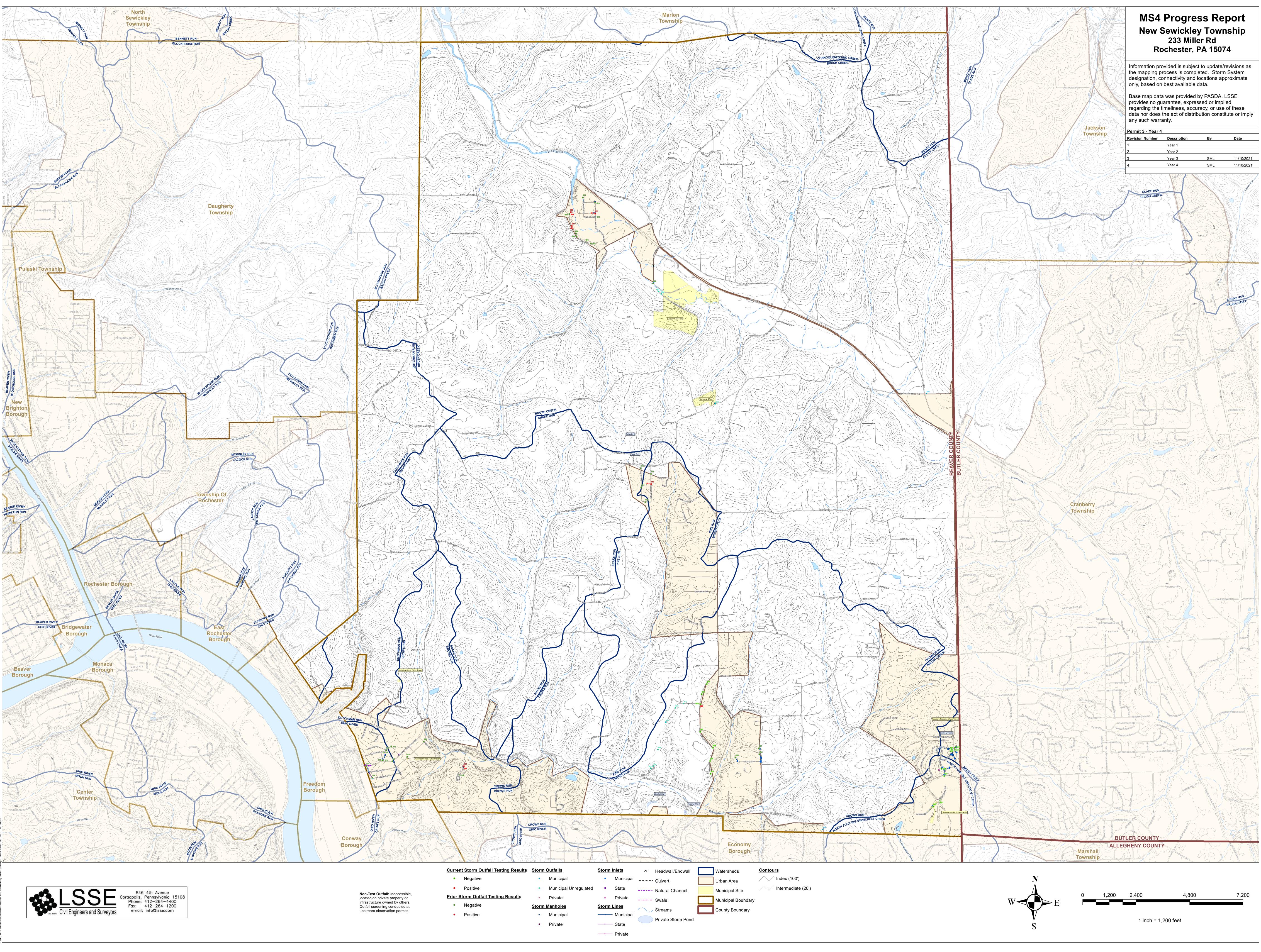
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- Days of burning have been limited to Thursday, Friday and Saturday. (*Recreational fires for cookouts are permitted at all times*).
- You are no longer permitted to burn leaves, branches or grass clippings.

Ord 209

The Township has made available a designated area at the municipal building for Township residents to bring their leaves, branches and grass clippings).

MS4 PROGRESS REPORT MAP

MS4 Progress Report
New Sewickley Township
233 Miller Rd
Rochester, PA 15074

Information provided is subject to update/revisions as the mapping process is completed. Storm System designation, connectivity and locations approximate only, based on best available data.

Base map data was provided by PASDA. LSSE provides no guarantee, expressed or implied, regarding the timeliness, accuracy, or use of these data nor does the act of distribution constitute or imply any such warranty.

Permit 3 - Year 4

Revision Number	Description	By	Date
1	Year 1		
2	Year 2		
3	Year 3	SML	11/10/2021
4	Year 4	SML	11/10/2021

Current Storm Outfall Testing Results
- Negative
- Positive

Prior Storm Outfall Testing Results
- Negative
- Positive

Storm Outfalls
- Municipal
- Municipal Unregulated
- Private

Storm Manholes
- Municipal
- Private

Storm Inlets
- Municipal
- State
- Private

Storm Lines
- Municipal
- State
- Private

- Headwall/Endwall
- Culvert
- Natural Channel
- Swale
- Streams
- Private Storm Pond

- Watersheds
- Urban Area
- Municipal Site
- Municipal Boundary
- County Boundary

Contours
- Index (100')
- Intermediate (20')

Non-Test Outfall: Inaccessible, located on private property or infrastructure owned by others. Outfall screening conducted at upstream observation permits.

LSSE
Civil Engineers and Surveyors
846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

0   1,200   2,400   4,800   7,200

1 inch = 1,200 feet

N W E S

PRP/ TMDL PLAN FINAL REPORT

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

POLLUTANT REDUCTION PLAN (PRP) / TMDL PLAN
FINAL REPORT

Before completing this report please review the instructions, which are located within the Annual MS4 Status Report Instructions (3800-FM-BCW0491)

PRP / TMDL PLAN SUMMARY

Permittee Name: New Sewickley Township   Permit No.:   PAG136280

☒ PRP   ☐ TMDL Plan   ☐ Combined PRP / TMDL Plan

Plan Approval Date: March 2018   Required Completion Date: **3/1/2023**

Joint Plan?   ☐ Yes   ☒ No   *If Yes, identify all participating permittees as an attachment to this report*

Surface Waters Addressed by Plan:

Permittee's Planning Area (acres):   **76**   Total Planning Area (Joint Plans):   acres

Pollutant Load Reduction Calculation Methodology:

☒ Simplified Method   ☐ Mapshed   ☐ ModelMyWatershed   ☐ Other:

	TSS	TN	TP
Baseline Pollutant Load – Planning Area	59332.15 lbs/yr	lbs/yr	lbs/yr
Pollutant Load Reduction Requirement (%)	10 %	%	%
Pollutant Load Reduction Requirement (lbs/yr)	5933.22 lbs/yr	lbs/yr	lbs/yr
WLA Reduction Requirement *(TMDL Plan only)*	lbs/yr	lbs/yr	lbs/yr

BMP IMPLEMENTATION

BMP Type	No. of BMPs	Pollutant Load Reductions Achieved (Credit)		
		TSS	TN	TP
Structural BMPs	1	2755 lbs/yr	lbs/yr	lbs/yr
Non-Structural BMPs		lbs/yr	lbs/yr	lbs/yr
Total		lbs/yr	lbs/yr	lbs/yr

Pollutant Load Reductions are documented on the following attachments:

☐ Attachment A – Infiltration BMPs   No.:

☒ Attachment B – BMP Retrofits   No.:   1

☐ Attachment C – Stream and/or Floodplain Restoration   No.:

☐ Attachment D – Street Sweeping or Storm Drain Solids Removal   No.:

☐ Attachment E – Tree Planting   No.:

☐ Attachment F – Non-structural (Annual Practice) BMPs   No.:

☐ BMP(s) have been implemented for which there are no attachments *(attach calculations)*

COMPLIANCE DETERMINATION

Were the pollutant load reduction requirements of the permit met?   ☐ Yes   ☒ No

If the pollutant load reduction requirements of the permit were **not met**, report the required load reductions remaining in lbs/yr and as a percentage of the total required load reduction.

	TSS		TN	TP
Load Reduction Remaining	3178	lbs/yr	lbs/yr	lbs/yr
Percent of Required Load Reduction Remaining	54	%	%	%

If the pollutant load reduction requirements of the permit were not met, attach an explanation and provide a schedule for completing implementation of the PRP or TMDL Plan, including interim milestones.

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).

Ronald Leindecker

Responsible Official Name

Manager

Official Title

Signature

9/21/2023

Date Signed

ATTACHMENT B – BMP RETROFITS

GENERAL INFORMATION

Permittee Name: New Sewickley Township   Permit No.: PAG136280

BMP Name: Green Valley Park   Latitude: 40.7417455

Surface Waters: Brush Creek   Longitude: -80.1975268

Municipality: New Sewickley Township   County: Beaver

☒ Construction of the BMP is Complete.   Date Construction Completed: **3/1/2022**

☒ Photographs, Drawings, and O&M Plan are attached.   Inspection/Monitoring Frequency: Per O&M Schedule

Permits or Approvals Obtained:

Party Responsible for Long-Term O&M: ☒ Permittee ☐ Other:

Joint BMP? ☐ Yes ☒ No *If Yes, attach a list of other permittees sharing credit for the BMP*

Effectiveness Values Source:

☐ DEP: BMP Type (Pre):   BMP Type (Post):

   Retrofit TSS Effectiveness Value: ___ % *(Post – Pre Effectiveness Values)*

☒ CB Expert Panel Report: ☐ Runoff Reduction (RR) ☒ Sediment Treatment (ST)

   RS (ac-ft): 0.113   IA (ac): 1.36   R/IA (in): 1.00   Retrofit TSS Effectiveness Value: 70 %

BMP CONSTRUCTION

BMP Infiltrating Surface Area (ft^2): ___   Ponding Depth (ft): ___   ☐ Underdrain

Media Description: Native Soil   Media Depth (ft):

☒ Vegetated   Loading Ratio *(see instructions)*: ___   WQ Storage Volume (ft^3):

TSS LOAD DELIVERED TO BMP

Total Drainage Area Treated by BMP: 6.79   acres (Treatment Area)

TSS Load Delivered to BMP – Simplified Method   ☐ Calculations attached

Pollutant	Land Cover	Area (acres)	Loading Rate (lbs/ac/yr)	Delivered Load (lbs/yr)
TSS	Impervious	1.36	1839	2501.04
	Pervious	5.43	264.96	1438.73
			Total TSS Load Delivered to BMP (lbs/yr) =	3936

Sediment Load Delivered to BMP – Land Cover-Based Calculation Method   ☐ Calculations attached

Pollutant	Land Cover	Area (acres)	Loading Rate (lbs/ac/yr)	Delivered Load (lbs/yr)
TSS				
			Total TSS Load Delivered to BMP (lbs/yr) =	

TSS LOAD REDUCTION CREDIT

TSS Load Delivered to BMP (lbs/yr) x TSS Effectiveness Value = ___ lbs/yr TSS Credit

Permittee Credit for Joint BMPs (if applicable): ___ % or ___ lbs/yr TSS Credit

MEMO

Pollutant Reduction Plan MS4 Status Update – New Sewickley Township

The purpose of this memo is to summarize the status of the Pollution Reduction Plan (PRP) for New Sewickley Township.

In accordance with the Township MS4 Permit, the Township was required to complete its PRP by March 2023 and report on the status in the 2023 Annual Progress Report. The PRP was approved with the intention of reducing the sediment loading from the Township. The PRP included completion of various stormwater detention facility retrofit projects. The Township has completed one project to date, resulting in a sediment reduction of approximately 2,800 lbs. per year. The Township will bid its second project once grant funding has been secured; this project is anticipated to be completed in Spring 2024. This second project will complete the PRP.

Should you have any questions, please call John W. Valinsky, E.I.T. (ext. 237).

PRP
IMPLEMENTATION
REPORT

POLLUTANT REDUCTION PLAN IMPLEMENTATION REPORT

FOR

NEW SEWICKLEY TOWNSHIP

Situated In

Beaver County, Pennsylvania

Prepared For

NEW SEWICKLEY TOWNSHIP
233 Miller Road
Rochester, Pennsylvania 15074

June 2023

Est. 1985

Lennon, Smith, Souleret Engineering, Inc.

Civil Engineers and Surveyors

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POLLUTANT REDUCTION PLAN IMPLEMENTATION REPORT
NEW SEWICKLEY, BEAVER COUNTY, PENNSYLVANIA

TABLE OF CONTENTS

PRP DESIGN SUPPLEMENTAL INFORMATION

ATTACHMENT A-1: BMP DRAINAGE AREA AND LAND COVER MAP
ATTACHMENT A-2: BMP IMPLEMENTATION TRACKING TABLE
ATTACHMENT A-3: TREATMENT VOLUME/EFFICIENCY CALCULATIONS

STORMWATER DESIGN SUPPLEMENTAL INFORMATION

ATTACHMENT B-1: HYDROGRAPHS

BACKGROUND

A Pollutant Reduction Plan, dated September 2017 was submitted by New Sewickley Township to PADEP. The Pollutant Reduction Plan was developed to identify Best Management Practices to be installed to meet minimum reduction goals for watersheds with sediment and/or nutrient impairments. Existing sediment loading and required (10%) reductions were established and approved by the Pennsylvania Department of Environmental Protections as follows. Refer to the New Sewickley Township Pollutant Reduction Plan, dated September 2017, for complete detail on the calculation of existing loading and required reduction.

	Existing Sediment Loading (lb/yr)	Required Pollutant Reduction (lb/yr)
Brush Creek	59,332	5,933

The purpose of this report is to document ongoing progress made during implementation of the New Sewickley Township Pollutant Reduction Plan (PRP).

SECTION 1: PRP DEVELOPMENT PROCESS

DETERMINING EXISTING LOADING TRIBUTARY TO BMP

The PADEP Simplified Method was implemented in determination of existing pollutant loading tributary to each proposed BMP. Existing loading calculations tributary to each BMP were completed in accordance with the procedures used in calculation of existing loading in the Pollutant Reduction Plan and as generally described herein. Mapping of regulated MS4 infrastructure is presented with best available information as of February 2018 and land cover information used is from the most recent issuance of National Land Cover Database (NLCD) data, dated 2011.

Tributary watershed areas were calculated using GIS mapping as developed at part of Minimum Control Measure No. 3, and field surveys with sewershed boundaries delineated based on current topography and accounting for the presence of existing collection and conveyance facilities, including inlets, pipes, swales, curbs, etc.

GIS software was used to tabulate the land cover composition of each tributary storm sewershed based on NLCD data. NLCD defines the following categories of developed land cover:

- **Developed, Open Space** – areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.

- **Developed, Low Intensity** – areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.
- **Developed, Medium Intensity** – areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.
- **Developed High Intensity** –highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.
- **Barren Land (Rock/Sand/Clay)** – areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.
- **Deciduous Forest** – areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.
- **Pasture/Hay** – areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.

Land Cover categories were converted to impervious and pervious areas to allow for application of the Simplified Method Loading Rates. Impervious/Pervious Area ratios were applied as follows based on the above noted NLCD descriptions. The most conservative (i.e. highest impervious area percentage) was used for each category. The following table presents impervious area ratios applied for developed land cover.

Land Cover	Impervious Area	Pervious Area
Developed, High Intensity	100%	0%
Developed, Low Intensity	49%	51%
Developed, Medium Intensity	79%	21%
Developed, Open Space	19%	81%

*Undeveloped land (i.e. barren land, deciduous forest, evergreen forest, cultivated crops, etc.) was assumed to be entirely pervious.

Following determination of impervious and pervious cover for each tributary area, pollutant loading was applied based on the values presented in Attachment B of the PADEP PRP Instructions, Developed Land Loading Rates for PA Counties. As New Sewickley Township is located in Beaver County, loadings listed for "All Other Counties" were used as noted in the following table:

Pollutant Loading Factors	Sediment (TSS)	Nutrients (TP)
Impervious Cover (lb/ac/yr)	1839.00	2.28
Pervious Cover (lb/ac/yr)	264.96	0.84
Non Urbanized Areas (lb/ac/yr)	234.60	0.03

The presumptive approach, as noted the PADEP PRP Instructions, has been implemented for watersheds impaired for both sediments and nutrients. Refer to Attachment A-1 BMP Drainage Area and Land Cover Map which exhibits existing land cover type used in sediment loading calculations.

Existing sediment loading rates are as listed below: Refer to Attachment A-2 for additional calculations regarding each existing loading values:

BMP	Tributary Area (ac)	Existing Sediment Loading (lb/yr)	Watershed
Green Valley Park	6.79	3,936	Crows Run – Ohio River (Lacock Run)

SECTION 2: BMP SELECTION PROCESS

BMP OVERVIEW

The Pollutant Reduction Plan dated September 2017 identified conceptual or planning level BMP types, dimensions and associated anticipated pollutant reductions. The final designs of previously identified BMPs have been developed and are detailed as part of this report based on topographic surveys, infiltration testing and other site evaluation and reconnaissance. This information was used to determine the most effective pollutant reduction methods in consideration of site conditions and restraints.

METHODOLOGY OF BMP SELECTION

In selecting the type of BMP and its pollutant removal rate efficiency, two methods are considered as the source of determining an efficiency value: PADEP's BMP Effectiveness Values Method and Retrofit Removal Adjustor Curve Method provided in the Chesapeake Bay *Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects.*

DEP's BMP Effectiveness Values Method

Pollutant reductions may be calculated using sediment reduction values identified on the BMP Effectiveness Value table. In this case, BMPs were designed using the criteria of the Pennsylvania Stormwater BMP Manual. Section 6.4.2 notes that infiltration basins should be designed to address the volume difference in the 2-year storm or the 1.5" storm. This standard has been applied as design criteria to all BMPs listed on the Effectiveness Value table. Attachment A-3 provides calculations associated with the volume to be treated to achieve the sediment reduction effectiveness. As implementation of the proposed BMPs is not associated with a proposed change in land cover, the entirety of the tributary area is assumed to be woods in good condition to mimic a pre-development condition.

Retrofit Removal Adjustor Curve Method

Determination of BMP efficiency may be completed using the methodology identified in the Chesapeake Bay *Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects*.

BMP efficiencies were determined using the Retrofit Removal Adjustor Curve for Sedimentation in Chapter 4 for the above noted Expert Panel Report. Attachment A-3 provides information on capture volume and efficiency rating using the retrofit removal curve. The runoff depth is calculated using the following Expert Panel Report equation:

$$Runoff\ Depth\ (in) = \frac{Runoff\ Storage\ Volume\ (ac - ft)\ x\ 12}{Impervious\ Area\ (ac)}$$

This runoff depth value is then used as the x-axis value of the Retrofit Removal Adjustor Curve to determine the BMP efficiency.

TYPES OF BMPS SELECTED

The following types of BMP has been employed as part of this Implementation Plan:

- **BMP Type**: Filtration Practices

Description – Description – BMP implementation consists of new BMPs to capture and treat runoff from existing developed areas. Filtering practices are utilized in areas with low infiltration that does not meet the 72 hour infiltration requirement and where extended detention of the treatment volume is not feasible. BMPs will consist of surface sediment storage zones intended to detain captured runoff for treatment. Treatment will be achieved through storage and conveyance of runoff through high performance modular biofiltration media.

SECTION 3: SUMMARY OF BMP IMPLEMENTATION AND POLLUTANT REDUCTION

The following summarizes pollutant reduction achieved through the Township's constructed BMPs to date. Refer to Attachment A-4 for additional summary of BMP data.

Green Valley Park Pond
- Proposed BMP Type: Filtration Practices
- Design/Efficiency Methodology: BMP Efficiency Table
  - Runoff Depth Treated per Impervious Acre: 1.00 in (Appendix A-3)
  - BMP Efficiency: 70% (Appendix A-3)
- Treatment Volume: 4,927 cf (Attachment A-3)
- Existing Loading to BMP: 3,936 lb/yr (Attachment A-2)
- **Sediment Reduction Achieved: 2,755 lb/yr**

Brush Creek Watershed	
Total Existing Sediment Loading (lb/yr)	59,332
10% Required Reduction (lb/yr)	5,933
Sediment Reduction to Date (lb/yr)	2,755
Remaining Required Reduction (lb/yr)	**3,178**

SECTION 4: BMP STORMWATER MANAGEMENT DESIGN

METHODOLOGY

Each BMP is analyzed as a stormwater flood control facility to provide a positive net impact to the receiving surface waters. In cases of retrofitting ponds, the existing pond is first analyzed as a flood control facility and any constraints are identified. Improvements are implemented in the BMP design phase to create a more effective flood control facility to the extent possible, in addition to achieving pollution reduction. Improvements to reduce peak flow rates may consist of increased stage-storage capacity, replacement of outlet structures, and providing an emergency spillway. The BMP is ultimately designed such that the proposed peak release rate to the receiving stream is less than or equal to the existing peak release rate the 1-, 2-, 5-, 10-, 25-,50- and 100-year storm events, as required per the "Township of New Sewickley Stormwater Management Ordinance".

