



ROSS TOWNSHIP

Allegheny County, Pennsylvania

Ross Township Municipal Separate Storm Sewer System (MS4)

POLLUTANT REDUCTION PLAN Girty's Run Sewershed

**Ross Township, Allegheny County, Pennsylvania
(NPDES Permit No. PAG136221)**

Situated In
Allegheny County, Pennsylvania

Prepared For:
Ross Township Board of Commissioners
1000 Ross Municipal Drive
Pittsburgh, PA 15237

September 2017
Prepared By: The Gateway Engineers, Inc.

November 2024
Revised By: Gibson-Thomas Engineering, Co., Inc.



Pollutant Reduction Plan: Girty's Run Sewershed

Ross Township, Allegheny County, Pennsylvania

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1. Executive Summary

The Ross Township Pollutant Reduction Plan (PRP) was prepared as required by the Commonwealth of Pennsylvania's Department of Environmental Protection (PA DEP) as part of Ross Township's National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from small Municipal Separate Storm Sewer Systems (MS4) into Waters of the Commonwealth impaired by siltation and/or nutrients as determined in the PA DEP report entitled "Pennsylvania Integrated Water Quality Monitoring and Assessment Report (2014)."

Waters of the Commonwealth impaired by siltation and/or nutrients within Ross Township that also receive stormwater discharge from the Township's MS4 include the following along with their impairments:

Water of the Commonwealth	Impairment(s)
Girty's Run and its unnamed tributaries	Nutrients
Harts Run	Nutrients & Siltation
Little Pine Creek and its unnamed tributaries	Nutrients & Siltation
Nelson Run and its unnamed tributaries	Nutrients
UNT to Ohio River	Nutrients & Siltation
Spruce Run and its unnamed tributaries	Nutrients & Siltation
McKnight Run	Nutrients

Pollutant Reduction Plans were originally prepared by The Gateway Engineers and approved by the PA DEP in 2018 for four HUC12 watersheds in which the Township lies that were identified in 2018 as impaired by siltation and/or nutrients. These HUC12 watersheds include Girty's Run, Kilbuck Run-Ohio River, Little Pine Creek and Lowries Run. Each PRP was developed as an independent document. However, the Township is required to fully implement each PRP to be fully compliant with its MS4 permit. This PRP specifically addresses the Girty's Run watershed.

Streams identified as impaired within the Girty's Run HUC12 watershed within Ross Township include Girty's Run and its unnamed tributaries, McKnight Run, and Nelson Run and its unnamed tributaries. All of these streams have been identified by the above referenced water quality report as impaired by nutrients, but not by siltation/sedimentation.

Planning areas that incorporate all MS4 sewersheds to each of the impaired waterways within the Girty's Run watershed were delineated based on available LiDAR topographic mapping from PA DCNR and most up-to-date separate storm system mapping. The total combined MS4 sewershed area evaluated for these impaired streams is 2,101 acres. Existing Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP) loading rates into each impaired waterway based on types and areas of land uses present within each sewershed area were then calculated. The Township's MS4 permit mandates that TSS loads from MS4 planning areas for waterways impaired by siltation must be reduced by at least 10% and TP loads from MS4 planning areas for waterways impaired by nutrients must be reduced by at least 5%. These reductions were to be fully achieved by March 2023.

The previously approved PRP was designed using the MapShed method for determining pollutant loads. The approved PRP divided the Girty's Run HUC12 watershed within Ross Township into the Girty's Run main channel and its unnamed tributaries, McKnight Run and its unnamed tributaries and Nelson Run and its unnamed tributaries. As the Girty's Run watershed is impaired by nutrients and not by TSS, only TP loads were reported. The total MS4 planning area for all three of these subwatersheds was 4,994 acres. The total TP load for the MS4 planning area was reported to be 487.9 pounds per year (lb/yr). Therefore, the total minimum required TP load reduction was 24.4 lb/yr. In order to meet this minimum TP load reduction, the approved PRP recommended the installation of water quality filters in 55 inlets within the MS4 planning areas for Girty's Run, the construction of four new stormwater management ponds (either as dry basins, infiltration basins, or some combination of each type), and the sweeping of 59,600 feet of streets within the MS4 planning areas at a minimum frequency of 25 times per year. The implementation of all of these structural and non-structural stormwater best management practices (BMPs) would provide a TP load reduction of at least 30.7 lb/yr.

The 55 inlet water quality filters proposed in the approved PRP accounted for 25.6 lb/yr of TP removal, which represents over 80% of the TP load reduction credits. As the Township began to implement the approved PRP, it became apparent to the Township the impracticalities and difficulties that would be encountered both short-term and long-term with the use of a large number of water quality inserts installed in inlets throughout the Girty's Run MS4 planning areas. Problems encountered included the following:

1. Being able to identify the appropriate inlets for these filters based on inlet size and depth, inlet location, inlet drainage area, inlet structural condition, and configuration and depths of pipes entering and exiting the inlet boxes.
2. Proper fit of the water quality filter frames inside the inlet - specifically such that the tops of the inlet grates will not protrude above the inlet frames with the filter frames in place underneath, giving the Township concern of snow plow blades hitting the protruding grates and causing damage to the inlets and the snow plow blades.
3. Concern about the water quality filters clogging with debris causing on-street drainage backups and safety concerns for roadway users.
4. Costs associated with constant replacement of filter cartridges and the amount of waste generated from disposal of the spent cartridges.

Due to these issues, the Township elected to revise its Girty's Run PRP to find alternative BMPs to the water quality inserts. This PRP is the result of the Township's efforts.

This revised PRP first re-delineated all MS4 sewersheds within the Girty's Run HUC12 watershed within the Township based on the latest MS4 mapping and parsed out areas of the Township where storm sewers were privately owned such as for commercial and institutional developments or PennDOT-owned to define an updated MS4 planning area. The existing loads for TP were then calculated based on the DEP Simplified Method of assigning TP loading rates for three basic types of land use – developed impervious, developed pervious and undeveloped. The USGS National Land Cover Database, 2021 release, was utilized to quantify the different land cover types within the MS4 planning area. The different land cover categories within the MS4 planning area were then distilled down into the three basic land uses in the Simplified Method and the TP loads were calculated for the resulting total areas of the three basic land uses. The total MS4 planning area delineated and measured for the Girty's Run HUC12 watershed within the Township is 2,101 acres. The resultant existing TP load from this MS4 planning area was found to be 123.5 lb/yr.

In order to develop a plan for meeting the minimum TP load reduction, a desktop analysis was conducted to identify potential sites for structural BMPs. Preliminary site identification criteria included the availability of open spaces, the capacity of the sites to intercept and collect MS4 discharges, drainage areas to those sites and topography of the sites being amenable for hosting structural BMPs. Nearly a dozen sites were identified in the preliminary desktop analysis. For each of those sites, the drainage area to the structural BMP in the site was delineated and the existing TP load was calculated for that drainage area using the 2021 NLDC data and the Simplified Method. The TP load reduction for the BMP at the site was then determined from the DEP's BMP Effectiveness Values for MS4 BMPs. Field views were then conducted for a number of identified sites, plus several alternative sites, that collectively meet or exceed the minimum required TP load reduction to determine any physical or permitting hindrances to constructing BMPs on those sites. Based on this investigation, it is recommended that three new bioretention BMPs – at Evergreen Park, Hillcrest Ave/Marie Dr and Thompson Dr – and one existing pond retrofit at the Ross Township municipal campus will provide a TP load reduction of 123 lb/yr which meets the minimum TP load reduction calculated for Girty's Run. In the event that any of these recommended BMPs cannot be implemented because of such issues as land acquisition, permitting, etc., several alternate BMPs have been identified in this report. These include a new stormwater BMP at Country Lane, a new stormwater filtration vault at the Evergreen VFD parking lot and stream restoration for an unnamed tributary to Girty's Run near North Hills High School. With the retrofit of the stormwater pond at the Township municipal building having been completed, the total construction cost for the three remaining recommended BMPs to be completed is estimated to be \$970,000.

2. General Permit Information

Table 1: General MS4 Permit Information

Permittee Name:	Ross Township	NPDES Permit No:	PAG136221
Mailing Address:	1000 Ross Municipal Road	Effective Date:	March 18, 2018
City, State, Zip	Pittsburgh, PA 15237	Expiration Date:	March 15, 2025
MS4 Contact Person:	Michael Funk	Renewal Date:	
Title:	Director of Public Works	Municipality:	Ross Township
Phone:	412-931-3956	County:	Allegheny
Email:	mfunk@ross.pa.us	Consultant Name:	Gibson-Thomas Engineering Co., Inc.
Permittee Web Address:	http://www.ross.pa.us	Consultant Contact Information:	1004 Ligonier Street Latrobe, PA 15650 724-539-8562 Attn: Doug Siler, P.E.

3. Pollutants of Concern

Girty's Run Watershed Background

The Girty's Run Watershed is categorized as a Hydrologic Unit Code (HUC) 12 watershed based on a nested six-level hierarchy system developed by the United States Geologic Survey (USGS) for drainage areas throughout the United States that forms a national Watershed Boundary Dataset. This hierarchy system, which uses a 2-digit identification number for each level within the hierarchy, can be used to identify the watershed for any location within the country by the HUC of that location, with HUC2 watersheds being the broadest ($>100,000$ sq mi) and HUC12 watersheds being the smallest ($<40,000$ ac). Within the Southwestern region of Pennsylvania, these HUC12 watersheds are tributaries to either the Ohio, Monongahela, Allegheny, or Youghiogheny Rivers. The Girty's Run Watershed is a tributary to the Allegheny River. On a smaller scale, there are then numerous smaller watersheds that are tributaries to Girty's Run. These small watersheds include McKnight Run 6670, Nelson Run 6847, and Girty's Run 6654. Within the Girty's Run HUC12 watershed, there are several impaired streams that include Girty's Run (main stem and its unnamed tributaries), McKnight Run, and Nelson Run (and its unnamed tributaries). Each of these streams is impaired by organic enrichment and nutrients.

4. Determining Existing Loading for Pollutants of Concern

The original approved Girty's Run Pollutant Reduction Plan used the entirety of the HUC12 watershed boundary for the Girty's Run Sewershed area. PennDOT and Allegheny County rights-of-way were parsed out as part of the sewershed delineation. From there, Total Suspended Solids and Total Phosphorus loads were calculated using the MapShed watershed modelling software tool. The Girty's Run plan includes Girty's Run, McKnight Run and Nelson Run watershed areas.

For the updated 2024 Pollutant Reduction Plan, drainage areas were delineated based on outfalls that drain into Ross Township's MS4 system. From there, the TSS and TP loads were calculated for impaired sewershed areas, using the PADEP Simplified Method land use loading rates. PennDOT and Allegheny County rights-of-way as well as privately-owned commercial and institutional properties whose storm sewers are not owned by the Township were parsed out as part of the sewershed delineations.

The PADEP Simplified Method was implemented in determination of existing pollutant loading. Mapping of regulated MS4 infrastructure is based on GIS mapping of the Township's MS4 information that was updated as recently as June 2024. Topographic data used for MS4 sewershed delineations was taken from the PA DCNR LiDAR contour data from 2006. Land cover information for determining land cover types and areas within each MS4 sewershed was taken from the USGS National Land Cover Database (NLCD), dated 2021.

Storm sewer tributary watershed areas were calculated using mapping presented in Girty's Run Land Use Areas Map and 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.

ArcPro GIS software was used to tabulate the land cover composition of each individual MS4 sewershed based on NLCD data. NLCD defines the following categories of developed land cover:

- **Open Water** - areas of open water, generally with less than 25% cover of vegetation or soil.
- **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.
- **Evergreen 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 maintain their leaves all year. Canopy is never without green foliage.
- **Mixed Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.
- **Shrub/Scrub** - areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.
- **Grassland/Herbaceous** - areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.

- **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.
- **Cultivated Crops** - areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.

Land Cover categories were converted to impervious and pervious areas to allow for application of the Simplified Method pollutant 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.

Table 2: Impervious and Pervious Land Cover

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

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

Following determination of impervious and pervious cover for each storm sewershed, pollutant loads were applied based on the values presented in Attachment B of the PADEP PRP Instructions, Developed Land Loading Rates for PA Counties. As Ross Township is located in Allegheny County, loadings listed for "All Other Counties" were used as noted in the following table:

Table 3: Pollutant Loading Rates by Land Cover Type

Land Cover Type	Total Nitrogen (lb/acre/yr)	Total Phosphorus (lb/acre/yr)	Total Sediments (lb/acre/yr)
Developed Impervious	1839	2.28	1,839
Developed Pervious	264.96	0.84	264.96
Undeveloped	234.6	0.33	234.6

Attachment C provides a complete tabulation of the storm sewershed associated with each regulated MS4 Outfall including land cover composition, impervious and pervious area acreages and the calculated existing annual sediment loading.

Girtys Run is not impaired for sediment, therefore no existing sediment loading calculations were performed for this watershed. The sewershed is impaired for nutrients and the existing nutrient loading is 2,469 pounds per year for Ross Township's regulated MS4.

Table 4: Girtys Run Sewershed Area Existing Pollutant Loads

Sewershed Area	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TP Load (lb/yr)	TSS Load (lb/yr)
Girtys Run	1,466	436	849	181	1,767	1,069,507
McKnight Run	240	103	88	49	325	224,021
Nelson Run	395	79	181	135	377	225,219
Girtys Run	2,101	618	1,118	365	2,469	1,518,747

Table 5: Existing Pollutant Loads within Impaired Girtys Run Sewershed Areas

Sewershed Area	TP Load (lb/yr)	TSS Load (lb/yr)
Girtys Run	2,469	-
Load Reduction Percentage	5%	10%
Minimum Load Reduction	123.5	-

5. Selection of BMPs to Achieve Required Reductions in Pollutant Loading

A reduction of 5% of the existing nutrient loading is required. Based on an existing nutrient loading of 2,469 pounds per year, the Township minimum pollutant reduction is 123 pounds per year.

The Township will implement BMPs during the PRP period to achieve the required reduction. The Township intends to implement a combination of BMPs during this permit period as described below. Calculations have been provided to demonstrate feasibility of the pollutant reduction potential for each selected BMP option. These calculations assume that new and existing retrofits will utilize filtration practices to achieve pollutant reductions. As this PRP is intended to be a planning document, the final design of BMPs has not been completed. Existing field conditions, detailed surveys, geotechnical investigations and other information will dictate the type of BMPs selected to achieve pollutant reduction and the Township reserves the right to alter BMP types as needed in implementation of the PRP. For example, if infiltration testing yields favorable infiltration rates, infiltration practices may be implemented in lieu of the assumed filtration practices. At the time of final design, the BMP type that best suits the existing conditions will be selected. BMP name and description that may be implemented, as identified in the Chesapeake Bay Program Model are identified as follows:

Dry Extended Detention Basins - Dry extended detention (ED) basins are depressions created by excavation or berm construction that temporarily store runoff and release it slowly via surface flow or groundwater infiltration following storms. Dry ED basins are designed to dry out between storm events, in contrast with wet ponds, which contain standing water permanently. As such, they are similar in construction and function to dry detention basins, except that the duration of detention of stormwater is designed to be longer, theoretically improving treatment effectiveness.

Infiltration Practices w/ Sand or Vegetation - A depression to form an infiltration basin where sediment is trapped and water infiltrates the soil. No underdrains are associated with infiltration basins and trenches, because by definition these systems provide complete infiltration. Design specifications require infiltration basins and trenches to be built in good soil, they are not constructed on poor soils, such as C and D soil types. Engineers are required to test the soil before approval to build is issued. To receive credit over the longer term, jurisdictions must conduct yearly inspections to determine if the basin or trench is still infiltrating runoff

Filtering Practices - Practices that capture and temporarily store runoff and pass it through a filter bed of either sand or an organic media. There are various sand filter designs, such as above ground, below ground, perimeter, etc. An organic media filter uses another medium besides sand to enhance pollutant removal for many compounds due to the increased cation exchange capacity achieved by increasing the organic matter. These systems require yearly inspection and maintenance to receive pollutant reduction credit.

Bioretention/Rain Gardens - An excavated pit with engineered media, topsoil, mulch, and vegetation. These are planting areas installed in shallow basins in which the storm water runoff is temporarily ponded and then treated by filtering through the bed components, and through biological and biochemical reactions within the soil matrix and around the root zones of the plants.

Stream Restoration – Restoring a stream's ecological state through repairing its function and structure. Structures will be installed along the streams banks to create stabilization and habitat for aquatic life.

Girty's Run BMP Map provides a listing of proposed BMPs with corresponding locations. Attachment C provides a tabulation of tributary area and land covers to calculate exiting pollutant loading to the BMPs using the methodology described in Section 4, above.

The Girty's Run Sewershed area will consist of three (3) new stormwater ponds and one (1) existing stormwater pond retrofit. A new stormwater pond will be constructed between Hillcrest Avenue and Marie Drive in the Keown Heights Neighborhood. A new pond in this location will help control stormwater runoff that has created a visible drainage pathway from this residential area. The Keown Heights neighborhood is located directly off Babcock Boulevard and will manage approximately 61 acres of drainage. A system of new stormwater ponds will be constructed in the Evergreen Community Park to control excess stormwater runoff from the neighboring residential areas that border the park. The Evergreen Community Park is located directly off Babcock Boulevard and will manage approximately 37 acres of drainage. A new stormwater pond will be constructed near Thompson Drive, between Harden Court and Washington Drive. A new pond in this location will help control stormwater runoff that has created a visible drainage pathway from this residential area. This pond will manage approximately 93 acres of drainage. Lastly, Ross Township has recently retrofitted the existing detention pond at the Ross Township Municipal Building, located near the intersection of Babcock Boulevard and McKnight Road. This retrofit will manage approximately 15 acres.