The runoff characteristics for each BMP's drainage area are analyzed. In the case where the BMP's drainage area extends beyond the Municipality boundary, the full area is used for stormwater design. Runoff curve number calculations are based on TR-55 (SCS) Methodology. Curve numbers for each land type are used to determine a weighted runoff curve number. Land type for SCS Method calculations are derived from impervious/pervious area ratios of the NLCD categories. Travel paths for each drainage area is analyzed to determine the time of concentration (Tc) for each drainage area to the BMP. The Tc is computed based on the TR-55 (SCS) methodology using the Hydrology Studio (V3.0.0.13) computer software. The Tc calculations are based on the estimated longest possible runoff travel path. Refer to Attachment B-1 for supporting calculations.

Using the runoff curve numbers and Tc described above, and rainfall data from "Township of New Sewickley Stormwater Management Ordinance", the peak rate of runoff and the times to peak for the 1-, 2-, 5-, 10-, 25-, 50- and 100-year frequency storms are computed. The peak release rate for the detention facility for each of the design storms is then calculated by routing the hydrograph of the drainage area through the detention facilities using the Hydrology Studio computer software. Hydrographs are provided in Attachment B-2.

STORMWATER ATTENUATION AND DESIGN SUMMARY

The following tables summarize the peak runoff of the BMP's drainage area and a comparison of the existing and proposed runoff and release rates. The existing peak runoff was determined by routing the Existing drainage area hydrograph. The proposed runoff was determined by routing the Post drainage area hydrograph through the proposed stormwater improvements.

Green Valley Park Focal Point Hydrographs

Storm Event	Existing Peak Runoff (cfs)	Proposed/Facility Peak Release Rate (cfs)
1-Year	5.24	0.39
2-Year	9.07	4.38
10-Year	18.18	10.06
25-Year	24.45	10.82
50-Year	25.28	10.91
100-Year	37.74	12.25

Green Valley Park Focal Point Design Summary

The following is a summary of the proposed detention facility design, which meets or exceeds the detention and capacity requirements for the applied sediment removal efficiency.

♦   Bottom of pond elevation 938.00' and top of pond elevation 942.00';

♦   Treatment volume storage zone depth of 0.75' at elevation 938.00' to 938.75';

♦   One 2' x 4' outlet structure with top elevation of 938.75';

♦   The existing outlet pipe is a 15" diameter HDPE at invert elevation 934.85'.

SECTION 5: BMP MAINTENANCE

RESPONSIBLE PARTIES FOR OPERATION AND MAINTENANCE

New Sewickley Township will be responsible for operation and maintenance of each proposed BMP. Typical O&M procedures are noted below. Site specific O&M Maintenance Procedures will be provided for each individual BMPs. Routine inspections of all BMPs will be conducted annually and after rainfall events in excess of one inch.

Stormwater Basin with Filtering Practices

The following is a list of items that shall be inspected and corrective action taken by the property Owner:

1. Monitor accumulation of debris within the basin, focal point area, gabions, outlet structure, storm sewers, outfall riprap aprons, and emergency spillway.

2. Monitor the vegetation in the basin.

3. Inspect the basin after a large storm event (rainfall greater than 2-inches) to make sure the basin dewaters within a 24-72 hour period from the conclusion of the storm.

4. Monitor condition of the emergency spillway protective lining.

5. Monitor the Focal Point Media in the basin. The soil shall be a uniform mix, free of weeds, stones, or objects larger than two inches.

The following actions will be taken by the Owner to help ensure the facilities shown on the plan and identified above are in working order:

1. Replace or repair facilities so as to function as intended.

2. Inspect the basin, including focal point area, emergency spillway, gabions, and riprap aprons, for litter, sediment and other debris monthly beginning early spring through fall, and after large storm events. Remove as necessary. Dead and decomposing vegetation should be removed and raked out in the first maintenance outing in early spring. Re-seed any areas that have eroded. Sediment may build up over time in the basin and should be removed when more than 6 inches has been accumulated. Dispose of in a manner which will not adversely affect the environment.

3. Inspect the outlet structure for trash or other debris that may be blocking the orifices and inflow / outflow pipes. Remove any

objects found within the outlet structure or pipes. Dispose of in a manner which will not adversely affect the environment.

4. Preserve the vegetation within the basin. Prior to a new spring growth, trim any material standing from the previous year down to about a 2″ height. Problem weeds of invasive plants should be hand pulled or spot-sprayed. Also remove leaves in the Fall if they are observed to smother the grass and block the flow of water. Mow or trim the vegetation at least twice a year. Cut vegetation levels to a height of roughly 12″ on the basin bottom and side slopes. A brush hog mower or string trimmer may be used. Vegetation should not be mowed to less than 4-6 inches at any time. Vegetation maintenance should cease by mid-September.

5. Replace eroded material and re-vegetate eroded areas.

6. Add mulch annually to nurture the vegetation and minimize weed growth.

7. In the case where the stormwater pond has not dewatered within 72 hours after a storm event, or expedited drainage is needed for any reason such as maintenance access, open the ball valve located inside of the outlet structure. Return the valve to closed position after draining. If the appears to have continuously stopped infiltrating, contact the engineer to review the basin.

8. Focal Point Media: Perform semi-annual maintenance routines. Typical maintenance only requires mulch replacement. Replacement mulch must be aged, double shredded hardwood mulch with fines removed across the entire focal point media bed to a depth of 3-inches and rake level. At a minimum, remove silt, trash and excessive debris from the previous mulch layer and add new mulch as necessary. Stormwater should drain freely and evenly over the mulch cover. If ponding is observed the unit is likely clogging due to accumulated fines and should be replaced. Trim/prune plants in accordance with typical landscaping. In any case when the media bed is not draining properly or plants appear unhealthy, contact ACF Environmental (412-487-9583).

The inspection shall be undertaken by a minimum of two persons at least two times per year on or before March 1st and October 1st. Additional inspections will be required if it becomes apparent facilities are not functioning properly. Corrective actions will then be taken as required to help ensure continuing operation of stormwater facilities. Any deficiencies noted in items inspected by the Owner shall be documented and corrective actions taken by the Owner. This recommended Maintenance Plan shall not be considered a guarantee as to the adequacy of the stormwater management facilities in the future.
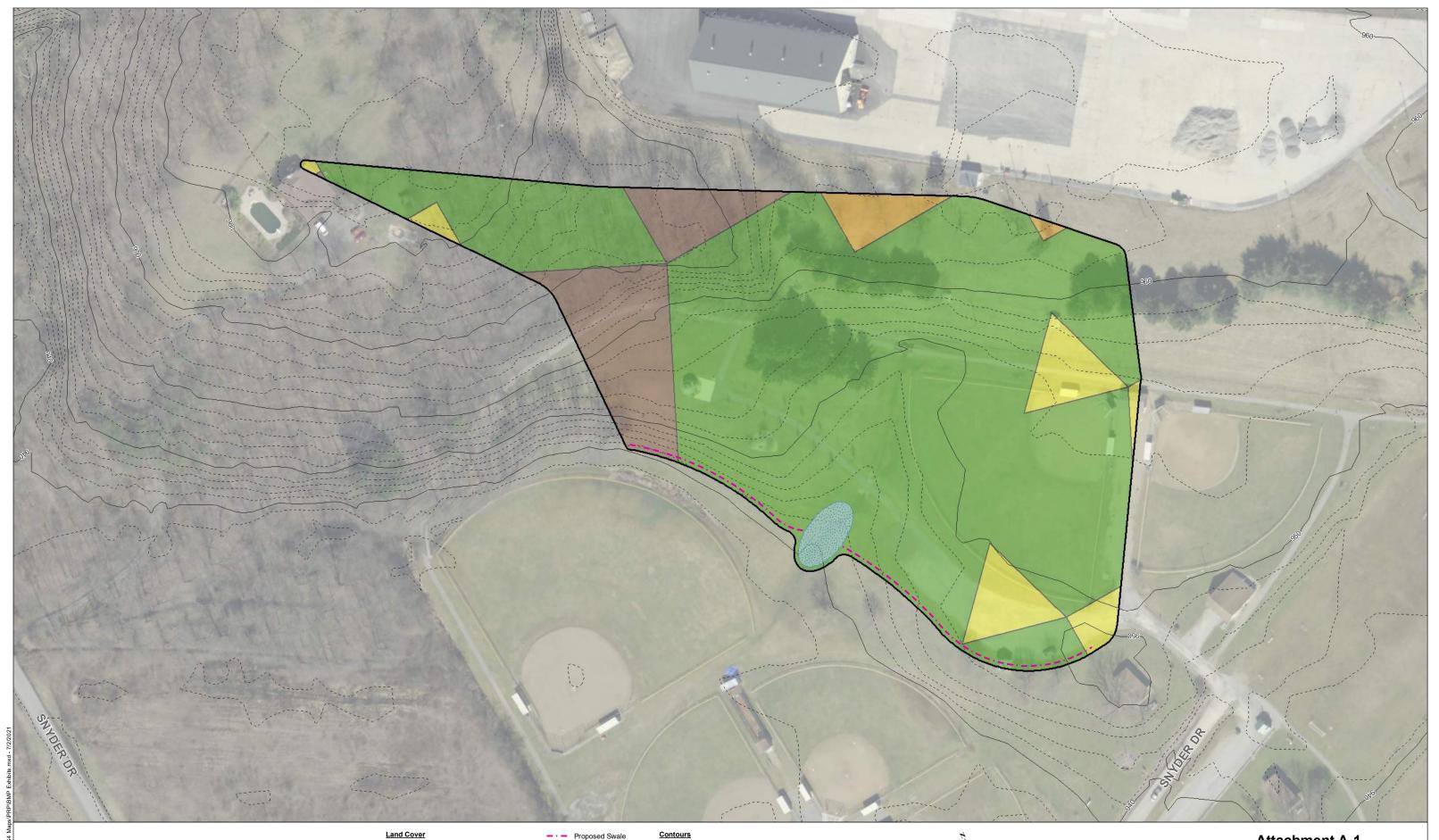
RECYCLING AND DISPOSAL OF MATERIALS

Individuals responsible for earth disturbance activities must ensure that proper mechanisms are in place to control waste materials. Construction wastes include, but are not limited to, excess soil materials, grass clippings, trash, etc. that could adversely impact water quality. Measures should be planned and implemented for housekeeping, materials management, and litter control. Wherever possible, recycling of excess materials is preferred, rather than disposal at an approved Pennsylvania Department of Environmental Protection waste site.

Excavated excess soil material disposed of offsite must be disposed of at a site with an approved Erosion and Sedimentation Control Plan or a PaDEP approved site. Imported fill material must be obtained from a site with an approved Erosion and Sedimentation Control Plan or a PaDEP approved borrow site. The contractor shall provide documentation of the status of all borrow and disposal sites prior to proceeding with the import or export of soil material on site.

ATTACHMENT A-1

BMP DRAINAGE AREA
AND
LAND COVER MAP

Land Cover

- Developed Low Intensity (0.42 ac)
- Developed Medium Intensity (0.13 ac)
- Developed Open Space (5.52 ac)
- Deciduous Forest (0.72 ac)

- Proposed Swale
- Proposed Rain Garden
- Drainage Area

Contours

- Index (10')
- Intermediate (2')

Attachment A-1
Green Valley Park Rain Garden
New Sewickley Township
Beaver County, PA

LSSE
Civil Engineers and Surveyors

846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

0   50   100

1 inch = 100 feet

Path: N:\PROJ\525\05\IMS4 Maps\PRP\BMP Exhibits.mxd - 7/2/2021

ATTACHMENT A-2

BMP IMPLEMENTATION TRACKING TABLE

NLCD Land Cover	Impervious Area	Pervious Area
Cultivated Crops	0%	100%
Deciduous Forest	0%	100%
Developed, High Intensity	100%	0%
Developed, Low Intensity	49%	51%
Developed, Medium Intensity	79%	21%
Developed, Open Space	19%	81%

Pollutant Loading Factors	Sediment (TSS)
Impervious Cover (lb/ac/yr)	1,839
Pervious Cover (lb/ac/yr)	264.96
Non Urbanized Areas (lb/ac/yr)	234.6

Pollutant Reduction Summary	Sediment Loading (lb/year)
Required Pollutant Reduction (lb/yr)	**5,933**
Reduction of Implemented BMPs (lb/yr)	**2,440**

BMP Description	BMP Type	Tributary Area - Total (Ac)	Tributary Area - NLCD Land Cover (ac)							Impervious/Pervious Areas (ac)			SCS Cover Type (ac)				Existing Sediment (TSS) Loading (lb/yr)	Required Capture/ Treatment Volume (ac-ft)	Required Capture/ Treatment Volume (cf)	X - Runoff Depth Captured (in)	BMP Efficiency Values	BMP Sediment Removal (lbs/yr)
			Cultivated Crops	Deciduous Forest	Developed, High Intensity	Developed, Low Intensity	Developed, Medium Intensity	Developed, Open Space	Grassland/ Herbaceous	Urbanized Area Impervious	Urbanized Area - Pervious	Tributary Area - Non-Urbanized	Impervious	Open Space	Meadow	Wooded						
Park	Focal Point	6.79		0.72		0.42	0.13	5.52		1.36	5.43	0.00	1.36	4.71	0.00	0.72	3,936	0.090	3,942	0.80	62%	2,440
Total:		**6.79**	0.00	0.72	0.00	0.42	0.13	5.52	0.00	1.36	5.43	0.00					**3,936**					**2,440**

Note 1: Pollutant Loading Factors Based on Appendix B of PADEP PRP Instructions dated 3/2017
Note 2: Impervious Area coverages based on 2011 NLCD data

ATTACHMENT A-3

TREATMENT VOLUME/
EFFICIENCY INFORMATION

FocalPoint BIOFILTRATION SYSTEMS

FOCALPOINT BIOFILTRATION SYSTEM / R-TANK SIZING CALCULATOR

This calculator is designed to provide sizing and performance guidance for the FocalPoint Bio-Filtration and R-Tank Underground Storage Systems based on TR-55 protocol and distribution curves. There are three types of cells the user will want to be familiar with: **White Cells** are intended for user input, **Green Cells** require a selection from the pull-down list, and **Blue Cells** contain calculated results.   **For further assistance please contact Warren Cohn, CPESC, CPSWQ at 888.856.4505 or wcohn@acfenv.com.**

Contact:	
Company:	
Phone:	
Email:	

Project Name:	Green Valley Park
Location:	New Sewickley Township

Water Quality Volume Calculator

Step 1 - Rainfall Methodology

(TR-55 Map provided for reference)

1.1 - Enter SCS Storm Type   Type II

1.2 - Enter methodolgy for Water Quality Volume   Manual
(Go to Step 2.1)

Select one of the following from Pull-Down List:

Manual	if WQv is already calculated
TR-55	to Calculate WQv and use that volume or first flush volume
New York	to Calculate WQv off Figure 4.1 of NY SWM Manual
Maine	to Calculate WQv as 1-inch off Impervious and 0.4-inch off pervious

Step 2 - Enter data based on methodology chosen in Step 1.2 as highlighted in blue below

2.1 - Manual Input   **Directions**

2.1.1 - If "Manual", enter Water Quality volume	3,942	ft^3	Enter the Water Quality Volume (WQv) here.
2.1.2 - If "Manual", enter Design Event volume	3,942	ft^3	Enter the Design Event here (if different than WQv).

3.2 - TR-55 Input   Directions

3.2.1 - Enter Methodology   Design Event   Use Toggle to select first flush or full design event volume

3.2.2 - Enter First Flush Runoff Depth (if applicable)	1.00	inches	Depth of First Flush runoff treatment Requirement - in inches
3.2.3 - Design Event Rainfall Depth	3.27	inches	Depth of total design rainfall event in inches

3.2.4 - Enter TR-55 Land Cover

Subarea	Cover Condition	Area to BMP (ft^4)	TR-55 CN Value	
Post Cover 1	Grass	0	0	Enter cover conditions and CNs (up to 3 Subareas)
Post Cover 2	Impervious	110,642	98	Enter cover conditions and CNs (up to 3 Subareas)
Post Cover 3		0	0	Enter cover conditions and CNs (up to 3 Subareas)
	TOTAL	110,642	98.0	

	First Flush	Design Event	
RESULTS	28,004	28,004	ft^3

3.3 - New York

3.3.1 - Enter 90% Rainfall Amount (P)	0.00	inches	Rainfall depth from Figure 4.1, page 4-2 of NY SWM Design Manual
3.3.2 - Enter Impervious cover (I)	0.00%		% of Impervious Cover
3.3.3 - Enter Drainage Area (A)	0	ft^2	Drainage Area
3.3.4 - Computed Water Quality Volume (WQv)	0	ft^3	Calculated per NY SWM Design Manual
3.3.5 - Enter Design Event Volume (Manual Entry)	0	ft^3	Enter Design Event Volume

3.4 - Maine

3.4.1 - Enter Impervious Cover	0	ft^2	Enter ft2 of Impervious Cover
3.4.2 - Enter Pervious Cover	0	ft^2	Enter ft2 of Pervious Cover
3.4.3 - Computed Water Quality Volume	0	ft^3	Calculated per Maine SWM Design Manual
3.4.4. - Enter Design Event Volume (Manual Entry)	0	ft^3	Enter ft3 of Design Event Volume

ACF FP and RT Calc 2.1 - Last Revised 12-4-11

ACF ENVIRONMENTAL   ASP ENTERPRISES   CONSTRUCTION ECO SERVICES   D2 Land & Water Reserve   interfaceh₂o°   Quick Supply Co.   SITE SUPPLY, INC.   CONVERGENT WATER TECHNOLOGIES

FOCALPOINT DESIGN WORKSHEET

FocalPoint
BIOFILTRATION SYSTEMS

Step 3 - Design Information

			Directions
3.1 - Water Quality Volume (WQv)	3,942	ft³	Computed Water Quality Volume from previous Sheet
3.2 - Design Event	3,942	ft³	Computed Design Event volume from previous sheet
3.3 - Is FocalPoint used?	Yes		Enter "Yes" if FocalPoint used. Enter "No" if runoff flows directly into R-Tank and proceed to R-Tank Design worksheet

Step 4 - FocalPoint Configuration

4.1 - FocalPoint Factor of Safety	1.0		Enter optional factor-of-safety
4.2 - FocalPoint bed area	50	ft²	Enter target FocalPoint footprint, (20 ft² min.)
4.3 - Storage volume above FocalPoint provided	4,475	ft³	Enter available surface storage volume (10 ft³ min.)
4.4 - Desired treatment time	24	hours	Drawdown time from start of storm event (Select 24 or 48 hrs)
4.5 - Water Quality Volume treated prior to bypass?	Yes		If Yes = WQv has been treated. If No = larger FocalPoint bed (Step 4.2) and/or surface storage volume (Step 4.3) required
4.6 - FocalPoint drains within desired time?	Yes		If Yes = drawdown time goal has been met. If No = larger FocalPoint bed (Step 4.2) required
4.7 - Routing for WQv or Design Event	Offsite		Select from toggle: "Offsite" to disregard flow, "To R-Tank" to store for retention / detention, harvesting, or infiltration (proceed to R-Tank Design worksheet)

Step 5 - Evaluation of Design

5.1 - Volume treated prior to bypass	No Overflow	ft³	Result = Volume ft3 treated prior to bypass
5.2 - Total volume treated	3,942	ft³	Result = Total Volume ft3 treated
5.3 - Total volume bypassed	0	ft³	Result = Total Volume assumed to bypass (Step 4.7)