Proposed BMPs:

<u>Recommended BMPs:</u>	<u>Drainage Area (acres)</u>
1. Hillcrest Avenue/Marie Drive New Stormwater Pond	60.73
2. Evergreen Park New Stormwater Ponds	37.03
3. Ross Township Municipal Building Existing Pond Retrofit (Complete)	14.89
4. Thompson Drive New Stormwater Pond	92.88

In the event that one or more of the above BMPs cannot be constructed, either due to land acquisition issues, difficulty in obtaining permits, significant conflicts with existing utilities, or other reasons, the following alternate BMPs may be used as substitutes in order for the minimum TP load reductions to be met:

Alternate BMPs:

5. Country Lane New Stormwater Pond	50.38
6. Evergreen VFD New Stormwater Filtration Vault	31.96
7. Stream Restoration of 500 LF of UNT to Girty's Run at North Hills High School	-

Table 6: Girty's Run BMP Load Reduction Summary

Proposed BMP	TP Load Reduction (lb/yr)	TSS Reduction (lb/yr)
Hillcrest Avenue/Marie Drive New Stormwater Pond	38.8	N/A
Evergreen Park New Stormwater Pond	27.0	N/A
Ross Township Municipal Building Stormwater Pond Retrofit	7.6	N/A
Thompson Drive New Stormwater Pond	55.6	N/A
BMP Load Reduction Total	129.0	N/A
Country Lane New Stormwater Pond (Alternate)	28.5	N/A
Evergreen VFD New Stormwater Filtration Vault (Alternate)	21.4	N/A
Stream Restoration of 500 LF of UNT to Girty's Run near NHHS	34.0	N/A
Minimum Load Reduction Requirement	123.5	N/A

BMP implementation consists of new BMPs to capture and treat runoff from existing developed areas. The above recommended BMPs were selected based on the drainage areas to the BMPs and a desktop analysis of each potential site based on availability of open space, the types and number of properties that each BMP is anticipated to affect, the capacity of the sites to intercept and collect MS4 discharges and the topography of the site to determine if the site is amendable for the construction of a BMP. Final design for new ponds will be dependent upon a closer on-site evaluation of field conditions including identification of the presence of wetlands and other environmentally sensitive areas, detailed surveys, locations of existing utilities, geotechnical investigations and other information.

6. Funding

As summarized above, the total anticipated cost for implementation is estimated at approximately \$1,050,000. The retrofit of the existing stormwater pond at the Township municipal building had an estimated cost of \$75,000. Therefore the cost of constructing the remaining recommended ponds is estimated to be \$970,000, or an annual budget of approximately \$194,000 through the 5-year permit period. Preliminary opinions of probable cost, as summarized above have been provided to establish initial budgeting ranges only. It is anticipated that final design and value engineering of each pollutant reduction BMP will impact final implementation cost. Note that it is the Township's intent to achieve the required pollutant reduction as cost-effectively as possible and the above noted budgets should not necessarily be considered final budgetary commitments to PRP implementation if savings can be achieved.

The Township will seek grant funding as opportunities are available. Such funding resources include DCED CFA Small Water and Sewer Projects, LSA Statewide grants and PA DEP Growing Greener. Additional funding can also be pursued through low interest PENVEST loans. To bridge any funding gaps, the Township can budget a portion of its annual general fund toward stormwater capital improvement projects.

Table 7: BMP Opinion of Probable Cost

BMP No.	BMP Description	Total
1	Evergreen Park New Stormwater Ponds	\$440,000
2	Hillcrest Avenue/Marie Drive New Stormwater Pond	\$268,000
3	Thompson Drive New Stormwater Pond	\$262,000
Total		\$970,000

7. Responsible Parties for Operation and Maintenance

South Fayette Township will be responsible for operation and maintenance of each proposed BMP. Detailed O&M Plans will be developed with the final design of each BMP. Typical O&M procedures are noted below. Routine inspections of all BMPs will be conducted annually and after rainfall events in excess of one inch.

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

1. Monitor accumulation of debris within structural BMPs.
2. Monitor the mulch layer in bio-filtration/rain gardens.
3. Monitor the condition of the filter media within the water quality filters.
4. Monitor growth of vegetation.

The following actions will be taken to help ensure the implemented BMPs are in working order:

1. Replace or repair facilities so as to function as intended.
2. Remove silt debris and trash accumulated within the BMP.
3. Disposal of collected silt, debris and trash in a manner which will not adversely affect the environment.
4. Replace eroded material and re-vegetate eroded areas.
5. Monitor the condition of the bio-filtration/rain garden areas. Remove and replace the mulch material every three years and additionally as needed. Remove and replace soils as necessary to function properly.
6. Replace dead and dying plantings within the bio-filtration/rain garden areas yearly.
7. When ponding of water is observed in the vicinity of infiltration or filtration BMPs, replace media as necessary to function as intended.

8. Public Participation

This Pollutant Reduction Plan is to be advertised in the Township's general circulation newspaper of record to solicit public comment. The advertisement will identify a 30-day comment period. A copy of proof of publication of the public notice is to be included as Attachment A-1. During the 30-day comment period, the draft PRP document will be available for public review and comment at the Township Office and on the Township's website. The PRP will also be on the agenda for receiving public comments at an upcoming regular monthly meeting of the Township Board of Commissioners. Any written comments received by the Township during the 30-day public comment period and oral comments made at the Township BOC public meeting will be documented in the final PRP and the comments will be incorporated into the final PRP as deemed necessary by the Township prior to the final PRP being submitted to the PA DEP for their review and approval.

Appendix A

PADEP PAG-13 General Permit for Stormwater Discharges from Small MS4s (NPDES PERMIT NO. PAG136221)



1 FEB 09 2018

Douglas Sample
Ross Township Allegheny County
1000 Ross Municipal Road
Pittsburgh, PA 15237-3102

Re: PAG-13 General Permit Approval
Ross Township Sewer System
NPDES Permit No. PAG136221
Authorization ID No. 1199865
Ross Township, Allegheny County

Dear Mr. Sample:

The Department of Environmental Protection (DEP) has reviewed your Notice of Intent (NOI) to operate under the PAG-13 General NPDES Permit and has determined that you are eligible for coverage under the statewide General Permit. Your permit is enclosed.

The statewide General Permit expires on March 15, 2023. **However, your coverage under the General Permit does not expire unless your coverage is revoked by DEP. A Notice of Intent (NOI) to renew your coverage is no longer required.** When the statewide General Permit is renewed, the permit will be published in the Pennsylvania Bulletin. Following publication of the final renewed General Permit, you must comply with the terms and conditions of the renewed General Permit or otherwise submit an application for an individual NPDES permit. You may submit an application for a waiver to DEP anytime during the term of your General Permit coverage if, due to changing circumstances, you become eligible for a waiver.

The General Permit contains numerous scheduled requirements that may apply to you. Please review DEP's "Summary of Scheduled Requirements" document, available at www.elibrary.dep.state.pa.us (select "Permit and Authorization Packages", "Clean Water", and "PAG-13 MS4 General Permit").

The submission of Annual MS4 Status Reports is required by the General Permit. You must submit the annual reports to the DEP office that approved your General Permit coverage by September 30th of each year to describe activities conducted under the General Permit during the period of July 1 – June 30. You must also submit the annual installment payment of \$500 to DEP's Bureau of Clean Water by September 30th of each year. The first annual report and annual payment is due by September 30, 2018. The first annual report will cover the period from the end of your last reporting period under the previous PAG-13 General Permit until June 30, 2018.

You are required to comply with the Pollutant Control Measures (PCMs) contained in Appendix(ces) (B and C) for the surface waters identified in DEP's MS4 Requirements Table (see www.dep.pa.gov/MS4). You are required to submit to DEP the following: 1) a storm

sewershed map for outfalls that discharge to the impaired surface waters; 2) an inventory of all suspected and known sources of the pollutant(s) of concern within the storm sewershed(s); and 3) a report documenting an investigation of each suspected source. Deadlines for submission of this documentation as attachments to future Annual MS4 Status Reports are established in the Appendices. You must also (enact an ordinance OR adopt an SOP) that requires proper management of animal wastes on property owned by the permittee. If an ordinance or SOP already exists that controls animal wastes, it must be attached to the first Annual MS4 Status Report due following the first year of coverage unless the ordinance or SOP was attached to the NOI for General Permit coverage). If a new ordinance or SOP is enacted or adopted, the new ordinance or SOP must be attached to the first Annual MS4 Status Report due following enactment or adoption, but no later than September 30, 2022.

DEP has reviewed your Pollutant Reduction Plan(s) and hereby approves the Plan(s) with the following conditions:

- You must provide tentative location(s) of stream restoration within the planning area, within one year of this approval.
- You must keep records on lane miles swept in the Planning Area for street sweeping.

If considering stream restoration as a BMP for meeting the required pollutant reduction, the municipality must follow the guidelines set in DEP's document titled "Considerations of Stream Restoration Projects" to ensure that your proposal is an eligible MS4 Best Management Practice. A PDF of the guidance can be accessed via the following link: <http://www.dep.pa.gov/Business/Water/CleanWater/StormwaterMgmt/Stormwater/Pages/default.aspx>. You should also consult the "Expert Panel Report" from September 18, 2014 accessible at the link: http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2013/05/stream-restoration-merged.pdf. Please note that failure to comply with the Department's Stream Restoration guidelines may disqualify your project as an acceptable pollutant reduction measure.

You are required to implement the load reduction requirements established in Appendix (Appendix E) of the General Permit within five years, and you must submit a report demonstrating that you have met these requirements as an attachment to the first Annual MS4 Status Report that is due following completion of the 5th year of General Permit coverage.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on

audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions, please contact Mahbuba Iasmin at 412.442.4102.

Sincerely,



Christopher Kriley, P.E.
Program Manager
Clean Water Program

Enclosures

cc: The Gateway Engineers
Regional Files
Central Office, Division of Operations, Monitoring and Data Systems
Operations

PAG-13

**AUTHORIZATION TO DISCHARGE UNDER THE
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
 SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
 APPROVAL OF COVERAGE**

NPDES PERMIT NO. PAG136221

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq.,

**Ross Township Allegheny County
 1000 Ross Municipal Road
 Pittsburgh, PA 15237-3102**

is authorized to discharge from a regulated small municipal separate storm sewer system (MS4) located in **Ross Township, Allegheny County** to **Nelson Run, Unnamed Tributary to Girty's Run, Spruce Run, Harts Run, Unnamed Tributary to Ohio River, Unnamed Tributary to Spruce Run, Little Pine Creek, Unnamed Tributary to Little Pine Creek, Unnamed Tributary of Ohio River, Unnamed Tributary to Nelson Run, Girty's Run, and McKnight Run** in Watershed(s) **20-G and 18-A** in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

APPROVAL OF COVERAGE TO DISCHARGE UNDER THIS GENERAL NPDES PERMIT IS AUTHORIZED BEGINNING ON March 16, 2018. WHEN THE GENERAL PERMIT IS RENEWED, REISSUED OR MODIFIED, THE FACILITY OR ACTIVITY COVERED BY THIS APPROVAL FOR COVERAGE MUST COMPLY WITH THE FINAL RENEWED, REISSUED OR MODIFIED GENERAL PERMIT.

The authority granted by coverage under this General Permit is subject to the following further qualifications:

1. The permittee shall comply with the effluent limitations and reporting requirements contained in this General Permit.
2. Following initial coverage under this General Permit, the submission of Annual MS4 Status Reports in accordance with Part A III.D of the General Permit shall constitute the permittee's Notice of Intent (NOI) for continued coverage under the General Permit. The permittee shall be responsible for complying with the final renewed, reissued or amended General Permit. If the permittee is unable to comply with the renewed or amended General Permit, the permittee must submit an application for an individual NPDES permit within 90 days of publication of the final General Permit.
3. The NOI and its supporting documents are incorporated into this approval of coverage. If there is a conflict between the NOI or its supporting documents and the terms and conditions of this General Permit, the terms and conditions of this General Permit shall apply.
4. Failure to comply with the terms, conditions, or effluent limitations of this General Permit is grounds for enforcement action, permit termination or revocation.
5. The permittee shall implement Pollutant Control Measures as specified in **Appendix (B and C)**.
6. The permittee shall achieve pollutant loading reductions for (**sediment, Total Phosphorus and/or Total Nitrogen**) as specified in **Appendix E** by March 15, 2023.

This approval of coverage is authorized by:



Christopher Kriley, P.E.
 Clean Water Program Manager
 South West Regional Office
 Department of Environmental Protection

PAG-13

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. (the "Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq., the Department of Environmental Protection (DEP) hereby authorizes, by this General Permit, the discharge of stormwater from regulated small municipal separate storm sewer systems (MS4s) to surface waters in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

Eligible dischargers who wish to be covered under this General Permit must submit a Notice of Intent (NOI) to DEP in accordance with the requirements of this General Permit, using the NOI form provided by DEP.

No new discharge may be commenced under this General Permit until the applicant complies with all of the following:

1. The applicant has submitted a complete Notice of Intent (NOI) in accordance with the requirements of this General Permit, using a NOI form provided by DEP.
2. The applicant has received a signed copy of the Approval of Coverage from DEP that authorizes coverage under the PAG-13 General Permit.

DEP may deny coverage under the PAG-13 General Permit and require submission of an application for an individual permit based on a review of the NOI or other relevant information, including monitoring data.

Once coverage is approved under the PAG-13 General Permit, coverage will continue when the PAG-13 General Permit is reissued, unless the permittee is otherwise notified by DEP. The submission each year of the Annual MS4 Status Report in accordance with Part A III.D of the General Permit shall constitute the permittee's NOI for continued coverage under the General Permit unless DEP notifies the permittee in writing that the submission of a new NOI is required.

SCOPE

The PAG-13 General Permit is intended to provide NPDES permit coverage to regulated small MS4s for discharges of stormwater to surface waters. Permittees operating under this General Permit have been either automatically designated as regulated by the U.S. Environmental Protection Agency (EPA) pursuant to 40 CFR § 122.32(a)(1) or designated as regulated by DEP under 40 CFR § 122.32(a)(2).

NOI REQUIREMENTS

Deadlines for NOI

MS4 permittees with existing NPDES permit coverage, MS4s that previously have been waived by DEP, and MS4s newly designated as a result of the 2010 census that are seeking coverage under this PAG-13 General Permit or a waiver must submit and DEP must receive an administratively complete and acceptable NOI by September 16, 2017. MS4s authorized to discharge under an individual NPDES permit who are seeking coverage under this General Permit may continue to discharge in accordance with the individual permit while their NOI and associated documents are being reviewed by DEP.

Contents of the NOI

The NOI shall be signed in accordance with the signatory requirements of this General Permit and shall contain the information required in the NOI form.

Where to Submit the NOI

An NOI is to be submitted to the regional office of DEP that has jurisdiction over the county where the MS4 is located.

DISCHARGES AUTHORIZED BY THIS GENERAL PERMIT

Except where specifically prohibited under the "Discharges Not Authorized by this General Permit" section, this General Permit authorizes the discharge of stormwater to surface waters from regulated small MS4s. In addition, the following non-stormwater discharges are authorized by this General Permit as long as such discharges do not cause or contribute to pollution as defined in Pennsylvania's Clean Streams Law:

1. Discharges or flows from firefighting activities.
2. Discharges from potable water sources including water line flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of Total Residual Chlorine (TRC).
3. Non-contaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.
4. Diverted stream flows and springs.
5. Non-contaminated pumped ground water and water from foundation and footing drains and crawl space pumps.
6. Non-contaminated HVAC condensation and water from geothermal systems.
7. Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.
8. Non-contaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

In the event existing outfall(s) are identified during the term of General Permit coverage that were not identified on maps submitted as part of the NOI (where required), the permittee shall identify the outfall(s) in the subsequent Annual MS4 Status Report that is submitted to the DEP office that approved permit coverage. In the event new stormwater outfalls are proposed, the permittee shall submit written notification to the DEP office that approved permit coverage at least 60 days prior to commencing a discharge, unless such discharges would meet one or more of the criteria specified in the "Discharges Not Authorized By This General Permit" section, in which case an individual permit application must be submitted and an individual permit obtained prior to commencing a discharge.

DISCHARGES NOT AUTHORIZED BY THIS GENERAL PERMIT

The following discharges are not authorized under the PAG-13 General Permit, and DEP may deny coverage under the General Permit when one or more of the following conditions exist:

1. The discharge, individually or in combination with other similar discharges, is or has the potential to be a contributor of pollution, as defined in the Pennsylvania Clean Streams Law, which is more appropriately controlled under an individual permit.
2. The discharger is not, or will not be, in compliance with one or more of the conditions of the General Permit.
3. The applicant has failed and continues to fail to comply or has shown a lack of ability or intention to comply with a regulation, permit, schedule of compliance or order issued by DEP.
4. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source.
5. Categorical point source effluent limitations are promulgated by the EPA for those point sources covered by the General Permit.
6. The discharge is not, or will not, result in compliance with an applicable effluent limitation or water quality standard.

7. Other point sources within the MS4 require issuance of an individual permit, and issuance of both an individual and a General Permit for the facility would constitute an undue administrative burden on DEP.
8. The discharge from the regulated small MS4 is or would be to a surface water classified as a High Quality (HQ) or an Exceptional Value (EV) water under 25 Pa. Code Chapter 93 (relating to Water Quality Standards).
9. The discharge contains toxic or hazardous pollutants, or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population, or pose a substantial present or future hazard to human health or the environment when discharged into surface waters.
10. The discharge individually or cumulatively has the potential to cause significant adverse environmental impact or have been determined by DEP to have caused impairment to the surface waters receiving the discharge(s).
11. The discharge would adversely affect a listed endangered or threatened species or its critical habitat.
12. The MS4 is covered by an individual permit, and coverage under this General Permit would result in less stringent effluent limitations or terms and conditions.
13. DEP determines that the denial of coverage is necessary for any other reason to ensure compliance with the Federal Clean Water Act, the Pennsylvania Clean Streams Law or DEP regulations.
14. The regulated MS4 is a large or medium MS4 as defined in 40 CFR §§ 122.26(b)(4) or (7).
15. The permittee is implementing a local or tribal Qualifying Local Program (QLP) pursuant to 40 CFR 122.44(s) that is not the state's program as outlined in 25 Pa. Code Chapter 102.
16. The regulated small MS4 is assigned a wasteload allocation (WLA) (either specific to the MS4 or general) in a Total Maximum Daily Load (TMDL) approved by the U.S. Environmental Protection Agency (EPA) for local surface waters, where the pollutant(s) of concern are nutrients (i.e., nitrogen and/or phosphorus) and/or sediment (i.e., siltation or total suspended solids), and the MS4 is identified in the "MS4 Requirements Table" (see definitions) as needing to complete a TMDL Plan.
17. The regulated small MS4 1) discharges to waters impaired for nutrients and/or sediment without an EPA-approved TMDL or discharges to the Chesapeake Bay watershed; 2) is identified in DEP's "MS4 Requirements Table"; and 3) has not developed and submitted a Pollutant Reduction Plan (PRP) with the NOI to reduce pollutant loading for the cause(s) of impairment.
18. The discharge will be commingled with sources of non-stormwater unless such non-stormwater discharges are identified in the "Discharges Authorized by this General Permit" section of this General Permit or are in compliance with a separate NPDES permit and do not cause or contribute to pollution.
19. Stormwater discharges associated with industrial activity as defined in 40 CFR §§ 122.26(b)(14)(i)-(ix) and (xi).
20. Stormwater discharges associated with construction activity as defined in 40 CFR § 122.26(b)(14)(x) or 40 CFR § 122.26(b)(15).