CONVERGENT
WATER TECHNOLOGIES

Time (hrs)	Type II Rainfall Distribution	Cumulative Runoff (ft³)	Incremetal Runoff into FocalPoint (ft³)	FocalPoint Result (-)	Incremental Volume thru FocalPoint (ft³)	Incremental Volume to Storage Above (ft³)	Incremental Volume Bypass (ft³)	Volume Remaining in Storage Above (ft³)
0.0	0.000							
0.2	0.002	8	8	Flow Through	8	0	0	0
0.4	0.004	16	8	Flow Through	8	0	0	0
0.6	0.006	24	8	Flow Through	8	0	0	0
0.8	0.008	33	8	Flow Through	8	0	0	0
1.0	0.011	41	9	Flow Through	9	0	0	0
1.2	0.013	50	9	Flow Through	9	0	0	0
1.4	0.015	59	9	Flow Through	9	0	0	0
1.6	0.017	68	9	Flow Through	9	0	0	0
1.8	0.020	77	9	Flow Through	9	0	0	0
2.0	0.022	87	9	Flow Through	9	0	0	0
2.2	0.024	96	9	Flow Through	9	0	0	0
2.4	0.027	106	10	Flow Through	10	0	0	0
2.6	0.029	116	10	Flow Through	10	0	0	0
2.8	0.032	126	10	Flow Through	10	0	0	0
3.0	0.035	136	10	Flow Through	10	0	0	0
3.2	0.037	146	10	Flow Through	10	0	0	0
3.4	0.040	157	11	Flow Through	11	0	0	0
3.6	0.043	168	11	Flow Through	11	0	0	0
3.8	0.045	178	11	Flow Through	11	0	0	0
4.0	0.048	189	11	Flow Through	11	0	0	0
4.2	0.051	200	11	Flow Through	11	0	0	0
4.4	0.054	212	12	Flow Through	12	0	0	0
4.6	0.057	224	12	Flow Through	12	0	0	0
4.8	0.060	236	12	Flow Through	12	0	0	0
5.0	0.063	248	13	Flow Through	13	0	0	0
5.2	0.066	261	13	Flow Through	13	0	0	0
5.4	0.070	274	13	Flow Through	13	0	0	0
5.6	0.073	288	13	Flow Through	13	0	0	0
5.8	0.076	301	13	Flow Through	13	0	0	0
6.0	0.080	315	14	Flow Through	14	0	0	0
6.2	0.084	330	14	Flow Through	14	0	0	0
6.4	0.087	345	15	Flow Through	15	0	0	0
6.6	0.091	360	15	Flow Through	15	0	0	0
6.8	0.095	374	15	Flow Through	15	0	0	0
7.0	0.099	390	16	Flow Through	16	0	0	0
7.2	0.103	406	16	Flow Through	16	0	0	0
7.4	0.107	423	17	Flow Through	17	0	0	0
7.6	0.111	439	17	Flow Through	17	0	0	0
7.8	0.116	456	17	Flow Through	17	0	0	0
8.0	0.120	473	17	Flow Through	17	0	0	0
8.2	0.125	491	18	Flow Through	18	0	0	0
8.4	0.130	511	20	Flow Through	20	0	0	0
8.6	0.135	532	21	Flow Through	21	0	0	0
8.8	0.141	555	23	Flow Through	23	0	0	0
9.0	0.147	579	24	Flow Through	24	0	0	0
9.2	0.153	605	25	Flow Through	25	0	0	0
9.4	0.160	630	25	Flow Through	25	0	0	0
9.6	0.166	656	26	Flow Through	26	0	0	0
9.8	0.173	683	28	Flow Through	28	0	0	0
10.0	0.181	714	30	Flow Through	30	0	0	0
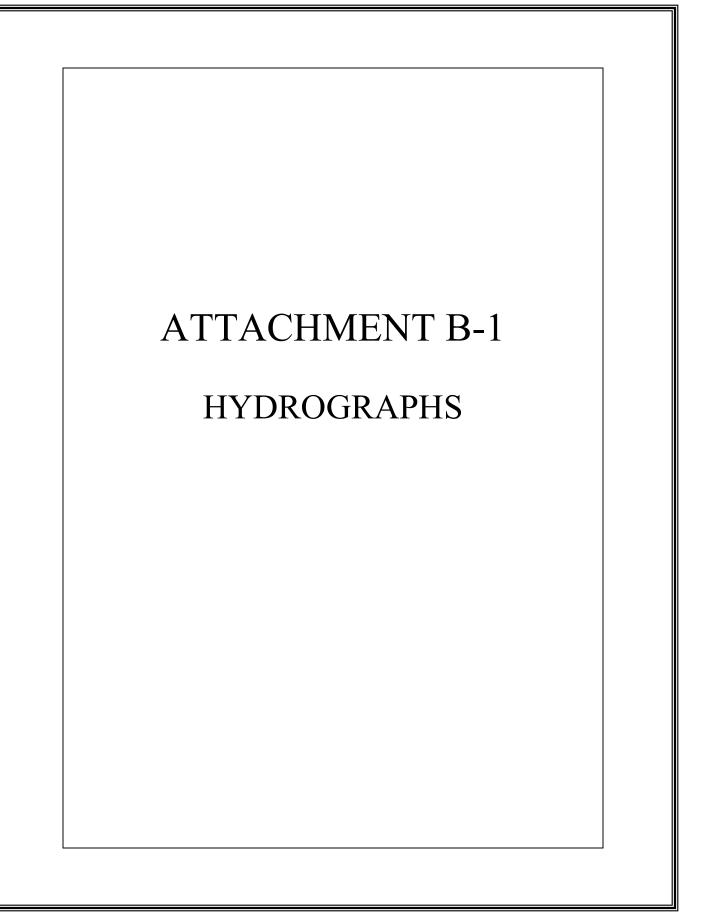
10.2	0.190			747	34	Flow Through	34	0	0	0
10.4	0.199			784	37	Flow Through	37	0	0	0
10.6	0.209			825	41	Flow Through	41	0	0	0
10.8	0.221			873	47	Flow Through	47	0	0	0
11.0	0.235			926	54	Flow Through	54	0	0	0
11.2	0.251			991	64	Flow Through	64	0	0	0
11.4	0.272			1,070	80	Flow Through	80	0	0	0
11.6	0.307			1,209	139	Storage	83	56	0	56
11.8	0.431			1,698	489	Storage	83	405	0	461
12.0	0.663	2.17	1.941	2,614	915	Storage	83	832	0	1,293
12.2	0.699			2,754	140	Storage	83	57	0	1,350
12.4	0.725			2,859	105	Storage	83	22	0	1,372
12.6	0.743			2,930	72	Storage	83	-12	0	1,360
12.8	0.759			2,991	61	Storage	83	-23	0	1,338
13.0	0.772			3,043	52	Storage	83	-31	0	1,306
13.2	0.784			3,089	46	Storage	83	-38	0	1,269
13.4	0.794			3,131	42	Storage	83	-42	0	1,227
13.6	0.804			3,168	37	Storage	83	-46	0	1,181
13.8	0.812			3,202	34	Storage	83	-49	0	1,131
14.0	0.820			3,232	31	Storage	83	-53	0	1,079
14.2	0.827			3,261	29	Storage	83	-55	0	1,024
14.4	0.834			3,288	27	Storage	83	-56	0	968
14.6	0.841			3,315	26	Storage	83	-57	0	911
14.8	0.847			3,340	26	Storage	83	-58	0	854
15.0	0.854			3,364	24	Storage	83	-59	0	794
15.2	0.859			3,388	23	Storage	83	-60	0	734
15.4	0.865			3,409	22	Storage	83	-62	0	673
15.6	0.870			3,430	21	Storage	83	-62	0	610
15.8	0.875			3,450	20	Storage	83	-63	0	547
16.0	0.880			3,469	19	Storage	83	-65	0	482
16.2	0.885			3,487	18	Storage	83	-66	0	416
16.4	0.889			3,504	18	Storage	83	-66	0	351
16.6	0.893			3,522	17	Storage	83	-66	0	285
16.8	0.898			3,538	17	Storage	83	-67	0	218
17.0	0.902			3,555	17	Storage	83	-67	0	151
17.2	0.906			3,571	16	Storage	83	-68	0	84
17.4	0.910			3,586	15	Storage	83	-68	0	16
17.6	0.914			3,601	15	Flow Through	31	-16	0	0
17.8	0.917			3,616	15	Flow Through	15	0	0	0
18.0	0.921			3,631	15	Flow Through	15	0	0	0
18.2	0.925			3,644	14	Flow Through	14	0	0	0
18.4	0.928			3,658	14	Flow Through	14	0	0	0
18.6	0.931			3,671	13	Flow Through	13	0	0	0
18.8	0.935			3,684	13	Flow Through	13	0	0	0
19.0	0.938			3,696	12	Flow Through	12	0	0	0
19.2	0.941			3,709	12	Flow Through	12	0	0	0
19.4	0.944			3,720	12	Flow Through	12	0	0	0
19.6	0.947			3,731	11	Flow Through	11	0	0	0
19.8	0.949			3,742	11	Flow Through	11	0	0	0
20.0	0.952			3,753	11	Flow Through	11	0	0	0
20.2	0.955			3,763	10	Flow Through	10	0	0	0
20.4	0.957			3,773	10	Flow Through	10	0	0	0
20.6	0.960			3,783	10	Flow Through	10	0	0	0
20.8	0.962			3,793	10	Flow Through	10	0	0	0
21.0	0.965			3,803	10	Flow Through	10	0	0	0
21.2	0.967			3,813	10	Flow Through	10	0	0	0
21.4	0.970			3,823	10	Flow Through	10	0	0	0
21.6	0.972			3,832	10	Flow Through	10	0	0	0
21.8	0.975			3,842	9	Flow Through	9	0	0	0
22.0	0.977			3,851	9	Flow Through	9	0	0	0
22.2	0.979			3,861	9	Flow Through	9	0	0	0
22.4	0.982			3,870	9	Flow Through	9	0	0	0
22.6	0.984			3,879	9	Flow Through	9	0	0	0
22.8	0.986			3,888	9	Flow Through	9	0	0	0
23.0	0.989			3,897	9	Flow Through	9	0	0	0
23.2	0.991			3,907	9	Flow Through	9	0	0	0
23.4	0.993			3,916	9	Flow Through	9	0	0	0
23.6	0.996			3,925	9	Flow Through	9	0	0	0
23.8	0.998			3,933	9	Flow Through	9	0	0	0
24.0	1.000			3,942	9	Flow Through	9	0	0	0
24.2							0	0	0	0
24.4							0	0	0	0
24.6							0	0	0	0
24.8							0	0	0	0
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25.6							0	0	0	0
25.8							0	0	0	0
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28.2							0	0	0	0
28.4							0	0	0	0

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29.6		0	0	0	0
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47.8	0	0	0	0
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51.8	0	0	0	0
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68.8		0	0	0	0
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87.6		0	0	0	0
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90.8		0	0	0	0
91.0		0	0	0	0
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91.4		0	0	0	0
91.6		0	0	0	0
91.8		0	0	0	0
92.0		0	0	0	0
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92.4		0	0	0	0
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92.8		0	0	0	0
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93.2		0	0	0	0
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93.6		0	0	0	0
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94.0		0	0	0	0
94.2		0	0	0	0
94.4		0	0	0	0
94.6		0	0	0	0
94.8		0	0	0	0
95.0		0	0	0	0
95.2		0	0	0	0
95.4		0	0	0	0
95.6		0	0	0	0
95.8		0	0	0	0
96.0		0	0	0	0
Totals	**3,942**	**3,942**		**0**	

ATTACHMENT B-1

HYDROGRAPHS

Proposed

Proposed

Hydrograph by Return Period

Hydrology Studio v 3.0.0.20

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	NRCS Runoff	Proposed	5.239	9.068			18.18	24.45	25.28	37.74
2	Pond Route	Proposed	0.386	4.382			10.06	10.82	10.91	12.25

Hydrograph 1-yr Summary

Hydrology Studio v 3.0.0.20

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Proposed	5.239	11.97	10,806	----		
2	Pond Route	Proposed	0.386	12.90	6,628	1	938.79	4,700

Hydrograph Report

Hydrology Studio v 3.0.0.20

10-15-2021

Proposed

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 5.239 cfs
Storm Frequency	= 1-yr	Time to Peak	= 11.97 hrs
Time Interval	= 2 min	Runoff Volume	= 10,806 cuft
Drainage Area	= 6.79 ac	Curve Number	= 78*
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
Total Rainfall	= 1.97 in	Design Storm	= Type II
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
1.36	98	Impervious
4.71	74	Open Space
0.72	70	Wooded
6.79	**78**	Weighted CN Method Employed

Qp = 5.24 cfs

Hydrograph Report

Proposed

Hyd. No. 2

Hydrograph Type	= Pond Route	Peak Flow	= 0.386 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.90 hrs
Time Interval	= 2 min	Hydrograph Volume	= 6,628 cuft
Inflow Hydrograph	= 1 - Proposed	Max. Elevation	= 938.79 ft
Pond Name	= Proposed	Max. Storage	= 4,700 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 2.04 hrs

Qp = 0.39 cfs

Pond Report

Hydrology Studio v 3.0.0.20

Proposed

Stage-Storage

User Defined Contours		Stage / Storage Table				
Description	**Input**	**Stage (ft)**	**Elevation (ft)**	**Contour Area (sqft)**	**Incr. Storage (cuft)**	**Total Storage (cuft)**
Bottom Elevation, ft	938.00	0.00	938.00	5,478	0.000	0.000
Voids (%)	100.00	1.00	939.00	6,455	5,967	5,967
Volume Calc	None	2.00	940.00	7,432	6,943	12,910
		3.00	941.00	8,517	7,974	20,884
		4.00	942.00	9,603	9,060	29,945

Stage-Storage

Proposed

Stage-Discharge

Culvert / Orifices	Culvert	Orifices		
		1	2	3
Rise, in	15			
Span, in	15			
No. Barrels	1			
Invert Elevation, ft	934.85			
Orifice Coefficient, Co	0.60			
Length, ft	78			
Barrel Slope, %				
N-Value, n	0.013			

Orifice Plate	
Orifice Dia, in	
No. Orifices	
Invert Elevation, ft	
Height, ft	
Orifice Coefficient, Co	

Weirs	Riser*	Weirs		
		1	2	3
Shape / Type	Box			
Crest Elevation, ft	938.75			
Crest Length, ft	12			
Angle, deg				
Weir Coefficient, Cw	3.3			

Ancillary	
Exfiltration, in/hr	

*Routes through Culvert.

Stage-Discharge

Pond Report

Hydrology Studio v 3.0.0.20

Proposed
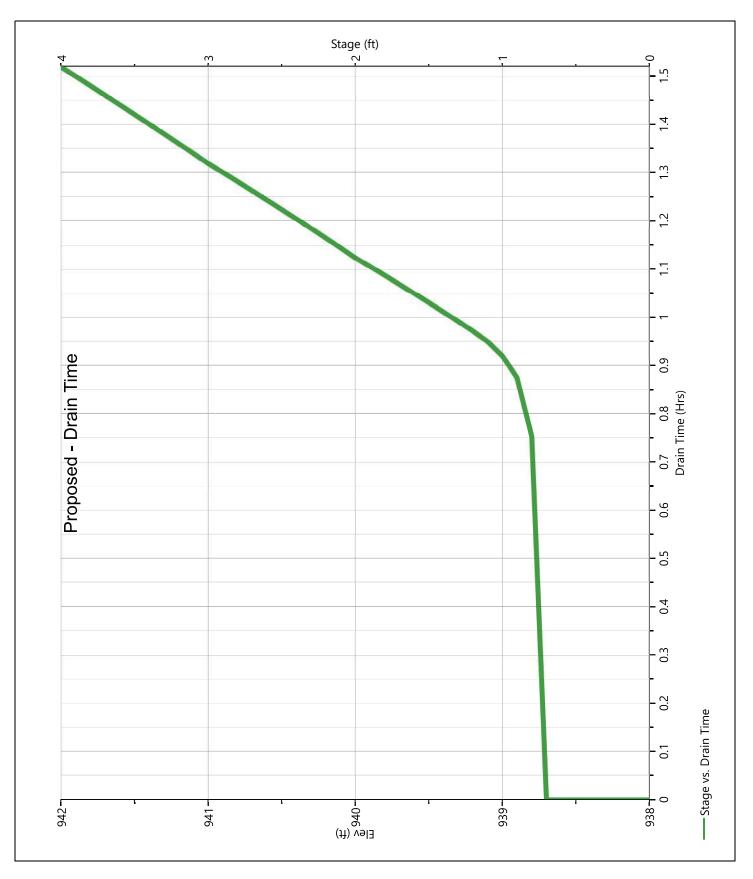
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	938.00	0.000	0.000				0.000							0.000
1.00	939.00	5,967	4.950 oc				4.950							4.950
2.00	940.00	12,910	10.71 oc				0.000							10.71
3.00	941.00	20,884	12.01 oc				0.000							12.01
4.00	942.00	29,945	13.17 oc				0.000							13.17

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

Proposed

Pond Drawdown
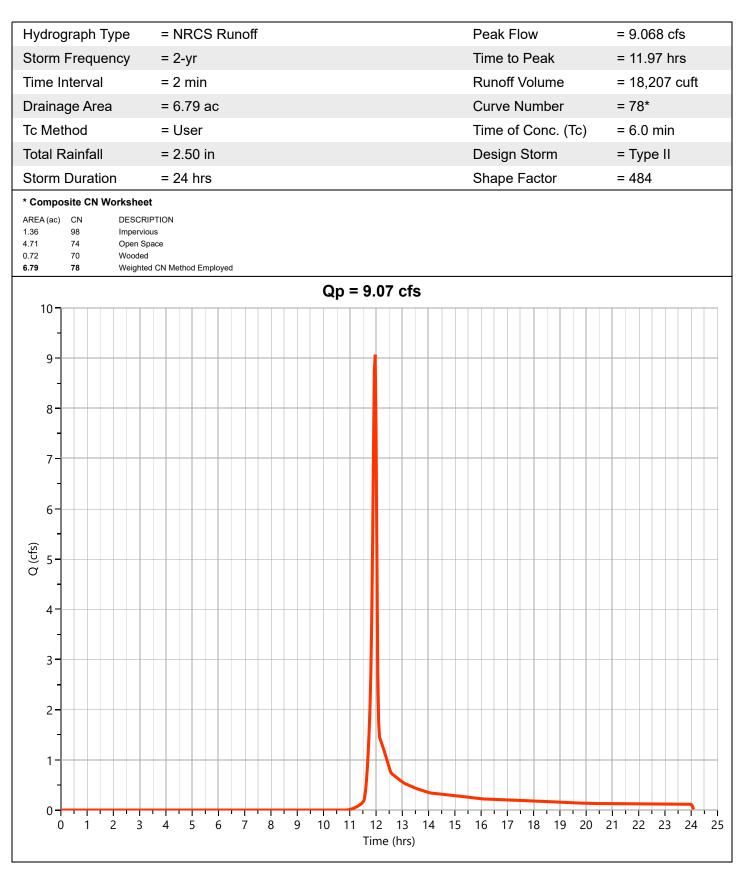
Stage (ft)

Proposed - Drain Time

Elev (ft)

Drain Time (Hrs)

—— Stage vs. Drain Time

Hydrograph 2-yr Summary

Hydrology Studio v 3.0.0.20

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Proposed	9.068	11.97	18,207	----		
2	Pond Route	Proposed	4.382	12.03	14,029	1	938.98	5,839

Hydrograph Report

Hydrology Studio v 3.0.0.20   10-15-2021

Proposed   **Hyd. No. 1**

Hydrograph Type	= NRCS Runoff		Peak Flow	= 9.068 cfs
Storm Frequency	= 2-yr		Time to Peak	= 11.97 hrs
Time Interval	= 2 min		Runoff Volume	= 18,207 cuft
Drainage Area	= 6.79 ac		Curve Number	= 78*
Tc Method	= User		Time of Conc. (Tc)	= 6.0 min
Total Rainfall	= 2.50 in		Design Storm	= Type II
Storm Duration	= 24 hrs		Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
1.36	98	Impervious
4.71	74	Open Space
0.72	70	Wooded
6.79	**78**	Weighted CN Method Employed

Qp = 9.07 cfs

Hydrograph Report

Hydrology Studio v 3.0.0.20

10-15-2021

Proposed

Hyd. No. 2

Hydrograph Type	= Pond Route	Peak Flow	= 4.382 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.03 hrs
Time Interval	= 2 min	Hydrograph Volume	= 14,029 cuft
Inflow Hydrograph	= 1 - Proposed	Max. Elevation	= 938.98 ft
Pond Name	= Proposed	Max. Storage	= 5,839 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 60 min