THE AUTHORITY GRANTED BY THIS GENERAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. If the permittee submits a timely NOI for coverage under this General Permit (i.e., received by DEP on or before September 16, 2017) and the previous General Permit expires, the permittee is authorized to continue discharging under the terms and conditions of this General Permit. The permittee must comply with all terms and conditions in this General Permit with the exception of requirements that do not take effect until DEP's approval of coverage, as specified in this General Permit.
2. DEP may require a permittee with discharge(s) authorized by this General Permit to apply for and obtain an individual permit by notifying the permittee in writing that an individual permit application is required. Any interested person may petition DEP to take action under this paragraph.

DEP's notice will include the following:

- A brief statement of the reason(s) for this decision;
- An individual permit application form;
- A deadline for the owner or operator to submit the application; and
- A statement that on the effective date of the individual permit, coverage under this General Permit shall automatically terminate.

If a permittee fails to submit an individual permit application required by DEP under this paragraph in a timely manner, then the applicability of this General Permit to the permittee is automatically terminated at the end of day specified for submission of the application.

3. Any person authorized to discharge by this General Permit may request to be excluded from the coverage of this General Permit by applying for an individual permit.
4. When an individual permit is issued to a person whose discharge(s) are covered by this General Permit, the applicability of this General Permit is automatically terminated on the effective date of the individual permit. When an individual permit is denied to a person whose discharge(s) are covered by this General Permit, the person may continue discharging if all eligibility requirements under this General Permit are met.
5. This General Permit will expire 5 years from the date of its issuance. DEP will publish a notice in the *Pennsylvania Bulletin* of the draft reissued General Permit or of any amendments to this General Permit. After a comment period, notice of the final reissued or amended General Permit will be published in the *Pennsylvania Bulletin*. The permittee shall be responsible for complying with the final renewed, reissued or amended General Permit. If the permittee is unable to comply with the renewed, reissued or amended General Permit, the permittee must submit an application for an individual permit within 90 days of publication of the final renewed, reissued or amended General Permit.
6. If DEP decides to administratively extend this General Permit, DEP will publish a notice in the *Pennsylvania Bulletin*. The terms and conditions of the General Permit will continue during the period of administrative extension. Permittees with existing coverage under the General Permit will continue to have coverage, unless otherwise notified by DEP. DEP will not approve new coverage under the General Permit during the period of administrative extension.
7. Following approval of coverage under this General Permit, if the permittee encounters a condition affecting eligibility under this General Permit as identified above ("Discharges Not Authorized by this General Permit") and does not provide a remedy to correct that condition, coverage under this General Permit may be revoked in writing by DEP, and DEP may require the permittee to obtain an individual permit. Coverage under this General Permit may be revoked if there is evidence indicating potential or actual adverse impacts to water quality as a result of the permittee's discharge(s).
8. No condition of this General Permit shall release the permittee from any responsibility or requirements under other federal or Pennsylvania environmental statutes or regulations or local ordinances.
9. Following initial coverage under this General Permit, the submission of an Annual MS4 Status Report in accordance with Part A III.D of the General Permit shall constitute the permittee's Notice of Intent (NOI) for continued coverage under the General Permit. The permittee is authorized to discharge in accordance with the terms of the General Permit immediately upon submission of the Annual MS4 Status Report.
10. The permittee shall comply with the requirements of this General Permit in accordance with the schedules contained herein. A summary of the scheduled requirements contained in this General Permit is available (see Document ID No. 3800-PM-BCW0100I).

General Permit
(PAG-13) Issued

By



Lee A. McDonnell, P.E.
Director
Bureau of Clean Water

Effective: March 16, 2018

Expires: March 15, 2023

PART A

EFFLUENT LIMITATIONS, REPORTING AND RECORDKEEPING REQUIREMENTS

I. EFFLUENT LIMITATIONS

- A. This General Permit establishes effluent limitations in the form of implementation of a Stormwater Management Program (SWMP), as specified in Part C I of this General Permit, to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable. The permittee shall comply with Minimum Control Measures (MCMs) and best management practices (BMPs) in Part C I of this General Permit, which constitutes compliance with the standard of reducing pollutants to the maximum extent practicable.
- B. All discharges from regulated small MS4s must comply with all applicable requirements established in accordance with 25 Pa. Code Chapters 91-96, 102, and 105 of DEP's rules and regulations. For all MS4s covered under this General Permit, DEP may, upon written notice, require additional BMPs or other control measures to ensure that the water quality standards of the surface waters receiving stormwater discharges are attained.

II. DEFINITIONS

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce pollutant loading to surface waters of this Commonwealth. The term includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. The term includes activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities. (25 Pa. Code § 92a.2)

Clean Water Act (CWA) means the Federal Water Pollution Control Act, as amended, 33 U.S.C.A. §§ 1251 - 1387.

Cleaning Agent means any product, substance or chemical other than water that is used to clean the exterior surface of vehicles.

Designated Uses are those uses specified in 25 Pa. Code §§ 93.4(a) and 93.9a – 93.9z for each water body or segment whether or not they are being attained. (25 Pa. Code § 93.1)

Dry Weather means a condition in which there are no precipitation, snowmelt, drainage or other events producing a stormwater discharge for more than 48 consecutive hours.

Existing Permittee means any entity that has been designated as a regulated small MS4 and has previously obtained permit coverage under the PAG-13 General Permit or obtained an Individual NPDES MS4 Permit.

Existing Uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards. (25 Pa. Code § 93.1)

Illicit Connection means any physical connection to a municipal separate storm sewer system that can convey illicit discharges into the system and/or is not authorized or permitted by the permittee.

Illicit Discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except non-stormwater discharges as described in the "Discharges Authorized by this General Permit" section of this General Permit. Examples of illicit discharges include dumping of motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, animal wastes, or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-stormwater waste into a municipal separate storm sewer system. Illicit discharges can be accidental or intentional.

Impaired Waters means surface waters that fail to attain one or more of its designated uses under 25 Pa. Code Chapter 93 and as listed in Categories 4 and 5 of Pennsylvania's Integrated Water Quality Monitoring and Assessment Report.

Integrated Water Quality Monitoring and Assessment Report means the report published every other year by DEP to report on the conditions of Pennsylvania's surface waters to satisfy sections 305(b) and 303(d) of the CWA.

Intermittent Stream means a body of water flowing in a channel or bed composed primarily of substrates associated with flowing water, which, during periods of the year, is below the local water table and obtains its flow from both surface runoff and groundwater discharges. (25 Pa. Code § 92a.2)

Load Allocation means the portion of a surface water's loading capacity that is assigned or allocated to existing and future nonpoint sources and natural quality. (25 Pa. Code § 96.1)

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

MS4 Requirements Table is a compilation of information regarding Pennsylvania MS4s, surface waters that receive stormwater discharges from MS4s, surface water impairments and TMDLs that is posted to DEP's website, www.dep.pa.gov/MS4. The MS4 Requirements Table has been assembled by DEP to assist MS4 permittees in determining applicable requirements for the development of plans and implementation of BMPs, as well as eligibility for the PAG-13 General Permit. In general, the MS4 Requirements Table will be updated prior to each renewal of this General Permit based on DEP's latest published Integrated Water Quality Monitoring and Assessment Report.

Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters; (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.26(b)(8))

Municipal Separate Storm Sewer System (MS4) means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to 40 CFR §§ 122.26(b)(4), (b)(7), and (b)(16), respectively, or designated under 40 CFR § 122.26(a)(1)(v). (25 Pa. Code § 92a.32(a) and 40 CFR § 122.26(b)(18))

Municipality means a city, town, borough, county, township, school district, institution, authority or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes or other wastes. (25 Pa. Code § 92a.2)

New Permittee means any entity that has been designated as a regulated small MS4 and has not previously obtained permit coverage under the PAG-13 General Permit or obtained an Individual NPDES MS4 Permit.

NOI means the Notice of Intent for coverage under the NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems.

Non-Municipal Permittee means a regulated small MS4 that is not a municipality, e.g., military bases, large hospital or prison complexes, and highways and other thoroughfares.

Non-Structural BMPs means actions that involve management and source controls such as: (1) policies and ordinances that provide requirements and standards to direct growth to identified areas, promote redevelopment, protect areas such as wetlands and riparian areas, maintain and/or increase open space, provide buffers along water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (2) education programs for developers and the public about minimizing water quality impacts; (3) measures such as minimizing the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, street sweeping, and source control measures such as good housekeeping, maintenance, and spill prevention; and other BMPs as referenced in Chapter 5 of the Pennsylvania Stormwater BMP Manual (363-0300-002).

Ordinance means a law enacted by the government of a municipality.

Outfall means a point source as defined by 40 CFR § 122.2 at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.26(b)(9))

Owner or Operator means the owner or operator of any "facility" or "activity" subject to regulation under the NPDES program. (25 Pa. Code § 92a.3(b)(1) and 40 CFR § 122.2)

Permittee means the owner or operator of a regulated small MS4 authorized to discharge under the terms of this General Permit.

Point Source means a discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, Concentrated Aquatic Animal Production Facility (CAAP), Concentrated Animal Feeding Operation (CAFO), landfill leachate collection system, or vessel or other floating craft from which pollutants are or may be discharged. (25 Pa. Code § 92a.2)

Pollutant means any contaminant or other alteration of the physical, chemical, biological, or radiological integrity of surface water which causes or has the potential to cause pollution as defined in section 1 of the Pennsylvania Clean Streams Law, 35 P.S. § 691.1. (25 Pa. Code § 92a.2)

Qualifying Development or Redevelopment Project means an earth disturbance activity that requires an NPDES permit for stormwater discharges associated with construction activity per 25 Pa. Code Chapter 102.