Qp = 4.38 cfs

Hydrograph 10-yr Summary
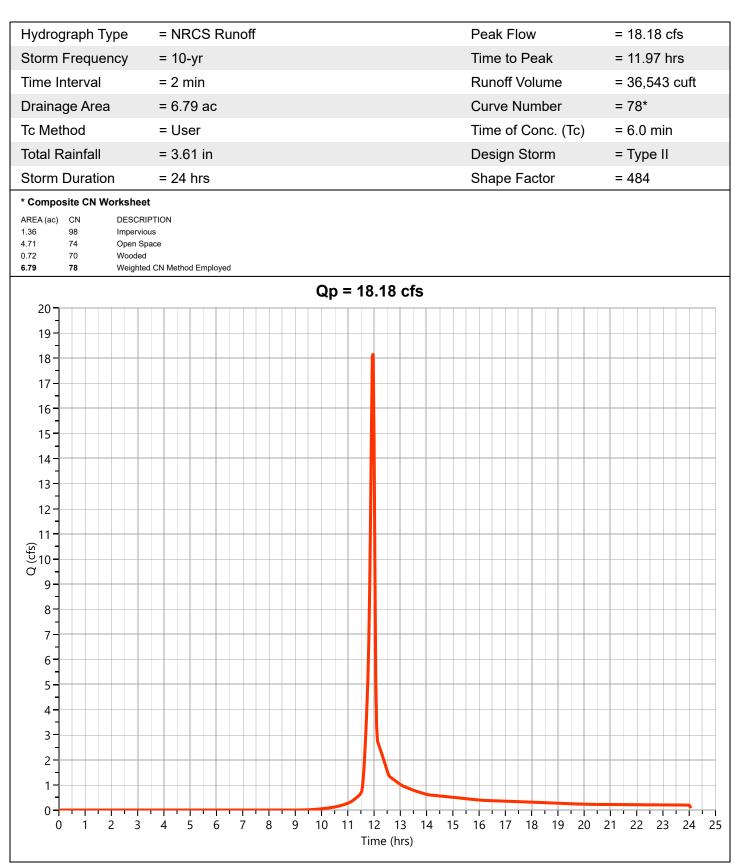
Project Name:

10-15-2021

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Proposed	18.18	11.97	36,543	----		
2	Pond Route	Proposed	10.06	12.03	32,365	1	939.54	9,704

Hydrograph Report

Hydrology Studio v 3.0.0.20   10-15-2021

Proposed   **Hyd. No. 1**

Hydrograph Type	= NRCS Runoff		Peak Flow	= 18.18 cfs
Storm Frequency	= 10-yr		Time to Peak	= 11.97 hrs
Time Interval	= 2 min		Runoff Volume	= 36,543 cuft
Drainage Area	= 6.79 ac		Curve Number	= 78*
Tc Method	= User		Time of Conc. (Tc)	= 6.0 min
Total Rainfall	= 3.61 in		Design Storm	= Type II
Storm Duration	= 24 hrs		Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
1.36	98	Impervious
4.71	74	Open Space
0.72	70	Wooded
6.79	**78**	Weighted CN Method Employed

Qp = 18.18 cfs

Hydrograph Report

Hydrology Studio v 3.0.0.20

Proposed

Hyd. No. 2

Hydrograph Type	= Pond Route		Peak Flow	= 10.06 cfs
Storm Frequency	= 10-yr		Time to Peak	= 12.03 hrs
Time Interval	= 2 min		Hydrograph Volume	= 32,365 cuft
Inflow Hydrograph	= 1 - Proposed		Max. Elevation	= 939.54 ft
Pond Name	= Proposed		Max. Storage	= 9,704 cuft

Pond Routing by Storage Indication Method   *Center of mass detention time = 31 min*

Qp = 10.06 cfs

Time (hrs)

Proposed ——— Proposed

Hydrograph 25-yr Summary

Project Name:

10-15-2021

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Proposed	24.45	11.93	49,378	----		
2	Pond Route	Proposed	10.82	12.03	45,200	1	940.09	13,561

Hydrograph Report

Project Name:

10-15-2021

Proposed

Hyd. No. 1

Hydrograph Type	= NRCS Runoff		Peak Flow	= 24.45 cfs
Storm Frequency	= 25-yr		Time to Peak	= 11.93 hrs
Time Interval	= 2 min		Runoff Volume	= 49,378 cuft
Drainage Area	= 6.79 ac		Curve Number	= 78*
Tc Method	= User		Time of Conc. (Tc)	= 6.0 min
Total Rainfall	= 4.31 in		Design Storm	= Type II
Storm Duration	= 24 hrs		Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
1.36	98	Impervious
4.71	74	Open Space
0.72	70	Wooded
6.79	**78**	Weighted CN Method Employed

Qp = 24.45 cfs

Hydrograph Report

Hydrology Studio v 3.0.0.20   10-15-2021

Proposed   **Hyd. No. 2**

Hydrograph Type	= Pond Route	Peak Flow	= 10.82 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.03 hrs
Time Interval	= 2 min	Hydrograph Volume	= 45,200 cuft
Inflow Hydrograph	= 1 - Proposed	Max. Elevation	= 940.09 ft
Pond Name	= Proposed	Max. Storage	= 13,561 cuft

Pond Routing by Storage Indication Method   *Center of mass detention time = 27 min*

Qp = 10.82 cfs

Hydrograph 50-yr Summary

Hydrology Studio v 3.0.0.20

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Proposed	25.28	11.93	51,079	----		
2	Pond Route	Proposed	10.91	12.03	46,901	1	940.16	14,089

Hydrograph Report

Hydrology Studio v 3.0.0.20

Proposed

Hyd. No. 1

Hydrograph Type	= NRCS Runoff		Peak Flow	= 25.28 cfs
Storm Frequency	= 50-yr		Time to Peak	= 11.93 hrs
Time Interval	= 2 min		Runoff Volume	= 51,079 cuft
Drainage Area	= 6.79 ac		Curve Number	= 78*
Tc Method	= User		Time of Conc. (Tc)	= 6.0 min
Total Rainfall	= 4.40 in		Design Storm	= Type II
Storm Duration	= 24 hrs		Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
1.36	98	Impervious
4.71	74	Open Space
0.72	70	Wooded
6.79	**78**	Weighted CN Method Employed

Qp = 25.28 cfs

Hydrograph Report

Proposed

Hyd. No. 2

Hydrograph Type	= Pond Route		Peak Flow	= 10.91 cfs
Storm Frequency	= 50-yr		Time to Peak	= 12.03 hrs
Time Interval	= 2 min		Hydrograph Volume	= 46,901 cuft
Inflow Hydrograph	= 1 - Proposed		Max. Elevation	= 940.16 ft
Pond Name	= Proposed		Max. Storage	= 14,089 cuft

Pond Routing by Storage Indication Method   *Center of mass detention time = 27 min*

Qp = 10.91 cfs

Hydrograph 100-yr Summary

Project Name:

10-15-2021

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Proposed	37.74	11.93	76,808	----		
2	Pond Route	Proposed	12.25	12.07	72,630	1	941.22	22,736

Hydrograph Report

Hydrology Studio v 3.0.0.20

Proposed

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 37.74 cfs
Storm Frequency	= 100-yr	Time to Peak	= 11.93 hrs
Time Interval	= 2 min	Runoff Volume	= 76,808 cuft
Drainage Area	= 6.79 ac	Curve Number	= 78*
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
Total Rainfall	= 5.71 in	Design Storm	= Type II
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
1.36	98	Impervious
4.71	74	Open Space
0.72	70	Wooded
6.79	**78**	Weighted CN Method Employed

Qp = 37.74 cfs

Hydrograph Report

Proposed

Hyd. No. 2

Hydrograph Type	= Pond Route	Peak Flow	= 12.25 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.07 hrs
Time Interval	= 2 min	Hydrograph Volume	= 72,630 cuft
Inflow Hydrograph	= 1 - Proposed	Max. Elevation	= 941.22 ft
Pond Name	= Proposed	Max. Storage	= 22,736 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 42 min

Qp = 12.25 cfs

PRP
CONSTRUCTION
PLANS

Green Valley Park Improvements

Contract No. 21-SW1

S i t u a t e   I n
New Sewickley Township
Beaver County, Pennsylvania

P r e p a r e d   F o r
New Sewickley Township
233 Miller Road
Rochester, Pennsylvania 15074

October 2021

One Call Respondents

Information as to the location and type of underground utilities and structures shown are approximate. Contractor(s) shall verify all such information in the field. Prior to any excavation, the Contractor(s) shall notify the Pennsylvania One Call System by calling 811. Locations of the utilities shown on the drawings or within the construction area are based on information provided through the Pennsylvania One Call System, Inc, Serial No. 20212860587. The respondents to the One Call notification were:

<table>
<tr><th colspan="4">PA One Call Contacts</th></tr>
<tr><th>Utility</th><th>Company</th><th>Address</th><th>Contact No.</th></tr>
<tr><td>Phone</td><td>VERIZON PENNSYLVANIA LLC
CONTACT: DEBORAH BARUM</td><td>1026 Hay Street
Pittsburgh, PA 15221</td><td>deborah.d.delia@verizon.com</td></tr>
<tr><td>Electric</td><td>DUQUESNE LIGHT COMPANY
CONTACT: KYLIE PARISON</td><td>2645 New Beaver Avenue PA-TD
Pittsburgh, PA 15233</td><td>kparison@duqlight.com</td></tr>
<tr><td>Electric</td><td>PENNSYLVANIA POWER COMPANY
CONTACT: ERIC POWELL</td><td>730 South Avenue
Youngstown, Ohio 44502</td><td>epowell@firstenergycorp.com</td></tr>
<tr><td>Sewer</td><td>NEW SEWICKLEY TOWNSHIP MUNICIPAL
AUTHORITY/NEW SEWICKLEY TOWNSHIP
CONTACT: LAWRIE BORGMAN</td><td>233 Miller Road
Rochester, PA 15074</td><td>secretary@newsewickley.com</td></tr>
<tr><td colspan="4">ALL EXISTING SUBSURFACE UTILITY INFORMATION PRESENTED ON THE CONTRACT DRAWINGS IS CHARACTERIZED AS UTILITY QUALITY LEVEL C OR D PER "CI/ASCE 38-02 - STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA" UNLESS SPECIFICALLY NOTED OTHERWISE.</td></tr>
</table>

<table>
<tr><th colspan="3">Sheet Index</th></tr>
<tr><th>Sheet No.</th><th>Description</th><th>Drawing No.</th></tr>
<tr><td>--</td><td>Title Sheet</td><td>--</td></tr>
<tr><td>1 of 5</td><td>Existing Conditions Plan</td><td>525-03-19-1</td></tr>
<tr><td>2 of 5</td><td>Overall Site Plan</td><td>525-03-19-2</td></tr>
<tr><td>3 of 5</td><td>Storm Sewer Profiles</td><td>525-03-19-3</td></tr>
<tr><td>4 of 5</td><td>Standard Details</td><td>525-03-19-4</td></tr>
<tr><td>5 of 5</td><td>Standard Details</td><td>525-03-19-5</td></tr>
<tr><td>ES1 of ES3</td><td>Erosion & Sedimentation Control Plan</td><td>525-03-19-ES1</td></tr>
<tr><td>ES2 of ES3</td><td>Erosion & Sedimentation Control Detail</td><td>525-03-19-ES2</td></tr>
<tr><td>ES3 of ES3</td><td>Erosion & Sedimentation Control Detail</td><td>525-03-19-ES3</td></tr>
</table>

SITE LOCATION

Base Map taken from the U.S.G.S. Quadrangle:

Location Map
N. T. S.

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE - STOP CALL
Pennsylvania One Call System, Inc.

CALL 811
Serial #20212860587

LSSE
Civil Engineers and Surveyors

846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

LSSE POINT #3
N:522485.96
E:11290559.50
EL:951.79
MAG NAIL SET

BENCH MARK
PLASTIC SPIKE IN
BASE OF WOODEN BRIDGE
EL=950.20

BENCH MARK
PAINTED X ON COR
OF CONC PAD
EL=937.73

BENCH MARK
PAINTED X ON COR
OF CONC PAD
EL=937.19

N/F
KALA FARMS, LLC
DEED BOOK VOLUME 3560,
PAGE 425
PARCEL ID: 69-145-0230.000

N/F
NEW SEWICKLEY TOWNSHIP
DEED BOOK VOLUME 929,
PAGE 693
PARCEL ID: 69-145-0227.000

LANDS OF
NEW SEWICKLEY TOWNSHIP
DBV 929 PAGE 693
PARCEL 69-145-0227.000
"GREEN VALLEY PARK"

VERIZON UNDERGROUND TELE. (MARKED)

MAINTENANCE BUILDING

STORAGE CONTAINER

PAVILION

BRUSH CREEK, WWF

EXISTING CONDITION NOTES:

1. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED BY FIELD SURVEY OF MARKINGS MADE IN THE FIELD BY THE RESPECTIVE UTILITY COMPANY OR TAKEN FROM DRAWINGS OF THE EXISTING UTILITIES PROVIDED BY THE UTILITY COMPANIES. ALL EXISTING SUBSURFACE UTILITY INFORMATION PRESENTED ON THE CONTRACT DRAWINGS IS CHARACTERIZED AS UTILITY QUALITY LEVEL C OR D PER "CI/ASCE 38-02 - STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA" UNLESS SPECIFICALLY NOTED OTHERWISE.

2. THE ENGINEER OR SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.

3. FURTHERMORE, THE ENGINEER OR SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEY ARE LOCATED USING ORDINARY STANDARDS OF CARE AND PRACTICE AND SHOWN HEREON BASED UPON AVAILABLE INFORMATION.

4. THE ENGINEER OR SURVEYOR HAS NOT PHYSICALLY LOCATED ANY OF THE UNDERGROUND UTILITIES.

5. PROPERTY LINES SHOWN HEREIN ARE PREPARED FROM DEED PLOTS AND/OR FROM TAX MAP INFORMATION. NO FIELD PROPERTY SURVEYS WERE PERFORMED. PROPERTY LINES NOT FIELD VERIFIED.

EXISTING LEGEND

- BENCHMARK
- CONTOUR (2-ft)
- CONTOUR (10-ft)
- DITCH
- FENCELINE W/ POST
- GUIDERAIL
- LIGHT STANDARD
- MANHOLES: SANITARY, STORM, TELEPHONE, MISC
- PARKING METER
- PAVEMENT EDGE
- PROPERTY LINE (Parcel)
- PROPERTY LINE (ROW)
- SIGN
- STREAM
- CONIFEROUS TREE
- DECIDUOUS TREE
- UTILITY LINE (Electric)
- UTILITY LINE (Underground Telephone)
- UTILITY LINE (Gas) W/ BOX, METER, MARKER, AND VALVE
- UTILITY LINE (Sanitary ForceMain) W/ MANHOLES
- UTILITY LINE (Sanitary Sewer) W/ MANHOLES
- UTILITY LINE (Storm) W/ CATCH BASIN AND MANHOLE
- UTILITY LINE (Telephone) W/ POLE, OVERHEAD WIRE AND GUY WIRE
- UTILITY LINE (Water) W/ BOX, METER, HYDRANT AND VALVE

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL
Pennsylvania One Call System, Inc
CALL 811
SERIAL No.
20212860587

0'   50'   100'   150'

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
KEVIN ALLEN BRETT

Scale:	No.	Date	Description	By	No.	Date	Description	By	No.	Date	Description	By		Filename: 52503Tp--.dwg	New Sewickley Township	Green Valley Park Improvements	Sheet Title

Scale: 1"=50'
Drawn By | Checked By | Approved By

Filename: 52503Tp--.dwg
Date: October 2021

New Sewickley Township
233 Miller Road
Rochester, Pennsylvania 15074

Green Valley Park Improvements
Contract No. 21-SW1
Situate in
New Sewickley Township, Beaver County, Pennsylvania

Sheet Title: Existing Conditions Plan

Drawing No. 525-03-19-1
Sheet No. 1 of 5

EXISTING LEGEND

	BENCHMARK
	CONTOUR (2-ft)
	CONTOUR (10-ft)
	DITCH
	FENCELINE W/ POST
	GUIDERAIL
	LIGHT STANDARD
	MANHOLES: SANITARY, STORM, TELEPHONE, MISC
	PARKING METER
	PAVEMENT EDGE
	PROPERTY LINE (Parcel)
	PROPERTY LINE (ROW)
	SIGN
	STREAM
	CONIFEROUS TREE
	DECIDUOUS TREE
	UTILITY LINE (Electric)
	UTILITY LINE (Underground Telephone)
	UTILITY LINE (Gas) W/ BOX, METER, MARKER, AND VALVE
	UTILITY LINE (Sanitary ForceMain) W/ MANHOLES
	UTILITY LINE (Sanitary Sewer) W/ MANHOLES
	UTILITY LINE (Storm) W/ CATCH BASIN AND MANHOLE
	UTILITY LINE (Telephone) W/ POLE, OVERHEAD WIRE AND GUY WIRE
	UTILITY LINE (Water) W/ BOX, METER, HYDRANT AND VALVE

PROPOSED LEGEND

114G	CONTOUR (10-ft)
	CONTOUR (2-ft)
15" CPP	UTILITY LINE (Storm) W/ CATCH BASIN AND MANHOLE
UD	UTILITY LINE (Under Drain)

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL
Pennsylvania One Call System, Inc

CALL 811
SERIAL No.
20212860587

0'   50'   100'   150'

LSSE
Civil Engineers and Surveyors
846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

Filename: 52503SP.dwg
Date: October 2021

New Sewickley Township
233 Miller Road
Rochester, Pennsylvania 15074

Green Valley Park Improvements
Contract No. 21-SW1
Situate In
New Sewickley Township, Beaver County, Pennsylvania

Sheet Title: Overall Site Plan
Drawing No.: 525-03-19-2
Sheet No.: 2 of 5

Scale: 1" = 50'

Drawn By / Checked By / Approved By

COMMONWEALTH OF
REGISTERED PROFESSIONAL ENGINEER
KEVIN ALLEN BRETT
PENNSYLVANIA

Storm Sewer Profiles

Profile 1 — Sta. 0+00 to 9+71.35 — Outfall No. 1 to CB No. 14

Horiz: 1"=50'
Vert: 1"=10'

INSTALL 24" TF-1 CURVED BILL TIDEFLEX, WITH THIMBLE PLATE AND GASKET

R-6 RIP-RAP APRON

℄ Sta. 0+11
OUTLET No. 1
IE=930.00

℄ Sta. 0+90
CB No. 1
TE=936.45
IE IN=930.50
IE OUT=930.40

℄ Sta. 3+49
CB No. 11
TE=937.41
IE IN=931.90
IE IN=931.90
IE OUT=931.80

℄ Sta. 5+77
CB No. 12
TE=936.81
IE IN=932.91
IE OUT=932.81

CB No. 17
TE=933.40
IE=933.50

℄ Sta. 8+55
CB No. 13
TE=937.43
IE IN=934.22
IE OUT=934.12

℄ Sta. 8+93
CB No. 14
TE=938.05
IE IN=934.47
IE OUT=934.37

℄ Sta. 9+71
CB No. 18
TE=938.75
IE IN=934.95
IE OUT=934.85

79 LF 24" CPP @ 0.51%
260 LF 24" CPP @ 0.50%
228 LF 24" CPP @ 0.40%
123 LF 18" PERFORATED CPP @ 0.40%
154 LF 18" PERFORATED CPP @ 0.40%
38 LF 15" CPP @ 0.39%
78 LF 15" CPP @ 0.49%

Profile 2 — Sta. 0+00 to 1+86.23 — CB No. 11 to CB No. 15

Horiz: 1"=50'
Vert: 1"=10'

℄ Sta. 0+00
CB No. 11
TE=937.41
IE IN=931.90
IE IN=931.90
IE OUT=931.80

℄ Sta. 1+86
CB No. 15
TE=937.95
IE OUT=932.85

186 LF 18" CPP @ 0.51%

Profile 3 — Sta. 0+00 to 6+19.45 — Outfall No. 2 to CB No. 7

Horiz: 1"=50'
Vert: 1"=10'

INSTALL 18" TF-1 CURVED BILL TIDEFLEX, WITH THIMBLE PLATE AND GASKET

R-6 RIP-RAP APRON

℄ Sta. 0+08
OUTFALL No. 2
IE=932.00

℄ Sta. 3+04
CB No. 2
TE=938.19
IE IN=933.60
IE OUT=933.50

℄ Sta. 3+77
CB No. 3
TE=938.87
IE IN=934.10
IE IN=934.10
IE OUT=934.00

℄ Sta. 4+70
CB No. 4
TE=938.30
IE IN=934.65
IE OUT=934.55

℄ Sta. 5+75
CB No. 16
TE=938.97
IE IN=935.30
IE IN=935.30
IE OUT=935.20

℄ Sta. 6+19
CB No. 6
TE=939.60
IE OUT=935.55

295 LF 18" CPP @ 0.51%
73 LF 18" CPP @ 0.55%
93 LF 18" CPP @ 0.48%
105 LF 18" CPP @ 0.52%
45 LF 15" CPP @ 0.56%

Profile 4 — Sta. 0+00 to 2+60.14 — CB No. 3 to CB No. 10

Horiz: 1"=50'
Vert: 1"=10'

℄ Sta. 0+00
CB No. 3
TE=938.87
IE IN=934.10
IE IN=934.10
IE OUT=934.00

℄ Sta. 0+80
CB No. 8
TE=939.25
IE IN=935.50
IE OUT=935.30

℄ Sta. 1+60
CB No. 9
TE=942.09
IE IN=937.00
IE OUT=936.80

℄ Sta. 2+60
CB No. 10
TE=941.20
IE OUT=938.00

80 LF 15" CPP @ 1.50%
80 LF 15" CPP @ 1.63%
100 LF 15" CPP @ 1.00%

Profile 5 — Sta. 0+00 to 0+80.73 — STMH No. 1 to CB No. 5

Horiz: 1"=50'
Vert: 1"=10'

℄ Sta. 0+00
CB No. 16
TE=938.97
IE IN=935.30
IE IN=935.30
IE OUT=935.20

℄ Sta. 0+81
CB No. 5
TE=938.23
IE OUT=935.70

81 LF 15" CPP @ 0.49%

Surface Restoration
Unimproved Area
N. T. S.

GRAVEL AREAS — PLACE AND COMPACT No. 2A (LIMESTONE)
LAWN AREAS — Place topsoil, seed and mulch to specifications
EXISTING GROUND
EXISTING STONE SURFACE
MATCH EXISTING DEPTH, MINIMUM 4 INCHES.
UNDISTURBED SOIL (TYP)
APPROVED BACKFILL PLACED AND COMPACTED IN 6 INCH LAYERS.
WIDTH AS REQUIRED TO RESTORE ALL DISTURBED AREAS. NO SEPARATE PAY ITEM SHALL BE PROVIDED. THIS WORK IS INCIDENTAL TO CONSTRUCTION.

Concrete Anchor
N. T. S.

SPACING REQUIRED

% GRADE	DISTANCE CENTER TO CENTER
20% TO 35%	36" C. to C.
35% TO 50%	24" C. to C.
50% +	16" C. to C.

24" TIDEFLEX DETAIL
N.T.S.

NOTES:
1. VALVE TO BE MOUNTED WITH THE OUTLET IN THE VERTICAL POSITION.
2. TIDEFLEX TO FIT ON A 24" THIMBLE O.D.
3. BECAUSE OF SAND, ROCK AND OTHER DEBRIS ACCUMULATION BY BACKFLOW OF WATER THE SUGGESTED BOTTOM CLEARANCE OF 3" SHOULD BE PROVIDED.
4. THIMBLE PLATE DIMENSIONS ARE FOR REFERENCE ONLY. SUPPLIER IS TO DETERMINE ADEQUATE PLATE DIMENSIONS NUMBER OF HOLES, DIAMETER OF HOLES AND SPACING. FINAL PLATE CONFIGURATION WILL BE SUPPLIED WITH SHOP DRAWING.

18" TIDEFLEX DETAIL
N.T.S.

NOTES:
1. VALVE TO BE MOUNTED WITH THE OUTLET IN THE VERTICAL POSITION.
2. TIDEFLEX TO FIT ON A 18" THIMBLE O.D.
3. BECAUSE OF SAND, ROCK AND OTHER DEBRIS ACCUMULATION BY BACKFLOW OF WATER THE SUGGESTED BOTTOM CLEARANCE OF 3" SHOULD BE PROVIDED.
4. THIMBLE PLATE DIMENSIONS ARE FOR REFERENCE ONLY. SUPPLIER IS TO DETERMINE ADEQUATE PLATE DIMENSIONS NUMBER OF HOLES, DIAMETER OF HOLES AND SPACING. FINAL PLATE CONFIGURATION WILL BE SUPPLIED WITH SHOP DRAWING.

GENERAL NOTES:
1. ALL CONCRETE SHALL BE CLASS AA CONCRETE, 4000 PSI MIN. 5% AIR ENTRAINED, MEETING PaDOT RC-39 AND PUBLICATION 408 SPECIFICATIONS.
2. CONCRETE BARREL JOINTS TO BE SEALED WITH NON-SHRINK GROUT OR WITH 1" DIA. FLEXIBLE BUTYL RUBBER JOINT SEALANT, USE 1/2" DIA. FOR FRAME AND COVER.
3. FRAME AND COVER TO BE ANCHORED WITH (2) 3/4" DIA. S.S. ANCHOR BOLTS SET 6 INCHES INTO CONCRETE.
4. LIFTING HOLES TO BE POINTED WITH NON-SHRINK GROUT, AND LEFT WATERTIGHT, NEAT AND SMOOTH.
5. MAXIMUM ADJUSTMENT TO FINISHED GRADE USING PRE CAST GRADE RINGS SHALL NOT EXCEED TWELVE INCHES (12").
6. PRE CAST SECTIONS SHALL CONFORM TO ASTM C-478 AS REVISED.
7. MANHOLE INVERT SHALL BE CONCRETE TO THE SPRING LINE OF PIPE WITH SIDES SLOPING 1" PER 1'-0" ON INSIDE FACE OF PRE CAST BASE SECTION.
8. IF THIS DIMENSION IS LESS THAN 3'-3" USE PRE CAST SLAB TOP DESIGNED TO MEET LOAD CONDITIONS.
9. FOR PIPES OF 30" I.D. OR GREATER, PROVIDE "MODIFIED" MANHOLE PER PaDOT RC-39.

NEW SEWICKLEY TOWNSHIP
PRECAST CONCRETE STORM MANHOLE (UP TO 18')
STANDARD DETAIL 7
OLSEN & ASSOCIATES, LLC
PROJECT NO. 2007998

NEW SEWICKLEY TOWNSHIP
MANHOLE LADDER BARS
STANDARD DETAIL 16
OLSEN & ASSOCIATES, LLC
PROJECT NO. 2007998

STORM MANHOLE COVER
Illustrating R-1753-A
NEENAH FOUNDRY COMPANY

WATER-TIGHT STORM MANHOLE COVER
NEENAH FOUNDRY COMPANY

NEW SEWICKLEY TOWNSHIP
STORM MANHOLE COVERS
STANDARD DETAIL 15
OLSEN & ASSOCIATES, LLC
PROJECT NO. 2007998

STANDARD CONSTRUCTION DETAIL #9-2
RIPRAP APRON AT PIPE OUTLET
NO FLARED ENDWALL
NOT TO SCALE

OUTFALL	3Do (ft)	La (ft)	W (ft)	Tailwater Conditions	Rip-Rap	Thickness (ft)
1	6	9	10	Maximum	R-6	3.00
2	8	19	12	Maximum	R-6	3.00

NOTES:
ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.
EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.

GENERAL NOTES: (Type M Inlet)
1. CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 713.2(d), FOR PRECAST CEMENT CONCRETE UNITS.
2. ONLY PRECAST INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 SHALL BE PERMITTED.
3. PROVIDE STANDARD INLET BOXES AND COVER ADJUSTMENT SLABS WITH A 24" X 45 1/4" OPENING TO ACCOMMODATE STANDARD TOP COMPONENTS.
4. INLETS THAT EXCEED THE MAXIMUM HEIGHT SHOWN SHALL REQUIRE A SPECIAL DESIGN FOR THE INLET WALLS AND BASE. CONSTRUCT INLETS THAT EXCEED 4 FEET IN HEIGHT WITH STEPS SIMILAR AS MANHOLES.
5. LOCATE PIPE OR PIPES, AS INDICATED, WITH THE INLET BOTTOM SHAPED TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE.
6. PLACE SUBBASE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 350.2, IN 4 INCH LAYERS, COMPACTED TO A 95% MODIFIED PROCTOR STANDARD DENSITY.
7. FOR PIPE DIAMETERS LARGER THAN 36" IN THIS WALL FOR A TYPE 1, USE A MODIFIED TYPE 1 INLET BOX.
8. FOR PIPE DIAMETERS LARGER THAN 48" R.C.C.P. OR 54" C.M.P. IN THIS WALL FOR A TYPE 2, USE A MODIFIED TYPE 2 INLET BOX.
9. FOR PIPE DIAMETERS LARGER THAN 48" R.C.C.P. OR 54" C.M.P. IN THE LONG DIRECTION OR LARGER THAN 36" IN THE SHORT DIRECTION, A SPECIAL DETAIL AND DESIGN IS REQUIRED.

NEW SEWICKLEY TOWNSHIP
TYPE M INLET
STANDARD DETAIL 13
OLSEN & ASSOCIATES, LLC
PROJECT NO. 2007998

NEW SEWICKLEY TOWNSHIP
STRUCTURAL STEEL GRATE BICYCLE SAFE
STANDARD DETAIL 14
OLSEN & ASSOCIATES, LLC
PROJECT NO. 2007998

NEW SEWICKLEY TOWNSHIP
TRENCH BACKFILL
STANDARD DETAIL 10
OLSEN & ASSOCIATES, LLC
PROJECT NO. 2007998

GENERAL NOTES: (Asphalt Pavement Replacement)
1. DURING COLD WEATHER MONTHS, PROVIDE AND MAINTAIN A TEMPORARY BITUMINOUS COLD PATCH SURFACE UNTIL WEATHER PERMITS HOT ASPHALT PAVING.
2. THE TOWNSHIP MUST BE NOTIFIED 48 HOURS IN ADVANCE OF ROAD OPENING AND SURFACING.
3. SUBBASE COURSE SHALL BE AS THICK AS EXISTING OR 8"-2A COMPACTED SUBBASE, (AFTER COMPACTION) WHICH EVER IS GREATER.
4. SUPERPAVE BASE COURSE SHALL BE AS THICK AS EXISTING OR 4-1/2" MINIMUM, (AFTER COMPACTION) WHICH EVER IS GREATER.
5. SUPERPAVE WEARING COURSE SHALL BE AS THICK AS EXISTING OR 1.5" MINIMUM, (AFTER COMPACTION) WHICH EVER IS GREATER.

NEW SEWICKLEY TOWNSHIP
ASPHALT PAVEMENT REPLACEMENT
STANDARD DETAIL 17

FOCALPOINT HP WITH EXPANDED R-TANK BELOW

BY ACF ENVIRONMENTAL OR EQUAL

FocalPoint BIOFILTRATION SYSTEMS

Labels (top-left detail):
- 18" WIDE GABION BASKET
- 6" OVERFLOW DRAIN / MAINTENANCE PORT W/ FOCALPOINT INSPECTION GRATE
- 3" AGED DOUBLE SHREDDED HARDWOOD MULCH WITH FINES REMOVED
- 18" WIDE GABION BASKET
- ELEV 938.00
- ELEV 937.75
- ELEV 936.75
- ELEV 935.75
- ELEV 934.75
- 18" HIGH FLOW MEDIA 100"/ HR (MIN.) (SEE SPECS)
- 6" BRIDGING STONE (SEE SPECS)
- (2) 6" PVC UNDERDRAIN IE=935.00
- 12" DEPTH STRUCTURAL UNDERDRAIN
- CONTAINMENT GEOTEXTILE

FOCALPOINT HP DETAILED CROSS SECTION
- 3" AGED DOUBLE SHREDDED HARDWOOD MULCH WITH FINES REMOVED
- 18" HIGH FLOW MEDIA 100"/HR (MIN.) (SEE SPECIFICATIONS)
- 6" BRIDGING STONE (SEE SPECIFICATIONS)
- 12" STRUCTURAL UNDERDRAIN
- CONTAINMENT GEOTEXTILE

FOCAL POINT HP CONSTRUCTION GUIDE
A	FOCALPOINT LENGTH	8'
B	UNDERDRAIN LONG	9
C	FOCALPOINT WIDTH	8'
D	UNDERDRAIN WIDE	5
E	WATER QUALITY VOLUME	109 CF
F	OVERFLOW ELEVATION	938.00
G	OUTLET FLOWLINE	935.00
H	TOP OF MULCH	938.00
I	TOP OF GABION (OPTIONAL)	938.50
J	UNDERDRAIN HEIGHT	9.45"

OBSERVATION/ MAINTENANCE PORT CONNECTION
- PIPE BOOT
- FP100 OPEN MESH GEOTEXTILE
- STRUCTURAL UNDERDRAIN

PIPE BOOT DETAIL
- PIPE BOOT
- OUTLET PIPE
- FRONT VIEW
- PIPE O.D.
- SIDE VIEW

OUTLET/ INLET PIPE CONNECTION
- OPEN MESH GEOTEXTILE
- STAINLESS STEEL HOSE CLAMP
- PIPE BOOT
- STRUCTURAL UNDERDRAIN
- STAINLESS STEEL HOSE CLAMP

TYPICAL SECTION GABION BAFFLE
N.T.S.
- BOTTOM OF POND
- 3'

FOCALPOINT PIPE CONNECTION

TOP VIEW
- 18" WIDE GABION BASKET
- 6" OVERFLOW/MAINTENANCE PORT
- FOCAL POINT PLANTINGS (SEE PLANT LIST)

SECTION VIEW
- 18" WIDE GABION BASKET
- 6" OVERFLOW/MAINTENANCE GRATE TE=938.00
- BOTTOM OF POND=1116.00
- 18" WIDE GABION BASKET
- BOTTOM OF POND
- 27"
- OVERFLOW MAINTENANCE PORT CONNECTION (SEE FOCAL POINT PIPE CONNECTION DETAIL)
- FOCAL POINT MEDIA (SEE DETAIL)
- 6" PVC UNDERDRAIN IE=935.00
- STRUCTURAL UNDERDRAIN

FOCAL POINT CONFIGURATION
N.T.S.

INTERMITTENT CHECK SLOT
- OVERLAP 6 IN. MIN.
- OVERCUT CHANNEL 2 IN. TO ALLOW BULKING DURING SEED BED PREPARATION
- EXCAVATE CHANNEL TO DESIGN GRADE AND CROSS SECTION
- DESIGN DEPTH
- SOIL BACKFILL
- LONGITUDINAL ANCHOR TRENCH

LONGITUDINAL ANCHOR TRENCH

- PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS, OR OTHER TEMPORARY CHANNEL LINER SYSTEM.
- SHINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT MIN. SHINGLE LAP=6 IN.

ISOMETRIC VIEW

CHANNEL CROSS-SECTION
(LOOKING DOWNSTREAM)
- LINING
- LONGITUDINAL ANCHOR TRENCH
- Z1, Z2, B

* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

Channel table
Channel Section	Bottom Width (ft)	Side Slope (x:1)	Depth (ft)	Slope (ft/ft)	Length (ft)	Channel Lining
SWALE 1	6	3	2	0.20	250	LANDLOK TRM 450
SWALE 2	6	3	2	0.20	325	LANDLOK TRM 450

NOTES:
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL
NOT TO SCALE

TEMPORARY SEED MIXTURE (ALL AREAS)
FORMULA AND SPECIES	% BY WEIGHT	MINIMUM % PURITY	MINIMUM % GERMINATION	MAX % WEED SEED	SEEDING RATE LBS. PER 1000 SY
FORMULA E					
• RYEGRASS VAR. KENTUCKY	100	98	90	0.15	10.0

SPREAD SEED AS FOLLOWS:
FORMULA E – MARCH 15 TO OCTOBER 15
SEEDING FORMULA MUST COMPLY WITH PaDOT FORM 408, SECTION 804

PERMANENT SEED MIXTURE (LAWN/YARD AREAS)
FORMULA AND SPECIES	% BY WEIGHT	MINIMUM % PURITY	MINIMUM % GERMINATION	MAX % WEED SEED	SEEDING RATE LBS. PER 1000 SY
FORMULA B					21.0 TOTAL
• PERENNIAL RYEGRASS MIXTURE	25	98	90	0.15	4.0
• CREEPING RED FESCUE OR CHEWING FESCUE	25	98	80	0.15	6.0
• KENTUCKY BLUEGRASS MIXTURE	50	98	80	0.15	11.0

SPREAD SEED AS FOLLOWS:
FORMULA B – APRIL 1 TO JUNE 1
AUGUST 1 TO JUNE 1
SEEDING FORMULA MUST COMPLY WITH PaDOT FORM 408, SECTION 804

PERMANENT SEED MIXTURE (NON-LAWN/YARD AREAS)
FORMULA AND SPECIES	% BY WEIGHT	MINIMUM % PURITY	MINIMUM % GERMINATION	MAX % WEED SEED	SEEDING RATE LBS. PER 1000 SY
FORMULA W, MODIFIED (Slopes > 3 to 1)					35.1 TOTAL
• ANNUAL RYEGRASS MIXTURE	10	99	90	0.15	1.45
• HARD FESCUE (FESTUCA LONGIFOLIA). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE ONE VARIETY EXCEEDING SIZE OF THE TOTAL HARD FESCUE COMPONENT	40	97	85	0.10	26.40
• BIRDSFOOT TREFOIL MIXTURE CUTIVE (CORNICULATUS) A MIXTURE OF 1/2 VIKING AND 1/2 OF EITHER EMPRE, NORCEN, OR LEO	40	98	80*	0.10	5.80
• REDTOP (AGROSTIS ALBA)	10	92	80	0.10	1.45
FORMULA D (Slope < 3 to 1)					32.4 TOTAL
• HARD FESCUE (FESTUCA LONGIFOLIA). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE ONE VARIETY EXCEEDING SIZE OF THE TOTAL HARD FESCUE COMPONENT	70	97	85	0.10	26.40
• CREEPING RED FESCUE OR CHEWINGS FESCUE	30	98	85	0.15	6.00

SPREAD SEED AS FOLLOWS:
FORMULA W – APRIL 1 TO JUNE 16
AUGUST 16 TO SEPTEMBER 15
FORMULA D – MARCH 1 TO JUNE 1
AUGUST 1 TO OCTOBER 15

MULCHES
HAY: TIMOTHY HAY, MIXED CLOVER AND TIMOTHY HAY, OR OTHER ACCEPTABLE NATIVE OR FORAGE GRASSES, WELL-CURED TO LESS THAN 20% MOISTURE CONTENT, BY WEIGHT.
STRAW: EITHER WHEAT OR OAT STRAW, REASONABLY FREE OF VIABLE SEED, WELL-CURED TO LESS THAN 20% MOISTURE CONTENT, BY WEIGHT.

PLACE MULCH IMMEDIATELY AFTER SEEDING OR WITHIN 48 HOURS AFTER SEEDING IS COMPLETED. PLACE HAY OR STRAW UNIFORMLY, IN A CONTINUOUS BLANKET, AT A MINIMUM RATE OF 1200 POUNDS PER 1000 SQ. YDS. (3 TON PER ACRE). A MULCH BINDER SHALL BE APPLIED TO ALL SLOPES GREATER THAN 3:1. THE MULCH BINDER SHALL BE RECYCLED CELLULOSE FIBER CONFORMING TO PaDOT FORM 408, SECTION 805.2(b). THE APPLICATION RATE FOR THE RECYCLED CELLULOSE FIBER BINDER SHALL BE 160 lbs/1,000 SQ. YDS.
MULCH MUST COMPLY WITH PaDOT FORM 408, SECTION 805

FERTILIZER AND LIME
FERTILIZER: APPLY FERTILIZER OF ANALYSIS 10-10-10 AT A RATE OF 300LBS PER ACRE FOR TEMPORARY SEEDING APPLICATIONS. APPLY FERTILIZER OF ANALYSIS 10-20-20 AT A RATE OF 900-1000 POUNDS PER ACRE FOR PERMANENT APPLICATIONS. LIME: APPLY AGRICULTURAL LIMESTONE AT A RATE OF 1 TON PER ACRE FOR PERMANENT SEED MIXTURES AND 2 TONS PER ACRE FOR TEMPORARY SEED MIXTURES.

NOTES:
1. ABOVE RATES MAY VARY IF SOIL TEST COMPLETED.
2. ALL LAWN AREAS SHALL HAVE A MINIMUM OF 4" TOPSOIL INSTALLED.

SEEDING CHART
N.T.S.

DETENTION BASIN BOTTOM SEEDING SCHEDULE
BASIN	QTY.	BOTANICAL NAME	SEEDING RATE
RAIN GARDEN	9,600 S.F.	Retention Basin Wildlife Mix (ERNMIX-126)	1/3–1/2lb per 1,000 S.F.