Regulated Small MS4 means any small MS4 that is covered by the federal Phase II stormwater program, either through automatic nationwide designation under 40 CFR § 122.32(a)(1) (via the Urbanized Area criteria) or by designation on a case-by-case basis by DEP pursuant to 40 CFR § 122.32(a)(2). "Regulated small MS4s" are a subset of "small MS4s" as defined in this section.

Riparian Forest Buffer means an area of permanent vegetation consisting of native trees, shrubs, forbs and grasses along surface water that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and buffer land use activities from surface waters.

Small Municipal Separate Storm Sewer System (Small MS4) means an MS4, as defined in this section, that is not a large or medium MS4 pursuant to 40 CFR §§ 122.26(b)(4) and 122.26(b)(7). The term small MS4 includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.26(b)(16))

Standard Operating Procedure (SOP) means a policy or set of procedures that are enacted by a non-municipal permittee to implement a stormwater management program.

Storm Sewershed means the land area that drains to an individual MS4 outfall from within the jurisdiction of the MS4 permittee. The term "combined storm sewershed" means the drainage areas of all MS4 outfalls that discharge to a specific surface water or to waters within the Chesapeake Bay watershed.

Stormwater means runoff from precipitation, snow melt runoff and surface runoff and drainage. "Stormwater"

has the same meaning as "storm water." (25 Pa. Code § 92a.2)

Structural BMPs means stormwater storage and management practices including, but not limited to, wet ponds and extended detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; infiltration practices such as infiltration basins and infiltration trenches; and other BMPs as referenced in Chapter 6 of the Pennsylvania Stormwater BMP Manual (363-0300-002).

Surface Waters means perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds and constructed wetlands used as part of a wastewater treatment process. (25 Pa. Code § 92a.2)

Total Maximum Daily Load (TMDL) means the sum of individual waste load allocations for point sources, load allocations for nonpoint sources and natural quality and a margin of safety expressed in terms of mass per time, toxicity or other appropriate measures. (25 Pa. Code § 96.1)

Urbanized Area (UA) means land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the United States Bureau of the Census and as determined by the latest available decennial census. The UA outlines the extent of automatically regulated areas.

Wasteload Allocation (WLA) means the portion of a surface water's loading capacity that is allocated to existing and future point source discharges. (25 Pa. Code § 96.1)

Water Quality Criteria means numeric concentrations, levels or surface water conditions that need to be maintained or attained to protect existing and designated uses. (25 Pa. Code § 93.1)

Water Quality Standards means the combination of water uses to be protected and the water quality criteria necessary to protect those uses. (25 Pa. Code § 92a.2)

III. MONITORING, REPORTING AND RECORDKEEPING

- A. Where samples are collected and analyzed or measurements are taken under this General Permit, the permittee shall assure:
 1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(j)(1))
 2. Records of monitoring information shall include (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(j)(3)):
 - a. The date, exact place, and time of sampling or measurements.
 - b. The individual(s) who performed the sampling or measurements.
 - c. The date(s) analyses were performed.
 - d. The individual(s) who performed the analyses.
 - e. The analytical techniques or methods used.
 - f. The results of such analysis.
 3. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR Subchapters N or O. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(j)(4))
- B. Records Retention – All records of monitoring activities and results, copies of all plans and reports required by this General Permit, and records of all data used to complete the application for this General Permit shall be retained by the permittee for at least 5 years from the date of the sample measurement, report or application. Such records must be submitted to DEP upon request or as required for annual reports. The permittee must make records available to the public at reasonable times during regular business hours. (25 Pa. Code § 92a.3(c), 40 CFR §§ 122.34(g)(2) and 122.41(j)(2))

C. Proper Operation and Maintenance (O&M) – The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), including stormwater BMPs, that are installed or used by the permittee to achieve compliance with the conditions of this permit. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(e))

D. Reporting Requirements

1. The permittee shall submit a complete Annual MS4 Status Report using DEP's annual report template (3800-FM-BPNPSM0491) to the DEP regional office that issued General Permit coverage approval by September 30 of each year.
 - a. For existing permittees, the first annual report submitted to DEP under this General Permit shall have a reporting period starting from the end of the latest annual or progress report period (under the previous General Permit) to June 30, 2018. The first annual report is due by September 30, 2018. For new permittees, the first annual report is due by September 30 following the first year of General Permit coverage.
 - b. Following the first annual report, the reporting period shall thereafter be July 1 - June 30, and the report shall be due by September 30.
2. In addition to the Annual MS4 Status Report submitted to the DEP regional office, a check or money order in the amount of \$500.00, which is an installment of the NOI fee, shall be submitted to DEP's Central Office, made payable to "Commonwealth of Pennsylvania." The fee shall be submitted by September 30 of each year to the following address:

PA Department of Environmental Protection
Bureau of Clean Water
Rachel Carson State Office Building
400 Market Street, PO Box 8466
Harrisburg, PA 17105-8466

For existing permittees, the first fee is due by September 30, 2018. For new permittees, the first fee is due by September 30 following the first year of General Permit coverage.

3. The permittee shall submit the Annual MS4 Status Report and fee to DEP electronically upon receipt of written notification from DEP.
4. Unanticipated Non-Compliance or Potential Pollution Reporting
 - a. Immediate Reporting - The permittee shall immediately report any incident causing or threatening pollution in accordance with the requirements of 25 Pa. Code §§ 91.33 and 92a.41(b) listed below:
 - (i) If, because of an accident, other activity or incident a toxic substance or another substance which would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property, the permittee shall immediately notify DEP by telephone of the location and nature of the danger. Oral notification to the Department is required as soon as possible, but no later than 4 hours after the permittee becomes aware of the incident causing or threatening pollution.
 - (ii) If reasonably possible to do so, the permittee shall immediately notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger.
 - (iii) The permittee shall immediately take or cause to be taken steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution and, in addition, within 15 days from the incident, shall remove the residual substances contained thereon or therein from the ground and from the affected waters of this Commonwealth to the extent required by applicable law.

- b. The permittee shall report any non-compliance which may endanger health or the environment in accordance with the requirements of 40 CFR § 122.41(l)(6). These requirements include the following obligations:
 - (i) 24 Hour Reporting - The permittee shall orally report any non-compliance with this permit which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances.
 - (ii) Written Report - A written submission shall also be provided within 5 days of the time the permittee becomes aware of any non-compliance which may endanger health or the environment. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.
 - (iii) Waiver of Written Report - DEP may waive the written report on a case-by-case basis if the associated oral report has been received within 24 hours from the time the permittee becomes aware of the circumstances which may endanger health or the environment. Unless such a waiver is expressly granted by DEP, the permittee shall submit a written report in accordance with this paragraph. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(l)(6)(iii))

5. Other Non-Compliance

The permittee shall report all instances of non-compliance not reported under paragraph D.4 of this section or specific requirements of compliance schedules, at the time Annual Reports are submitted, on the Non-Compliance Reporting Form (3800-FM-BPNPSM0440). The reports shall contain the information listed in paragraph D.4.b.(ii) of this section. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(l)(7))

6. Signatory Requirements

- a. Completed Annual Reports and all other reports, NOIs, and information submitted to DEP shall be signed and certified by either of the following applicable persons, as defined in 25 Pa. Code § 92a.22:
 - For a corporation - by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.
 - For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
 - For a municipality, state, federal or other public agency - by a principal executive officer or ranking elected official.
- b. If signed by a person other than the above, the person must be a duly authorized representative of the permittee. A person is a duly authorized representative only if:
 - The authorization is made in writing by a person described in paragraph a., above, and submitted to DEP.
 - The authorization specifies either an individual or a position having responsibility for the operation of the regulated system, facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
- c. Changes in Signatory Authorization - If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the system or facility, a new authorization satisfying the requirements of paragraphs 6.a and 6.b, above, must be submitted to DEP prior to or together with any reports, information or NOI to be signed by an authorized representative.

PART B

STANDARD CONDITIONS

I. MANAGEMENT REQUIREMENTS

A. Compliance

The permittee must comply with all conditions of this General Permit. Any permit non-compliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(a))

B. Permit Modification, Termination, or Revocation and Reissuance

1. Permit coverage may be modified, terminated, or revoked and reissued during its term in accordance with Title 25 Pa. Code §§ 92a.72 and 92a.74 and 40 CFR § 122.41(f).
2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any General Permit condition. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(f))

C. Duty to Provide Information

1. The permittee shall furnish to DEP, within a reasonable time, any information which DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating coverage under this General Permit, or to determine compliance with this General Permit. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(h))
2. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this General Permit. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(h))
3. Other Information - Where the permittee becomes aware that it failed to submit any relevant facts in an NOI, or submitted incorrect information in an NOI or in any report to DEP, it shall promptly submit the correct and complete facts or information. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(l)(8))
4. The permittee shall give advance notice to the DEP office that approved permit coverage of any planned physical alterations or additions to the regulated small MS4. Notice is only required when: 1) the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR § 122.29(b), or 2) the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(l))

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(d))

II. PENALTIES AND LIABILITY

A. Violations of Permit Conditions

1. Any person violating Sections 301, 302, 306, 307, 308, 318 or 405 of the CWA or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative and/or criminal penalties as set forth in 40 CFR § 122.41(a)(2).
2. Any person or municipality, who violates any provision of this General Permit; any rule, regulation or order of DEP; or any condition or limitation of any permit issued pursuant to the Clean Streams Law, is subject to criminal and/or civil penalties as set forth in Sections 602, 603 and 605 of the Clean Streams Law.