PLANT LIST - FOCAL POINT
KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	64 S.F.	Retention Basin Wildlife Mix (ERNMIX-127)	N/A	N/A	SEEDING RATE: 1/3–1/2lb per 1,000 S.F.
	8	Erianthus contortus	Shortbeard Plumegrass	1 Gal. Cont.	3' O.C.

NOTES:

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.

2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.

3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 811 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.

5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.

6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.

7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.

8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.

9. IMMEDIATELY UPON DISCOVERING UNFORESEEN DISTURBANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION. AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.

10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.

12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.

13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.

14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM LOTS (SPECIFY LOT NUMBERS) ONTO (SPECIFY ROAD NAMES).

15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.

19. AREAS WHICH ARE TO BE TOP SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES — 6 TO 12 INCHES ON COMPACTED SOILS — PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.

20. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

21. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

22. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

23. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.

24. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.

25. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.

26. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.

27. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

28. THE CONTRACTOR IS TO PROVIDE A CONCRETE WASHOUT AREA APPROVED BY THE BEAVER COUNTY CONSERVATION DISTRICT FOR ALL SITES WHICH REQUIRE CONCRETE TO BE MIXED OR POURED ONSITE.

29. COMPOST FILTER SOCKS IN AREAS THAT CANNOT BE STAKED (I.E. PAVED AREAS) SHALL BE BACKED WITH CONCRETE BLOCKS PER THE MANUFACTURER'S RECOMMENDATIONS.

30. INLET FILTER MATS TO BE INSTALLED ON ALL EXISTING AND PROPOSED INLETS THAT ARE TO RECEIVE RUNOFF. SILT SACKS ARE TO REMAIN IN PLACE UNTIL SITE HAS ACHIEVED A UNIFORM 70% PERENNIAL VEGETATIVE COVER OR STONE/PAVEMENT COVER.

31. ALL AREAS DISTURBED BY BMP MAINTENANCE ACTIVITIES SHALL BE IMMEDIATELY STABILIZED WITH SEED AND MULCH.

32. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.

33. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER (100 FEET OF SPECIAL PROTECTION WATERSHEDS) AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.

EXISTING CONDITION NOTES:

1. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED BY FIELD SURVEY OF MARKINGS MADE IN THE FIELD BY THE RESPECTIVE UTILITY COMPANY OR TAKEN FROM DRAWINGS OF THE EXISTING UTILITIES PROVIDED BY THE UTILITY COMPANIES. ALL EXISTING SUBSURFACE UTILITY INFORMATION PRESENTED ON THE CONTRACT DRAWINGS IS CHARACTERIZED AS UTILITY QUALITY LEVEL C OR D PER CI/ASCE 38-02 - STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA "UNLESS SPECIFICALLY NOTED OTHERWISE."
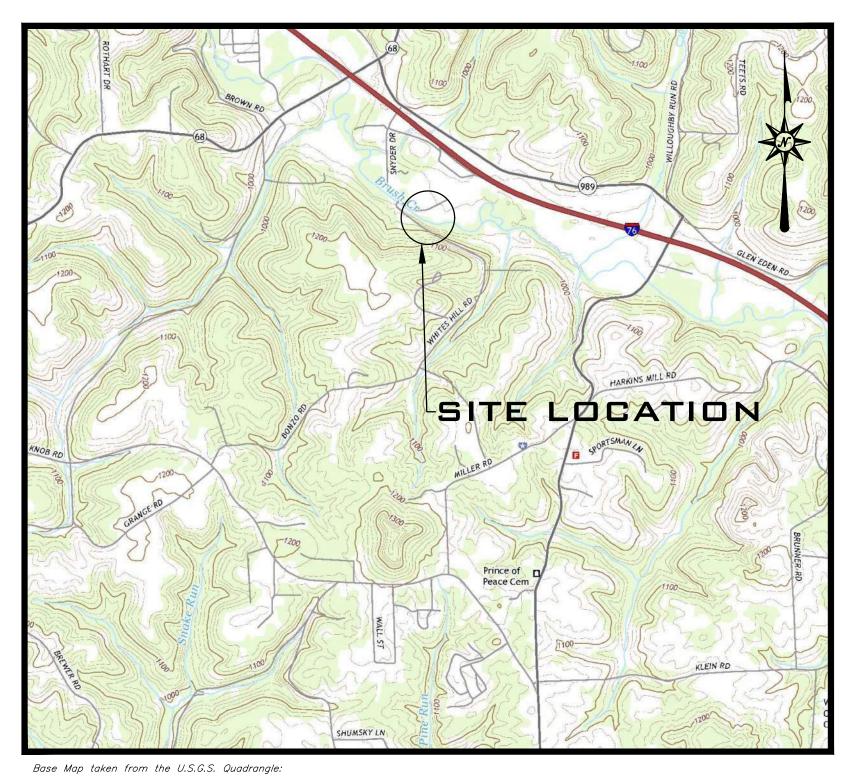
2. THE ENGINEER OR SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.

3. FURTHERMORE, THE ENGINEER OR SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEY ARE LOCATED USING ORDINARY STANDARDS OF CARE AND PRACTICE AND SHOWN HEREON BASED UPON AVAILABLE INFORMATION.

4. THE ENGINEER OR SURVEYOR HAS NOT PHYSICALLY LOCATED ANY OF THE UNDERGROUND UTILITIES.

5. PROPERTY LINES SHOWN HEREIN ARE PREPARED FROM DEED PLOTS AND/OR FROM TAX MAP INFORMATION. NO FIELD PROPERTY SURVEYS WERE PERFORMED. PROPERTY LINES NOT FIELD VERIFIED.
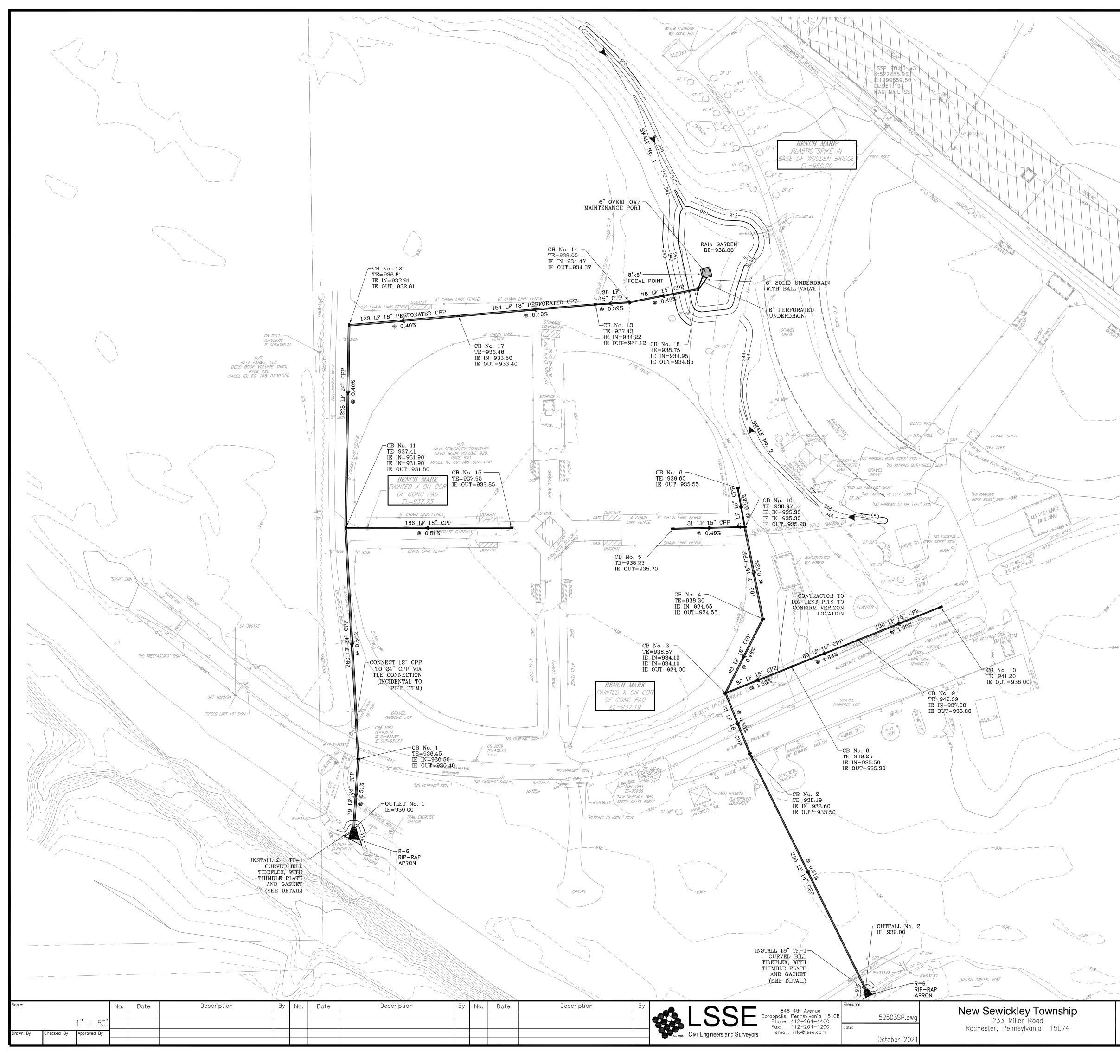
CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL.
Pennsylvania One Call System, Inc

CALL 811

SERIAL No.
202112860587

Location Map

1" = 2000'

SOURCE: PORTIONS OF MAP TAKEN FROM PITTSBURGH EAST, PA USGS QUADRANGLE

SITE LOCATION

EXISTING LEGEND

- CONTOUR (2-ft)
- CONTOUR (10-ft)
- CURB
- FENCELINE W/ POST
- GUIDERAIL
- LIGHT STANDARD
- PAVEMENT EDGE
- SIGN
- STREAM
- CONIFEROUS TREE
- UTILITY LINE (Storm) W/ CATCH BASIN AND MANHOLE
- UTILITY LINE (Telephone) W/ POLE, OVERHEAD WIRE AND GUY WIRE
- 100 YEAR FLOODWAY EXTENDS ACROSS SITE
- SOIL BOUNDARIES
- SOIL TYPES

PROPOSED LEGEND

- 15" CPP — UTILITY LINE (Storm) W/ CATCH BASIN AND MANHOLE
- INLET FILTER MAT
- COMPOST FILTER SOCK
- LIMIT OF DISTURBANCE
- ROCK CONSTRUCTION ENTRANCE
- SLOPE STABILIZATION FABRIC
- RIPRAP APRON

Plan labels

- LIMIT OF DISTURBANCE 0.99 ACRES (TOTAL)
- INLET FILTER MAT (TYP.)
- SLOPE STABILIZATION FABRIC
- TOPSOIL STOCKPILE
- 18" COMPOST FILTER SOCK AREA No. 1 (SEE DETAIL)
- ROCK CONSTRUCTION ENTRANCE No. 1
- 12" COMPOST FILTER SOCK AREA No. 2 (SEE DETAIL)
- RIPRAP APRON
- TEMPORARY COFFERDAM
- 18" COMPOST FILTER SOCK AREA No. 3 (SEE DETAIL)
- TOPSOIL STOCKPILE
- INLET FILTER MAT (TYP.)
- ROCK CONSTRUCTION ENTRANCE No. 2
- LIMIT OF DISTURBANCE 0.99 ACRES
- 12" COMPOST FILTER SOCK AREA No. 4 (SEE DETAIL)
- SLOPE STABILIZATION FABRIC
- RIPRAP APRON
- TEMPORARY COFFERDAM

PROFESSIONAL ENGINEERS CERTIFICATION

I, JOHN R. HEYL, DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA. C.S.A. SEC. 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THAT THE INFORMATION CONTAINED IN THE ACCOMPANYING PLANS, SPECIFICATIONS, AND REPORTS HAS BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE, IS TRUE AND CORRECT, AND IS IN CONFORMANCE WITH CHAPTER 105 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

John R. Heyl, P.E., CPESC   Date

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
KEVIN ALLEN BRETT

No.	Date	Description	By	No.	Date	Description	By	No.	Date	Description	By

Lennon, Smith, Souleret Engineering, Inc.
846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

Filename: 52503ES.dwg
Date: October 2021

New Sewickley Township
233 Miller Road
Rochester, Pennsylvania 15074

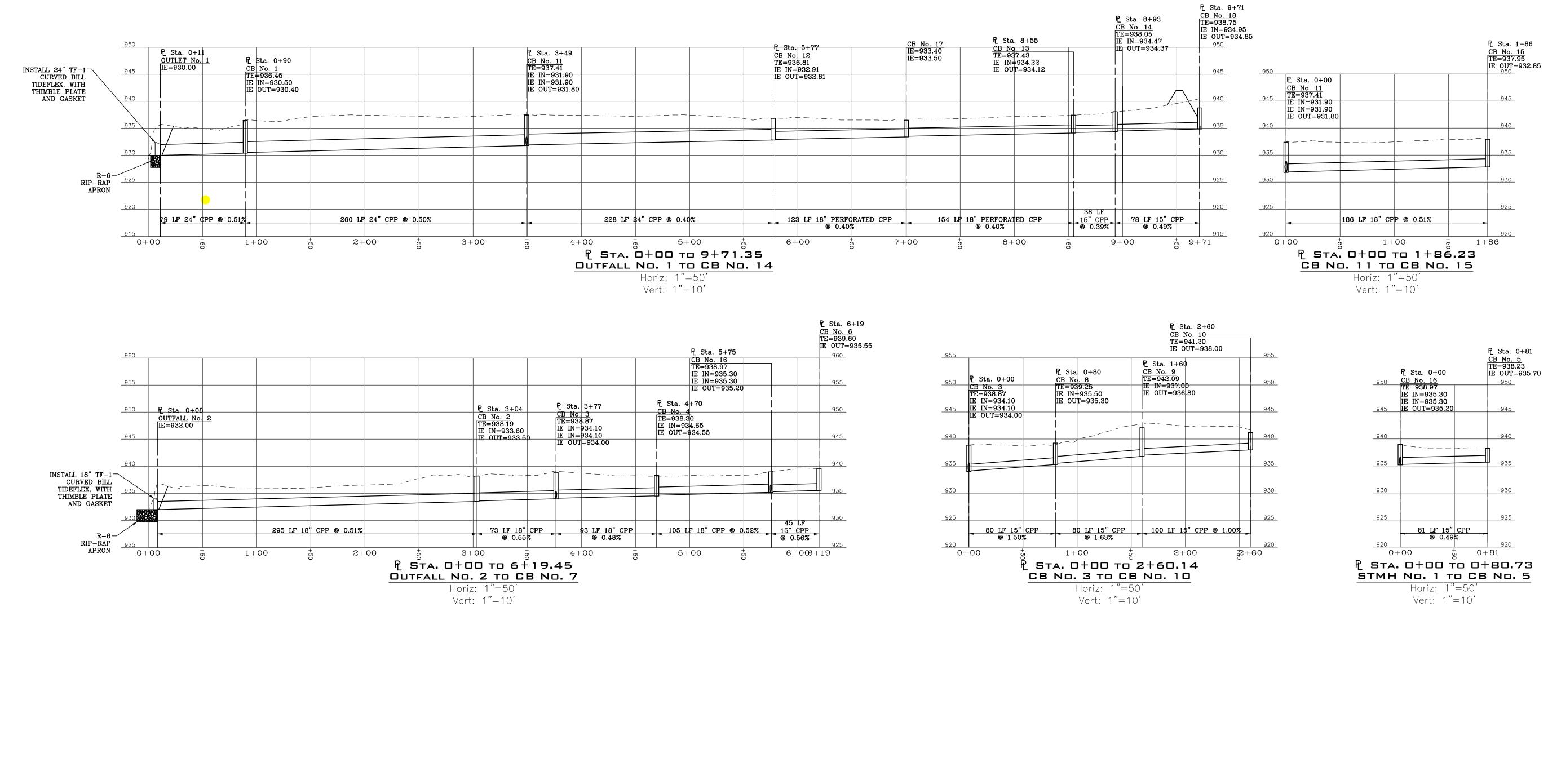**Green Valley Park Improvements**
Contract No. 21-SW1

Situate In
New Sewickley Township, Beaver County, Pennsylvania

Sheet Title: **Erosion & Sedimentation Control Plan**
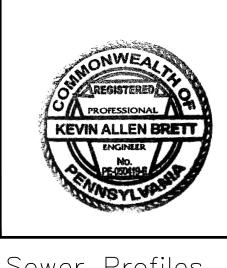
Drawing No. 525-03-19-ES1

Sheet No. ES1 of ES3

Scale: 1"=50'

Drawn By   Checked By   Approved By

0' 30' 60' 90'

CRITICAL STAGE BEST MANAGEMENT PRACTICES (PCSM BMPS)

DISTURBED AREAS WILL BE RETURNED TO APPROXIMATE ORIGINAL CONTOURS AND PRE-CONSTRUCTION COVER CONDITIONS; THEREFORE, CRITICAL STAGE BMPS ARE NOT REQUIRED.

DETAILED EROSION CONTROL PLAN AND PHASING

REFER TO THE SITE GRADING PLAN AND THE SOIL EROSION AND SEDIMENTATION CONTROL PLANS WHICH ARE REFERENCED IN THE FOLLOWING NARRATIVE:

CONSTRUCTION PHASING

THE WORK CONSISTS OF APPROXIMATELY 0.27 ACRES OF DISTURBED AREA WHICH CONSISTS OF STORM SEWERS, INCLUDING TWO OUTFALL STRUCTURES, GRADING, EROSION CONTROL FACILITIES, AND ALL OTHER APPURTENANCES NECESSARY. ALL DISTURBED SLOPES 3:1 H:V OR GREATER SHALL BE STABILIZED WITH SEED, MULCH AND SLOPE STABILIZATION FABRIC. ANY BUILDING MATERIALS ENCOUNTERED DURING EXCAVATION MUST IMMEDIATELY BE TAKEN TO A PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP) APPR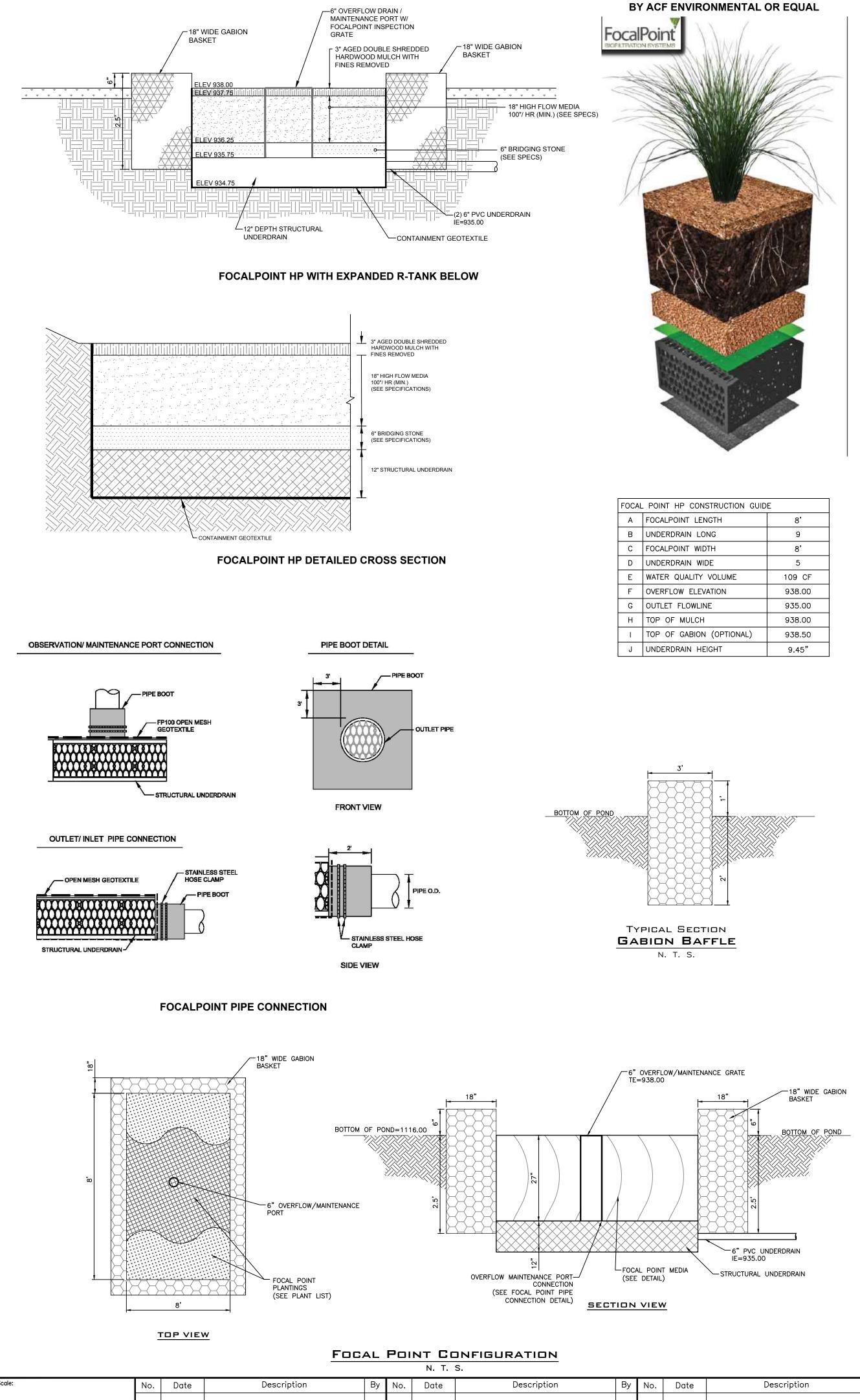OVED OR PERMITTED LANDFILL. MATERIAL DISPOSED OF OFFSITE MUST BE TAKEN TO A SITE WITH AN APPROVED EROSION AND SEDIMENTATION CONTROL PLAN OR A PADEP APPROVED SITE. ALL EROSION AND SEDIMENTATION CONTROL BMPS THAT ARE INSTALLED MUST BE COMPLETE AND FUNCTIONING BEFORE THEIR TRIBUTARY AREAS ARE DISTURBED. ALL AREAS DISTURBED BY BMP MAINTENANCE ACTIVITIES SHALL BE IMMEDIATELY STABILIZED WITH SEED AND MULCH. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS. CESSATION OF ACTIVITY FOR AT LEAST 4 DAYS REQUIRES TEMPORARY STABILIZATION. IT IS PROPOSED TO PROCEED WITH THE PROJECT IN THE FOLLOWING SEQUENCE:

1. CLEAR AND GRUB AREA FOR THE ROCK CONSTRUCTION ENTRANCES. STRIP AND STOCKPILE TOPSOIL FOR THE ROCK CONSTRUCTION ENTRANCE AND PLACE AT LOCATION SHOWN ON THE PLAN. SEED AND MULCH SOIL STOCKPILE. INSTALL ROCK CONSTRUCTION ENTRANCE NOS. 1 AND 2. CONSTRUCT THE ENTRANCES AS SHOWN ON THE PLAN AND DETAIL. THESE WILL BE THE ONLY ENTRANCES USED BY CONSTRUCTION VEHICLES.

2. INSTALL COMPOST FILTER SOCKS AREA NOS. 1 THROUGH 4 AS SHOWN ON THE PLANS.

3. EARTHWORK WITHIN STREAM CHANNELS SHOULD BE SCHEDULED FOR LOW FLOW SEASONS WHENEVER POSSIBLE. ALL WORK IS TO BE PERFORMED FROM THE TOP OF BANK.

4. INSTALL THE COFFERDAM AS SHOWN ON THE PLAN AND DETAILS.

5. INSTALL PROPOSED STORM SEWER FROM OUTFALL NO. 1 TO CB NO. 1, AND FROM OUTFALL NO. 2 TO CB NO. 2, INCLUDING OUTLET PROTECTION AND INLET FILTER MATS AS SHOWN ON THE PLANS. PLACE EXCAVATED MATERIAL ON THE UPSLOPE SIDE OF THE TRENCH.

6. DURING THE ABOVE CONSTRUCTION PROCESS, EXCAVATE UTILITY LINE TRENCHES ONLY AS REQUIRED. LIMIT THE ADVANCE OF CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION, AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. TRENCH PLUGS, AS SHOWN IN THE DETAILS, ARE TO BE INSTALLED PER PADEP CHAPTER 102 REQUIREMENTS. ANY ACCUMULATED WATER SHALL BE REMOVED BY PUMPING THROUGH A PUMPED WATER FILTER BAG. ON THE DAY FOLLOWING THE PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL SUBGRADE AND SEEDED AND MULCHED OR STABILIZED WITH STONE PER THE PERMANENT SEEDING SCHEDULE.

7. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA IS TO REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS. CESSATION OF ACTIVITY FOR 4 DAYS OR LONGER REQUIRES TEMPORARY STABILIZATION.

8. ONCE OUTFALL NO. 1 AND OUTFALL NO. 2 CONSTRUCTION IS COMPLETE, REMOVE COFFERDAM. NO EARTH DISTURBANCE SHALL OCCUR WHEN REMOVING THE COFFERDAM.

9. REMOVE ROCK CONSTRUCTION ENTRANCE. SEED AND MULCH ALL DISTURBED AREAS.

10. ONCE THE SITE HAS ACHIEVED A UNIFORM 70% PERENNIAL VEGETATIVE COVER AND SITE IS STABILIZED, REMOVE COMPOST FILTER SOCK AREA AND ALL INLET FILTER MATS. DISPOSE OF ANY REMAINING SILT, COMPOST FILTER SOCKS AND INLET FILTER MATS AS STATED IN THE RECYCLING AND DISPOSAL OF MATERIALS SECTION OF THIS REPORT. SEED AND MULCH ALL REMAINING DISTURBED AREAS.

102.4(B)(5)(VIII) SUPPORTING CALCULATIONS

SEE APPENDICES OF THIS REPORT.

102.4(B)(5)(IX) PLAN DRAWINGS

SEE ATTACHED PLANS.

102.4(B)(5)(X) MAINTENANCE OF CONTROL FACILITIES

MAINTENANCE OF CONTROL FACILITIES

INSPECTION AND MAINTENANCE PROGRAMS WILL BE IMPLEMENTED DURING AND AFTER CONSTRUCTION TO ASSURE THAT EROSION AND SEDIMENTATION MEASURES ARE MAINTAINED. ALL EROSION AND SEDIMENTATION CONTROL FACILITIES WILL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. INSPECTIONS AND MAINTENANCE ARE TO BE DOCUMENTED ON THE PADEP VISUAL INSPECTION FORM 3800-FM-BCW0271D IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE BEAVER COUNTY CONSERVATION DISTRICT GUIDELINES. REPAIRS AND MAINTENANCE WILL BE PERFORMED BY THE CONTRACTOR AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE MEASURES AND FACILITIES. ANY DEFICIENCIES MUST BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS UPON IDENTIFICATION OF THE DEFICIENCY. ALL AREAS DISTURBED BY BMP MAINTENANCE ACTIVITIES SHALL BE IMMEDIATELY STABILIZED WITH SEED AND MULCH. SPECIFIC MAINTENANCE PROGRAMS FOR EROSION CONTROL BMPS ARE DESCRIBED BELOW. ALL MAINTENANCE MEASURES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND OF THE INDIVIDUAL PERMIT HOLDER.

ROCK FILTERS

ROCK FILTERS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT AND CLEANED WHEN THEY REACH 1/2 OF THEIR CAPACITY. ANY REPAIRS WILL BE MADE WITHIN 24 HOURS.

SANDBAG DAM

SANDBAG DAMS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. ANY REPAIRS WILL BE MADE WITHIN 24 HOURS.

COMPOST FILTER SOCKS

COMPOST FILTER SOCKS WILL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT AND ANY REQUIRED REPAIRS, SUCH AS REPLACING OR RE-STAKING, WILL BE MADE WITHIN 24 HOURS. SEDIMENT DEPOSITS WILL BE REMOVED WHEN IT REACHES 1/2 OF THE HEIGHT OF THE FILTER SOCK.

INLET PROTECTION

INLET FILTER MATS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT AND LIFTED, RINSED OR REPLACED AS NEEDED. WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET, OR THE INLET FILTER MAT BECOMES COMPRESSED DUE TO HEAVY TRAFFIC, REPLACEMENT IS REQUIRED. ANY REPAIR WILL BE MADE WITHIN 24 HOURS.

ROCK FILTER OUTLETS

ROCK FILTER OUTLETS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT AND CLEANED WHEN THEY REACH 1/3 OF THEIR CAPACITY. ROCK MATERIAL SHALL BE REMOVED FROM THE FILTER FABRIC ON THE ROCK FILTER WHEN THE FABRIC BECOMES CLOGGED WITH SEDIMENT. IF SEDIMENT MIGRATES INTO THE ROCK PORTION OF THE FILTER TO THE EXTENT THAT IT BECOMES CLOGGED, THE ROCK MATERIALS MUST BE COMPLETELY REMOVED AND WASHED FREE OF ALL FOREIGN MATERIAL OR NEW ROCK MUST BE USED TO REBUILD THE FILTER. ROCK FILTER OUTLETS SHALL BE INSPECTED AND CLEANED AFTER EVERY STORM EVENT. ANY REPAIRS WILL BE MADE WITHIN 24 HOURS.

TRENCH PLUGS

TRENCH PLUGS ARE TO BE INSTALLED AS NECESSARY ON ALL STORM SEWER AND WATER LINES AND AT ALL STREAM, RIVER, OR WATERBODY CROSSINGS REGARDLESS OF TRENCH SLOPE. TOPSOIL MAY NOT BE USED TO FILL SACKS.

ROCK CONSTRUCTION ENTRANCE

THE STRUCTURE'S THICKNESS WILL BE CONSTANTLY MAINTAINED ON THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIALS WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL NOT BE WASHED WITH WATER. ANY REPAIRS WILL BE MADE WITHIN 24 HOURS.

FILTER BAG

THE PURPOSE OF A FILTER BAG IS TO REMOVE SEDIMENT FROM RUNOFF OR GROUNDWATER WHICH IS PUMPED FROM THE WORK AREA. THE BAG MUST BE LOCATED IN AN AREA THAT IS WELL-VEGETATED AND HAS A LAND SLOPE OF LESS THAN FIVE PERCENT (5%) OR ON A BED OF AASHTO NO. 57 STONE. THE FILTER BAG SHALL BE CONSTRUCTED OF NON-WOVEN GEOTEXTILE. THE BAG MUST TRAP PARTICLES LARGER THAN 150 MICRONS. THE PUMPING RATE SHOULD NOT EXCEED 1/2 OF THE MAXIMUM RECOMMENDED BY THE BAG MANUFACTURER. FILTER BAGS MUST DISCHARGE INTO STABLE, EROSION RESISTANT AREAS. THE FILTER BAG SHOULD BE INSPECTED DAILY AND AFTER EACH PRECIPITATION EVENT. ANY REQUIRED REPAIRS, SUCH AS REPLACING OF THE FILTER BAG, WILL BE MADE WITHIN 24 HOURS OF RECOGNITION OF THE FAILURE. THE FILTER BAG AND TRAPPED SEDIMENT SHALL BE DISPOSED OF OFF-SITE WHEN THE BAG IS 1/2 FULL AT A DUMP SITE APPROVED BY THE BEAVER COUNTY CONSERVATION DISTRICT.

CONCRETE WASHOUT

FOR ANY PROJECT ON WHICH CONCRETE WILL BE POURED OR OTHERWISE FORMED ON SITE, A SUITABLE WASHOUT FACILITY MUST BE PROVIDED FOR THE CLEANING OF CHUTES, MIXERS, AND HOPPERS OF THE DELIVERY VEHICLES UNLESS SUCH A FACILITY WILL BE USED AT THE SOURCE OF THE CONCRETE. UNDER NO CIRCUMSTANCES MAY WASH WATER FROM THESE VEHICLES BE ALLOWED TO ENTER ANY SURFACE WATERS. MAKE SURE THAT PROPER SIGNAGE IS PROVIDED TO DRIVERS SO THAT THEY ARE AWARE OF THE PRESENCE OF WASHOUT FACILITIES. WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR SURFACE WATERS. THEY SHOULD BE IN A CONVENIENT LOCATION FOR THE TRUCKS, PREFERABLE NEAR THE PLACE WHERE THE CONCRETE IS BEING POURED, BUT FAR ENOUGH FROM OTHER VEHICULAR TRAFFIC TO MINIMIZE THE POTENTIAL FOR ACCIDENTAL DAMAGE OR SPILLS. WHEREVER POSSIBLE, THEY SHOULD BE LOCATED ON SLOPES NOT EXCEEDING A 2% GRADE.

VEGETATION

INSPECT ALL SEEDED AREAS WEEKLY AND AFTER EVERY RUNOFF EVENT. RESEED ALL AREAS THAT VEGETATION HAS FAILED TO ESTABLISH. REPAIR ALL ERODED SLOPES, SEED AND MULCH AS NECESSARY.

DISTURBED AREAS

AS SOON AS SLOPES, CHANNELS, DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE PERMANENTLY STABILIZED. TEMPORARY STABILIZATION SHALL BE ESTABLISHED IN ANY AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR FOUR (4) DAYS OR MORE AND WHERE CONSTRUCTION ACTIVITIES WILL NOT RESUME WITHIN FOUR (4) DAYS. A PERMANENT COVER SHALL BE INSTALLED IN ANY AREA WHERE CONSTRUCTION IS TO BE HALTED FOR MORE THAN ONE YEAR. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIATING STABILIZATION OPERATIONS. ALL DISTURBED SLOPES 3:1 H:V OR GREATER SHALL BE STABILIZED WITH SEED, MULCH, AND SLOPE STABILIZATION FABRIC.

SEDIMENT DISPOSAL

ALL SEDIMENT TAKEN FROM THE EROSION CONTROL FACILITIES WILL BE SPREAD AND DRIED FOR USE IN ONSITE GRADING OR DISPOSAL OFF SITE. UNSUITABLE MATERIAL SHALL BE HAULED FROM THE SITE FOR PROPER DISPOSAL. AS CONSTRUCTION IS COMPLETED, VEGETATION ESTABLISHED AND STABILIZATION MEASURES FINISHED, TEMPORARY EROSION CONTROL FACILITIES WILL BE REMOVED.

PERMANENT CONTROL MEASURES WILL INCLUDE, BUT ARE NOT LIMITED TO: PERMANENT SEEDING AND LANDSCAPING. THESE FACILITIES WILL BE IMPLEMENTED AND MAINTAINED AS CONSTRUCTION IS COMPLETED. THE OWNER WILL MAINTAIN THE PERMANENT FACILITIES.

TOPSOIL APPLICATION

BEFORE THE SEEDING BEGINS, TOPSOIL SHOULD BE APPLIED AND ANY REQUIRED SOIL AMENDMENTS WORKED INTO THE SOIL TO A DEPTH OF 4 TO 6 INCHES. IF COMPOST IS TO BE ADDED TO THE TOPSOIL, IT SHOULD BE WORKED INTO THE SOIL WITH OTHER SOIL AMENDMENTS UNLESS IT IS BEING APPLIED AS AN EROSION CONTROL BMP.

GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.

TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM — 2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.

TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.

SEEDING AND MULCHING MATERIALS

a) TEMPORARY VEGETATIVE COVER. FROM MARCH 15 TO OCTOBER 15, APPLY ANNUAL RYEGRASS AT THE RATE OF 48.4 POUNDS PER ACRE (10 POUND PER 1,000 SQUARE YARDS) BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION. ANY OTHER TIME, USE ANNUAL RYEGRASS PLUS A STRAW MULCH ANCHORED TO PREVENT LOSS. IN THE ABSENCE OF A SOIL TEST, LIME SHOULD BE APPLIED AT THE RATE OF 1 TON PER ACRE, AND FERTILIZER APPLIED AT THE RATE OF 50 POUNDS OF NITROGEN, 50 POUNDS OF P_2O_5 AND 10 POUNDS OF K_2O PER ACRE (E.G. 500 POUNDS OF 10-10-10 PER ACRE).

b) PERMANENT VEGETATIVE COVER. SMOOTH AND FIRM SEEDBED WITH CULTIPACKER OR OTHER SIMILAR EQUIPMENT PRIOR TO SEEDING. FROM MARCH 15 TO JUNE 1 AND AUGUST 1 TO OCTOBER 15, APPLY FORMULA B AT A RATE OF 101.6 POUNDS PER ACRE (21.0 POUNDS PER 1,000 SQUARE YARDS). REPLACE ALL TALL FESCUE WITH HARD FESCUE.

SEED AND SOIL SUPPLEMENTS (EXCEPT LIME) SHALL CONFORM TO THE REQUIREMENTS OF FORMULAS D AND E IN SECTION 804 OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FORM 408 (APPENDED). LIMING SHALL CONFORM TO THE REQUIREMENTS LISTED ON PAGE 5.40 OF THE EROSION AND SEDIMENTATION POLLUTION CONTROL PROGRAM MANUAL (APPENDED). ALL AREAS ARE TO BE TEMPORARILY SEEDED WITH FORMULA E SEED MIX.

MULCH SHALL CONFORM TO THE REQUIREMENTS OF SECTION 805 OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FORM 408.

IN THE ABSENCE OF A SOIL TEST, LIME SHOULD BE APPLIED AT THE RATE OF 6 TONS PER ACRE, FERTILIZER SHOULD BE APPLIED AT THE RATE OF 100 POUNDS OF NITROGEN, 200 POUNDS OF P_2O_5 AND 200 POUNDS OF K_2O PER ACRE (E.G. 1,000 POUNDS OF 10-20-20 PER ACRE).

102.4(B)(5)(XI) RECYCLING AND DISPOSAL OF MATERIALS

INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, EROSION AND SEDIMENTATION CONTROL BMPS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL AT AN APPROVED PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION WASTE SITE.

EXCAVATED EXCESS SOIL MATERIAL DISPOSED OF OFFSITE MUST BE DISPOSED OF AT A SITE WITH AN APPROVED EROSION AND SEDIMENTATION CONTROL PLAN OR A PADEP APPROVED SITE. IMPORTED FILL MATERIAL MUST BE OBTAINED FROM A SITE WITH AN APPROVED EROSION AND SEDIMENTATION CONTROL PLAN OR A PADEP APPROVED BORROW SITE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF THE STATUS OF ALL BORROW AND DISPOSAL SITES PRIOR TO PROCEEDING WITH THE IMPORT OR EXPORT OF SOIL MATERIAL ON SITE.

102.4(B)(5)(XII) IDENTIFICATION OF NATURALLY OCCURRING GEOLOGICAL FORMATIONS OR SOIL CONDITIONS

NO KNOWN NATURALLY OCCURRING GEOLOGICAL FORMATIONS OR SOIL CONDITIONS WITH THE POTENTIAL TO CAUSE POLLUTION ARE EVIDENT ONSITE.

102.4(B)(5)(XIII) IDENTIFICATION OF POTENTIAL THERMAL IMPACTS

ALL DISTURBED AREAS WILL BE RETURNED TO APPROXIMATE ORIGINAL CONTOURS AND PRE-CONSTRUCTION COVER CONDITIONS; THEREFORE, NO INCREASE IN THERMAL IMPACTS ARE ANTICIPATED.
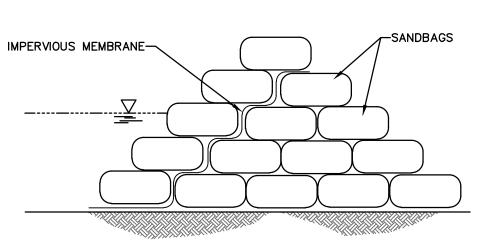
102.4(B)(5)(XIV) EROSION CONTROL PLAN MUST BE CONSISTENT WITH THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

ALL DISTURBED AREAS WILL BE RETURNED TO APPROXIMATE ORIGINAL CONTOURS AND PRE-CONSTRUCTION COVER CONDITIONS; THEREFORE, A POST CONSTRUCTION STORMWATER MANAGEMENT PLAN IS NOT REQUIRED.

102.4(B)(5)(XV) IDENTIFICATION OF EXISTING AND PROPOSED RIPARIAN FOREST BUFFERS

NO EXISTING OR PROPOSED RIPARIAN FOREST BUFFERS ARE PRESENT ONSITE.