B. Falsifying Information

Any person who does any of the following:

- Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, or
- Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or non-compliance)

Shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 Pa.C.S.A. § 4904 and 40 CFR §§ 122.41(j)(5) and (k)(2).

C. Liability

1. Nothing in this General Permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance pursuant to Section 309 of the CWA or Sections 602, 603 or 605 of the Clean Streams Law.
2. Nothing in this General Permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under the CWA and the Clean Streams Law.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(c))

III. OTHER RESPONSIBILITIES

A. Right of Entry

Pursuant to Section 5(b) of Pennsylvania's Clean Streams Law (35 P.S. § 691.5(b)), 25 Pa. Code Chapter 92a and 40 CFR § 122.41(i), the permittee shall allow authorized representatives of DEP and EPA, upon the presentation of credentials and other documents as may be required by law:

1. To enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this General Permit; (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(i)(1))
2. To have access to and copy, at reasonable times, any records that must be kept under the conditions of this General Permit; (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(i)(2))

3. To inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this General Permit; and (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(i)(3))
4. To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Clean Streams Law, any substances or parameters at any location. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(i)(4))

B. Transfer of Permits

1. Transfers by modification. Except as provided in paragraph B.2 of this section, permit coverage may be transferred by the permittee to a new owner or operator only if this General Permit coverage has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.61(a))
2. Automatic transfers. As an alternative to transfers under paragraph 1 of this section, any NPDES permit may be automatically transferred to a new permittee if:
 - a. The current permittee notifies DEP at least 30 days in advance of the proposed transfer date in paragraph 2.b. of this section; (25 Pa. Code § 92a.3(c) and 40 CFR § 122.61(b)(1))
 - b. The notice includes the appropriate DEP transfer form signed by the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; (25 Pa. Code § 92a.3(c) and 40 CFR § 122.61(b)(2))
 - c. DEP does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue coverage under this General Permit, the transfer is effective on the date specified in the agreement mentioned in paragraph 2.b. of this section; and (25 Pa. Code § 92a.3(c) and 40 CFR § 122.61(b)(3))
 - d. The new permittee is in compliance with existing DEP issued permits, regulations, orders and schedules of compliance, or has demonstrated that any non-compliance with the existing permits has been resolved by an appropriate compliance action or by the terms and conditions of the permit (including compliance schedules set forth in the permit), consistent with 25 Pa. Code § 92a.51 (relating to schedules of compliance) and other appropriate DEP regulations. (25 Pa. Code § 92a.71)
3. In the event DEP does not approve transfer of coverage under this General Permit, the new owner or controller must submit a new NOI.

C. Property Rights - The approval of coverage under this General Permit does not convey any property rights of any sort, or any exclusive privilege. (25 Pa. Code § 92a.3(c) and 40 CFR § 122.41(g))

D. Duty to Reapply - The submission of the Annual MS4 Status Reports (3800-FM-BPNPSM0491) in accordance with Part A III.D of this General Permit constitutes the submission of an NOI for continued coverage under the General Permit. In addition, the permittee must submit an NOI (3800-PM-BCW0100b) to continue coverage under this General Permit when notified by DEP in writing.

E. Severability – The provisions of this General Permit are severable. If any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected.

PART C

SPECIAL CONDITIONS

I. STORMWATER MANAGEMENT PROGRAM (SWMP)

- A. The permittee must develop, implement, and enforce an SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act and Pennsylvania Clean Streams Law, as described in paragraph B, below. There are six Minimum Control Measures (MCMs) that comprise the SWMP. Specific BMPs are identified under each MCM. The permittee shall demonstrate compliance with the SWMP through the submission of Annual MS4 Status Reports due by September 30 each year.

- B. Minimum Control Measures (MCMs)

1. **MCM #1:** Public Education and Outreach on Stormwater Impacts. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.34(b)(1))

The permittee shall implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

- a. **BMP #1:** Develop, implement and maintain a written Public Education and Outreach Program.
 - (1) For new permittees, a written Public Education and Outreach Program (PEOP) shall be developed and implemented within one year following approval of coverage under this General Permit, and shall be re-evaluated each year thereafter and revised as needed.
 - (2) For existing permittees, the existing PEOP shall be reviewed annually and revised as necessary.

The permittee's PEOP shall be designed to achieve measurable improvements in the target audience's understanding of the causes and impacts of stormwater pollution and the steps they can take to prevent it.

- b. **BMP #2:** Develop and maintain lists of target audience groups that are present within the areas served by the permittee's regulated small MS4. In most communities, the target audiences shall include residents, businesses (including commercial, industrial and retailers), developers, schools, and municipal employees.

- (1) For new permittees, the lists shall be developed within one year following approval of coverage under this General Permit, and reviewed and updated as necessary every year thereafter.
 - (2) For existing permittees, the lists shall continue to be reviewed and updated annually.

- c. **BMP #3:** The permittee shall annually publish at least one issue of a newsletter, a pamphlet, a flyer, or a website that includes general stormwater educational information, a description of the permittee's SWMP, and/or information about the permittee's stormwater management activities. The list of publications and the content of the publications must be reviewed and updated at least once during each year of permit coverage. Publications should include a list of references (or links) to refer the reader to additional information (e.g., DEP and EPA stormwater websites, and any other sources that will be helpful to readers). The permittee must implement at least one of the following alternatives:

- Publish and distribute in printed form a newsletter, a pamphlet or a flyer containing information consistent with this BMP.
 - Publish educational and informational items including links to DEP's and EPA's stormwater websites on the permittee's website.

- (1) For new permittees, stormwater educational and informational items shall be produced and published in print and/or on the Internet within the first year of permit coverage.
- (2) In subsequent years, and for existing permittees, the list of items published and the content in these items shall be reviewed, updated, and maintained annually.

The permittee's publications shall contain stormwater educational information that addresses one or more of the six MCMs.

d. **BMP #4:** Distribute stormwater educational materials and/or information to the target audiences using a variety of distribution methods, including but not limited to: displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements (e.g., at bus and train stops/stations), bill stuffers, presentations, conferences, meetings, fact sheets, giveaways, and storm drain stenciling.

All permittees shall select and utilize at least two distribution methods annually. These are in addition to BMP #3, above.

2. **MCM #2: Public Involvement / Participation.** (25 Pa. Code § 92a.32(a) and 40 CFR § 122.34(b)(2))

The permittee shall comply with applicable state and local public notice requirements when implementing a public involvement / participation program.

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

The PIPP for new permittees shall be developed and implemented within one year following approval of coverage under this General Permit. All permittees shall reevaluate the PIPP annually and make revisions as necessary.

The PIPP shall include, at a minimum:

- (1) Opportunities for the public to participate in the decision-making processes associated with the development, implementation, and update of programs and activities related to this General Permit.
- (2) Methods of routine communication to groups such as watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the permittee's regulated small MS4s or surface waters receiving the permittee's discharges.
- (3) Making Annual MS4 Status Reports and all other plans, programs, maps and reports required by this General Permit available to the public on the permittee's website, at the permittee's office(s), or by mail upon request.

b. **BMP #2:** The permittee shall advertise to the public and solicit public input on the following documents prior to adoption or submission to DEP:

- Stormwater Management Ordinances (for municipalities);
- Standard Operating Procedures (SOPs) (for non-municipal entities); and
- Pollutant Reduction Plans (PRPs), including modifications thereto.

- (1) For Ordinances and SOPs, the permittee shall provide notice to the public; provide opportunities for public comment; document and evaluate the public comments; and document the permittee's responses to the comments prior to finalizing the documents. The permittee shall provide this documentation to DEP upon request.
- (2) For PRPs, public participation requirements are specified in Appendices D and E of this General Permit.

- c. **BMP #3:** Regularly solicit public involvement and participation from the target audience groups using available distribution and outreach methods. This shall include an effort to solicit public reporting of suspected illicit discharges. Assist the public in their efforts to help implement the SWMP.
 - (1) The permittee shall solicit public involvement and participation from target audience groups on the implementation of the SWMP. The solicitation can take the form of public meetings or other events. The public shall be given notice in advance of each meeting or event. During the meetings or events, the permittee should present a summary of progress, activities, and accomplishments with implementation of the SWMP, and the permittee should provide opportunities for the public to provide feedback and input. The presentation can be made at specific MS4 events or during any other public meeting. Existing permittees shall conduct at least one public meeting that includes information on SWMP implementation by March 15, 2023; new permittees shall conduct at least one public meeting within 5 years following approval of General Permit coverage.
 - (2) The permittee shall document and report instances of cooperation and participation in MS4 activities; presentations the permittee made to local watershed organizations and conservation organizations; and similar instances of participation or coordination with organizations in the community.
 - (3) The permittee shall also document and 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 organized implementation efforts such as cleanups, monitoring, storm drain stenciling, or others.
3. **MCM #3:** Illicit Discharge Detection and Elimination (IDD&E). (25 Pa. Code § 92a.32(a) and 40 CFR § 122.34(b)(3))

The permittee shall develop, implement and enforce a program to detect and eliminate illicit discharges into the permittee's regulated small MS4.