CONCLUSION
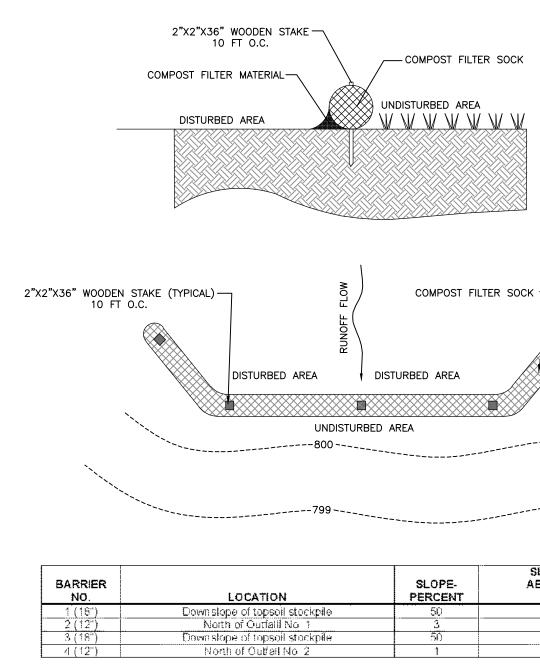
THE EROSION AND SEDIMENTATION CONTROL PLAN HAS BEEN DEVELOPED TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE; MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION TO THE EXTENT PRACTICAL; MINIMIZE SOIL COMPACTION TO EXTENT PRACTICAL AND IMPLEMENT BMPS TO PREVENT OR MINIMIZE THE GENERATION OF INCREASED STORMWATER RUNOFF.

2"X2"X36" WOODEN STAKE 10 FT O.C.
COMPOST FILTER SOCK
COMPOST FILTER MATERIAL
DISTURBED AREA
UNDISTURBED AREA

IMPERVIOUS MEMBRANE
SANDBAGS

NOTE: 2 BAG MIN. HEIGHT ABOVE NORMAL BASE FLOW

Sandbag Diversion Dam Detail
N. T. S.

2"X2"X36" WOODEN STAKE (TYPICAL) 10 FT O.C.
COMPOST FILTER SOCK
RUNOFF FLOW
DISTURBED AREA
DISTURBED AREA
UNDISTURBED AREA
—800—
—799—

BARRIER NO.	LOCATION	SLOPE-PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
1 (18")	Down slope of topsoil stockpile	50	35
2 (12")	North of Outfall No. 1	3	72
3 (18")	Down slope of topsoil stockpile	50	55
4 (12")	North of Outfall No. 2	1	295

NOTES:

1. SOCK FABRIC SHALL MEET THE STANDARDS OF TABLE 4.1 (PAGE 63 OF THE PADEP EROSION AND SEDIMENT POLLUTION CONTROL MANUAL MARCH 2012).

2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.

3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED AS STATED IN THE RECYCLING AND DISPOSAL OF MATERIALS SECTION OF THE REPORT.

5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS. PHOTODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER ONE YEAR.

7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCKS MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IF LEFT IN PLACE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

8. COMPOST FILTER SOCKS PLACED ON PAVED SURFACE OR SURFACES THAT CANNOT BE STAKED SHALL BE BACKED WITH CONCRETE BLOCK.

Table 4.1
Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Two-ply systems	
Inner Containment Netting	HDPE biaxial net / Continuously wound / Fusion-welded junctures / 3/4" X 3/4" Max. aperture size
Outer Filtration Mesh	Composite Polypropylene Fabric (Woven layer and non-woven fleece Mechanically fused via needle punch) / 3/16" Max. aperture size

Sock fabrics composed of burlap may be used on projects lasting 6 months or less.

Table 4.2
Compost Standards

Organic Matter Content	25% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.5
Moisture Content	30% - 60%
Particle Size	30% - 50% pass through 3/8" sieve
Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum
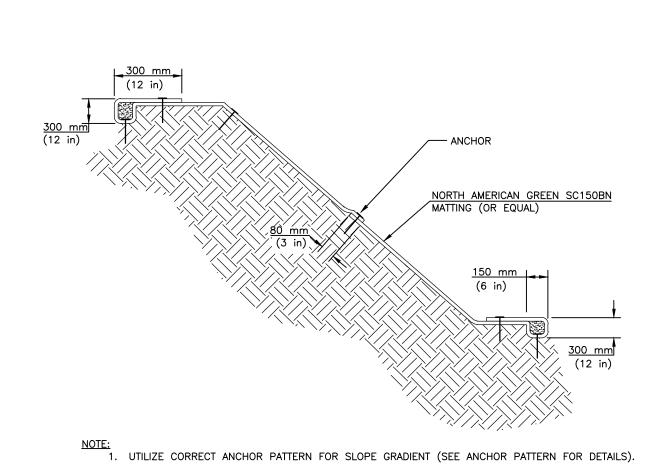
COMPOST FILTER SOCK
N. T. S.

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24 IN. MIN.
STANDARD COMPACTED BACKFILL
FULL TRENCH DEPTH
STACKED CLAY, BENTONITE OR CONCRETE-FILLED SACKS

SECTION VIEW

TRENCH PLUG SPACING (L)
TRENCH PLUG
SLOPE
PIPELINE
PIPE INVERT
PIPE BEDDING
TRENCH BOTTOM

PROFILE VIEW

PA DEP EROSION CONTROL MANUAL TABLE 13.1
MAXIMUM SPACING AND MATERIALS FOR TRENCH PLUGS

TRENCH SLOPE (%)	SPACING L (FT)	PLUG MATERIAL
< 5	1000	CLAY, BENTONITE, OR CONCRETE FILLED SACKS
5 – 15	500	CLAY, BENTONITE, OR CONCRETE FILLED SACKS
15 – 25	300	CLAY, BENTONITE, OR CONCRETE FILLED SACKS
25 – 35	200	CLAY, BENTONITE, OR CONCRETE FILLED SACKS
35 – 100	100	CLAY, BENTONITE, OR CONCRETE FILLED SACKS
> 100	50	CEMENT BAGS (WETTED) OR MORTARED STONE

* TOPSOIL MAY NOT BE USED TO FILL SACKS

NOTES:

IMPERVIOUS TRENCH PLUGS ARE REQUIRED FOR ALL STREAM, RIVER, WETLAND, OR OTHER WATER BODY CROSSINGS.

STANDARD CONSTRUCTION DETAIL #13-4
TRENCH PLUG INSTALLATION
NOT TO SCALE

TEMPORARY SEED MIXTURE (ALL AREAS)

FORMULA AND SPECIES	% BY WEIGHT	MINIMUM % Purity	MINIMUM % Germination	MAX % Weed Seed	SEEDING RATE LBS. PER 1000 SY
FORMULA E					
• RYEGRASS VAR. KENTUCKY)	100	98	90	0.15	10.0

SPREAD SEED AS FOLLOWS:
FORMULA E – MARCH 15 TO OCTOBER 15

SEEDING FORMULA MUST COMPLY WITH PaDOT FORM 408, SECTION 804

PERMANENT SEED MIXTURE (LAWN/YARD AREAS)

FORMULA AND SPECIES	% BY WEIGHT	MINIMUM % Purity	MINIMUM % Germination	MAX % Weed Seed	SEEDING RATE LBS. PER 1000 SY
FORMULA B					
• PERENNIAL RYEGRASS MIXTURE	20	98	90	0.15	21.0 TOTAL
• CREEPING RED FESCUE OR CHEWING FESCUE	30	98	85	0.15	4.0
• KENTUCKY BLUEGRASS MIXTURE	50	98	80	0.20	11.0

SPREAD SEED AS FOLLOWS:
FORMULA B – MARCH 15 TO JUNE 1
AUGUST 1 TO OCTOBER 15

SEEDING FORMULA MUST COMPLY WITH PaDOT FORM 408, SECTION 804

PERMANENT SEED MIXTURE (NON–LAWN/YARD AREAS)

FORMULA AND SPECIES	% BY WEIGHT	MINIMUM % Purity	MINIMUM % Germination	MAX % Weed Seed	SEEDING RATE LBS. PER 1000 SY
FORMULA W, MODIFIED (Slopes > 3 to 1)					35.1 TOTAL
• ANNUAL RYEGRASS MIXTURE	10	99	90	0.15	1.45
• HARD FESCUE MIXTURE (FESTUCA LONGIFOLIA) A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL HARD FESCUE COMPONENT	40	97	85	0.10	26.40
• BIRDSFOOT TREFOIL, MIXTURE (LOTUS CORNICULATUS) A MIXTURE OF 1/2 VIKING AND 1/2 OF EITHER EMPIRE, NORCEN, OR LEO.	40		80*	0.15	5.80
• REDTOP (AGROSTIS ALBA)	10	92	80	0.15	1.45
FORMULA D (Slopes < 3 to 1)					32.4 TOTAL
• HARD FESCUE MIXTURE (FESTUCA LONGIFOLIA) A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL HARD FESCUE COMPONENT	70	97	85	0.10	26.40
• CREEPING RED FESCUE OR CHEWING FESCUE	30	98	85	0.15	6.0

SPREAD SEED AS FOLLOWS:
FORMULA W – APRIL 1 TO JUNE 15
AUGUST 16 TO SEPTEMBER 15
FORMULA D – MARCH 15 TO JUNE 1
AUGUST 1 TO OCTOBER 15

SEEDING FORMULA MUST COMPLY WITH PaDOT FORM 408, SECTION 804

MULCHES

HAY: TIMOTHY HAY, MIXED CLOVER AND TIMOTHY HAY, OR OTHER ACCEPTABLE NATIVE OR FORAGE GRASSES, WELL-CURED TO LESS THAN 20% MOISTURE CONTENT, BY WEIGHT.

STRAW: EITHER WHEAT OR OAT STRAW, REASONABLY FREE OF VIABLE SEED, WELL-CURED TO LESS THAN 20% MOISTURE CONTENT, BY WEIGHT.

PLACE MULCH IMMEDIATELY AFTER SEEDING OR WITHIN 48 HOURS AFTER SEEDING IS COMPLETED. PLACE HAY OR STRAW UNIFORMLY, IN A CONTINUOUS BLANKET, AT A MINIMUM RATE OF 1200 POUNDS PER 1000 SQ. YDS. (3 TON PER ACRE). A MULCH BINDER SHALL BE APPLIED ON ALL SLOPES GREATER THAN 3:1. THE MULCH BINDER SHALL BE RECYCLED CELLULOSE FIBER CONFORMING TO PaDOT FORM 408, SECTION 805.2(b). THE APPLICATION RATE FOR THE RECYCLED CELLULOSE FIBER BINDER SHALL BE 160 lbs/1,000 SQ. YDS.

MULCH MUST COMPLY WITH PaDOT FORM 408, SECTION 805

FERTILIZER AND LIME

FERTILIZER: APPLY FERTILIZER OF ANALYSIS 10–10–10 AT A RATE OF 500LBS PER ACRE FOR TEMPORARY SEEDING APPLICATIONS. APPLY FERTILIZER OF ANALYSIS 10–20–20 AT A RATE OF 900–1000 POUNDS PER ACRE FOR PERMANENT APPLICATIONS. LIME: APPLY AGRICULTURAL LIMESTONE AT A RATE OF 1 TON PER ACRE FOR TEMPORARY SEED MIXTURES AND 6 TONS PER ACRE FOR PERMANENT SEED MIXTURES.

NOTES:

1. ABOVE RATES MAY VARY IF SOIL TEST COMPLETED.

2. ALL LAWN AREAS SHALL HAVE A MINIMUM OF 4" TOPSOIL INSTALLED.

SEEDING CHART
N. T. S.

COMMONWEALTH
REGISTERED PROFESSIONAL ENGINEER
KEVIN ALLEN BRETT
PENNSYLVANIA

STANDARD CONSTRUCTION DETAIL #9-2
RIPRAP APRON AT PIPE OUTLET
NO FLARED ENDWALL
NOT TO SCALE

PLAN VIEW

SECTION A-A

OUTFALL	3Do (ft)	La (ft)	W (ft)	Tailwater Conditions	Rip-Rap	Thickness (ft)
1	6	9	10	Maximum	R-5	2.25
2	5	19	12	Maximum	R-5	2.25

NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.
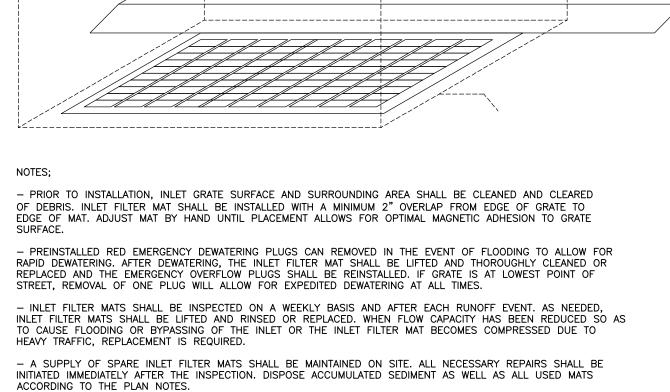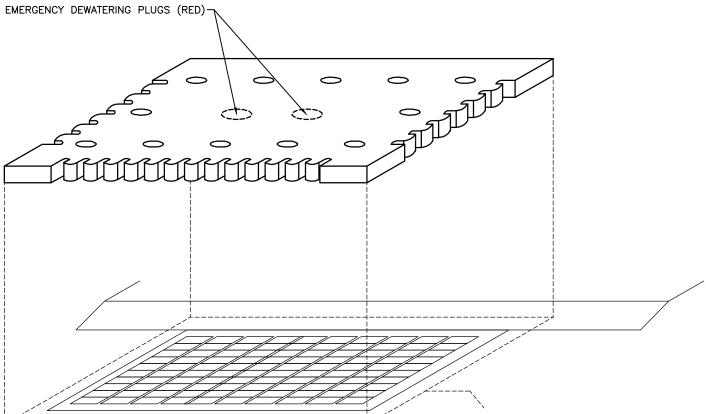
STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE

PROFILE

PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

CONCRETE WASHOUT AREA
N. T. S.

SECTION A-A
N. T. S.

NOTES:

1. INSTALL ON FLAT GRADE WHERE POSSIBLE.

2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

SLOPE STABILIZATION FABRIC
N. T. S.

NOTE:

1. UTILIZE CORRECT ANCHOR PATTERN FOR SLOPE GRADIENT (SEE ANCHOR PATTERN FOR DETAILS).

2. INSTALL NORTH AMERICAN GREEN SC150BN MAT (OR EQUAL) AND SOIL FILL.

3. ALL CUT AND FILL SLOPES SHALL BE REDRESSED WITH TOPSOIL PRIOR TO BLANKET INSTALLATION.

4. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

5. PROVIDE ANCHOR TRENCH AT THE TOE OF SLOPE IN SIMILAR FASHION AS AT THE TOP OF SLOPE.

6. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS

7. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH THE UNDERLYING SOIL THROUGHOUT THE ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH BLANKET.

8. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

9. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN FOUR (4) CALENDAR DAYS.

Blackhawk Inlet Filter Mat - Type M 2'x4'
N. T. S.

EMERGENCY DEWATERING PLUGS (RED)

NOTES:

– PRIOR TO INSTALLATION, INLET GRATE SURFACE AND SURROUNDING AREA SHALL BE CLEANED AND CLEARED OF DEBRIS. INLET FILTER MAT SHALL BE INSTALLED WITH A MINIMUM 2" OVERLAP FROM EDGE OF GRATE TO EDGE OF MAT. ADJUST MAT IF NEEDED UNTIL PLACEMENT ALLOWS FOR OPTIMAL MAGNETIC ADHESION TO GRATE SURFACE.

– PREINSTALLED RED EMERGENCY DEWATERING PLUGS CAN REMOVED IN THE EVENT OF FLOODING TO ALLOW FOR RAPID DEWATERING. AFTER DEWATERING, THE INLET FILTER MAT SHALL BE LIFTED AND THOROUGHLY CLEANED OR REPLACED AND THE EMERGENCY OVERFLOW PLUGS SHALL BE REINSTALLED. IF GRATE IS AT LOWEST POINT OF STREET, REMOVAL OF ONE PLUG WILL ALLOW FOR EXPEDITED DEWATERING AT ALL TIMES.

– INLET FILTER MATS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. AS NEEDED, INLET FILTER MATS SHALL BE LIFTED AND RINSED OR REPLACED. WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET OR THE INLET FILTER MAT BECOMES COMPRESSED DUE TO HEAVY TRAFFIC, REPLACEMENT IS REQUIRED.

– A SUPPLY OF SPARE INLET FILTER MATS SHALL BE MAINTAINED ON SITE. ALL NECESSARY REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED MATS ACCORDING TO THE PLAN NOTES.

– INLET FILTER MATS ARE MADE FROM A COMPOSTABLE COCONUT COIR. MAGNETS ARE RUBBER WITH FERROUS OXIDE SIZES OF GRATES CAN VARY. INLET FILTER MAT CAN BE CUSTOM FIT ACCORDING TO APPLICATION

PLAN VIEW

ELEVATION VIEW

WELL VEGETATED, GRASSY AREA

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG
NOT TO SCALE

No.	Date	Description	By	No.	Date	Description	By	No.	Date	Description	By

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
KEVIN ALLEN BRETT

TRAINING

New Sewickley
Board of Supervisors

Annual MS4 Update

SEPTEMBER 5, 2023

LSSE
Civil Engineers and Surveyors

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Agenda:**
  - Permit Overview
  - Annual MS4 Tasks
    - Stormwater Management Program (Minimum Control Measures)
  - PADEP Compliance Evaluation
    - Annual Report
    - DEP Inspection
  - Pollutant Reduction Plans
  - Permit Renewal

LSSE
Civil Engineers and Surveyors

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Permit Overview – NPDES Permit for Stormwater Discharges from Small MS4s**
  - ○ Municipal Separate Storm Sewer System (MS4) - Permit applies to stormwater infrastructure that is:
    - Used for collecting and/or conveying stormwater
    - Owned by a municipality or any other public body
    - Not used as a combined sewer
    - Not part of Publicly Owned Treatment Works (i.e. sewage treatment plant)
  - ○ NPDES MS4 Permit authorizes discharge of stormwater from the MS4 to Waters of the Commonwealth
  - ○ NPDES MS4 Permit issued by PADEP in Pennsylvania. The program is administered nationally by EPA.
  - ○ Primary goal of the permit: Protecting water quality and limiting stormwater pollution

LSSE
Civil Engineers and Surveyors

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Annual MS4 Tasks**
  - ○ Update and Implement Stormwater Management Program (Written Plan) addressing each MCM:
    - MCM #1 - Public Education and Outreach on Stormwater Impacts
    - MCM #2 - Public Involvement/Participation
    - MCM #3 - Illicit Discharge Detection and Elimination
    - MCM #4 - Construction Site Stormwater Runoff Control
    - MCM #5 - Post-Construction Stormwater Management (PCSM) in New and Re-Development Activities
    - MCM #6 - Pollution Prevention/Good Housekeeping
  - ○ The Stormwater Management Program must:
    - Reduce the discharge of pollutants from the MS4 to the maximum extent practicable,
    - Protect water quality, and
    - Satisfy appropriate water quality requirements of the Clean Water Act and the Pennsylvania Clean Streams Law

LSSE
Civil Engineers and Surveyors

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Annual Reports**
  - Due September 30 of each year
  - Self reporting on progress made for each MCM, along with PRP and PCM progress
  - $500 renewal fee due annually

- **DEP or EPA Inspections**
  - DEP Inspects each permittee at least once every 5 years
  - Inspections for 2018 Permit are underway (completed in 2021)
    - Office Review - Thorough review of written plans and documentation of compliance with required Minimum Control Measures. Documentation of all MS4 related activities (event flyers, distributed materials, work logs, complaint resolution tracking, outfall screening etc.)
    - Field Review – Evaluation of municipal facilities including Public Works yard, garage, salt storage and other facilities. Field review of BMPs and outfalls

LSSE Civil Engineers and Surveyors

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Pollutant Reduction Plans (PRPs) were developed in 2017 and submitted to PADEP to meet the following requirements:**
  - The following reductions must be achieve within 5 years of permit issuance (March 2023 for General Permits):
    - Achieve 10% reduction in pollutant loading of sediment
    - Achieve 5% reduction in pollutant loading of total phosphorus

- **Each Annual Report will include documentation and supporting calculations for reductions achieved through implementation of the Pollutant Reduction Plan.**

- **PRPs approved by PADEP established:**
  - Total pollutant loading required to be addressed in permit term
  - Potential BMPs to be constructed to achieve required pollutant reduction goals.

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MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Structural BMPs – Extended Detention/Infiltration/Filtration Basin – New Construction or Retrofit of existing facilities**
  - Green Valley Park
    - Construction Completed
  - Willowmere Park
    - Design completed
    - Project to be bid fall 2023 upon grant award notices

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MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

- **Permit Renewal**
  - Current Permit expires March 2025
    - DEP issued Notice - General Permits extended 2 years (previously set to expire March 2023)
      - Township to continue with annual tasks in this 2 years (Outfall Testing, BMP Reviews, Training, etc.)
    - Notice of Intent not required as long as Annual Progress Report is submitted each September unless otherwise directed by DEP
    - Coverage under current Permit will renew unless otherwise notified by DEP
    - DEP has not issued any information regarding future PRP Requirements

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