 - a. **BMP #1:** The permittee shall develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the regulated small MS4. The program shall include the following:
 - Procedures for identifying priority areas. These are areas with a higher likelihood of illicit discharges, illicit connections or illegal dumping. Priority areas may include areas with older infrastructure, a concentration of high-risk activities, or past history of water pollution problems.
 - Procedures for screening outfalls in priority areas. The program shall include dry weather field screening of outfalls for non-stormwater flows, and sampling of dry weather discharges for selected chemical and biological parameters. Test results shall be used as indicators of possible discharge sources.
 - Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a regulated small MS4 outfall.
 - Procedures for eliminating an illicit discharge.
 - Procedures for assessing the potential for illicit discharges caused by the interaction of sewage disposal systems (e.g., on-lot septic systems, sanitary piping) with storm drain systems.
 - Mechanisms for gaining access to private property to inspect outfalls (e.g., land easements, consent agreements, search warrants) and for investigating illicit connections and discharges.

- Procedures for program documentation, evaluation and assessment. Records shall be kept of all outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program.
- Procedures for addressing information or complaints received from the public.
 - (1) For new permittees, the IDD&E program shall be developed during the first year of coverage under this General Permit and shall be implemented and evaluated each year thereafter.
 - (2) For existing permittees, the IDD&E program shall continue to be implemented and evaluated annually.

b. **BMP #2:** The permittee shall 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) For new permittees, the map(s) must be developed and submitted to DEP as an attachment to an Annual MS4 Status Report by September 30, 2022 or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit, whichever is later.
- (2) For existing permittees, the existing map(s) shall be updated and maintained as necessary during each year of coverage under this General Permit.

c. **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) For new permittees, the map(s) must be developed and submitted to DEP as an attachment to an Annual MS4 Status Report by September 30, 2022 or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit, whichever is later.
- (2) For existing permittees, the existing map(s) shall be updated and maintained as necessary during each year of coverage under this General Permit.

d. **BMP #4:** The permittee shall conduct dry weather screenings of its 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, in accordance with Part A III.D.4 of this General Permit.

- (1) For new permittees, all of the identified regulated small MS4 outfalls shall be screened during dry weather at least twice within the 5-year period following approval of coverage under this General Permit.
- (2) For existing permittees, each of the identified regulated small MS4 outfalls shall be screened during dry weather at least once by March 15, 2023. For areas where past problems have been reported or known sources of dry weather flows occur on a continual basis, outfalls shall be screened annually during each year of permit coverage.
- (3) If a discharge is observed from any outfall during dry weather screenings, the discharge shall be inspected for color, odor, floating solids, scum, sheen, and substances that result in observed

deposits in the surface waters. In addition, the discharge cannot contain substances that result in deposits in the receiving water or produce an observable change in the color, odor or turbidity of the receiving water.

If the discharge exhibits any of the above characteristics, or contains any other pollutants or causes an observed change in the surface waters, the permittee shall sample the discharge(s) for field and/or laboratory analysis of one or more common IDD&E parameters in order to determine if the dry weather flow is illicit. Possible parameters include, but are not limited to: pH, Conductivity, Fecal Coliform bacteria, Heavy Metals, Chemical Oxygen Demand (COD), 5-day Biochemical Oxygen Demand (BOD5), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Oil and Grease, Total Residual Chlorine (TRC) and Ammonia-Nitrogen. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples. The permittee shall retain sample results with the inspection report in accordance with Part A III.B of this General Permit.

- (4) Each time an outfall is screened, the permittee shall record outfall observations, regardless of the presence of dry weather flow. All outfall inspections shall be documented on the MS4 Outfall Field Screening Report form (3800-FM-BCW0521), or equivalent. The report must be signed by the inspector and be maintained by the permittee in accordance with Part A III.B of this General Permit. If an outfall flow is determined by the permittee to be illicit, the actions taken to identify and eliminate the illicit flow shall also be documented.
- (5) The permittee shall summarize the results of outfall inspections and actions taken to remove or correct illicit discharges in Annual MS4 Status Reports.
- (6) If the permittee determines that an outfall cannot be accessed due to safety or other reasons, the permittee shall establish an "observation point" at an appropriate location prior to the outfall where outfall field screening shall be performed. If observation points are established by the permittee, such points shall be identified on the map required under BMP #2 of this section.
- (7) Permittees must ensure that outfalls are properly maintained in accordance with Part C I.B.6.b of this General Permit.

e. **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) Municipal permittees shall submit a copy of an ordinance that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) as an attachment to an Annual MS4 Status Report by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).
- (2) Permittees that lack the authority to enact ordinances (non-municipal permittees and counties) shall develop and adopt an SOP that prohibits non-stormwater discharges consistent with this General Permit, and shall submit a copy of the SOP as an attachment to an Annual MS4 Status Report by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).
- (3) Notice must be provided to DEP of the approval of any waiver or variance by the permittee that allows an exception to non-stormwater discharge provisions of an ordinance or SOP. This notice shall be submitted in the next Annual MS4 Status Report following approval of the waiver or variance.

f. **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) During each year of permit coverage, appropriate educational information concerning illicit discharges shall be distributed to the target audiences using methods outlined under MCM #1.

The permittee shall establish and promote a stormwater pollution reporting mechanism (e.g., a complaint line with message recording) by the end of the first year of General Permit coverage for the public to use to notify the permittee of illicit discharges, illegal dumping or outfall pollution. The permittee shall respond to all complaints in a timely and appropriate manner. The permittee shall document all responses, including the action taken, the time required to take the action, and whether the complaint was resolved successfully.

(2) Educational outreach may include: distribution of brochures and guidance for target audiences including schools; programs to encourage and facilitate public reporting of illicit discharges; organizing volunteers to locate and visually inspect outfalls and to stencil storm drains; and implement and encourage recycling programs for common wastes such as motor oil, antifreeze and pesticides.

4. **MCM #4:** Construction Site Stormwater Runoff Control. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.34(b)(4))

Permittees with coverage under the PAG-13 General Permit must rely on DEP's program for issuing NPDES permits for stormwater discharges associated with construction activities to satisfy MCM #4. In addition to relying on the state NPDES permit program for stormwater discharges associated with construction activities, the permittee shall implement the BMPs identified below.

- a. **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.
- b. **BMP #2:** A municipality or county which issues building or other permits shall notify DEP or the applicable county conservation district (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.
- c. **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) Municipal permittees shall enact, implement, and enforce an ordinance to require the implementation of E&S control BMPs, including sanctions for non-compliance. All municipal permittees shall submit a copy of an ordinance that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) as an attachment to an Annual MS4 Status Report by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).
 - (2) Permittees that lack the authority to enact ordinances shall develop, implement and enforce an SOP to require the implementation and maintenance of E&S control BMPs by September 30, 2022 (existing permittees) or the first Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).

5. **MCM #5:** Post-Construction Stormwater Management (PCSM) in New Development and Redevelopment. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.34(b)(5))

Permittees with coverage under the PAG-13 General Permit must rely on DEP's program for issuing NPDES permits for stormwater discharges associated with construction activities to satisfy MCM #5. In addition to relying on the state NPDES permit program for stormwater discharges associated with construction activities, the permittee shall implement the BMPs identified below.

- a. **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) Municipal permittees shall enact, implement, and enforce an ordinance to require the implementation of PCSM BMPs, including sanctions for non-compliance. All municipal permittees shall submit a copy of an ordinance that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) as an attachment to an Annual MS4 Status Report by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).
- (2) Permittees that lack the authority to enact ordinances shall develop, implement and enforce an SOP to require the implementation and maintenance of PCSM BMPs and submit the SOP to DEP by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).

b. **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. Guidance on implementing LID practices may be found on DEP's MS4 website, www.dep.pa.gov/MS4. Enact ordinances consistent with LID practices and repeal sections of ordinances that conflict with LID practices. Submission of an ordinance that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) will satisfy this BMP.

c. **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.

An inventory of PCSM BMPs shall be developed by new permittees by the end of the first year of General Permit coverage and shall be continually updated during the term of coverage under the General Permit as development projects are reviewed, approved, and constructed. Existing permittees shall update and maintain its current inventory during the term of coverage under the General Permit. The permittee must track the following information in its PCSM BMP inventory:

- All PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003.
- The exact location of the PCSM BMP (e.g., latitude and longitude, with street address).
- Information (e.g., name, address, phone number(s)) for BMP owners and entities responsible for BMP O&M, if different from BMP owners.
- The type of BMP and the year it was installed.
- Maintenance required for the BMP type according to the Pennsylvania Stormwater BMP Manual or other manuals and resources.
- The actual inspection/maintenance activities conducted for each BMP.
- An assessment by the permittee if proper O&M has occurred during the year and if not, what actions the permittee has taken, or shall take, to address compliance with O&M requirements.

6. **MCM #6:** Pollution Prevention / Good Housekeeping. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.34(b)(6))

The permittee must develop and implement an O&M program that includes a training component and has the ultimate goal of preventing and reducing pollutant runoff from operations, facilities and activities under the control of the permittee (collectively, "operations"). The program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

a. **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 regulated small MS4. This includes activities conducted by contractors for the permittee. Activities may include the following: street sweeping; snow removal/deicing; inlet/outfall cleaning; lawn/grounds care; general storm sewer system inspections and maintenance/repairs; park and open space maintenance; municipal building

maintenance; new construction and land disturbances; right-of-way maintenance; vehicle operation, fueling, washing and maintenance; and material transfer operations, including leaf/yard debris pickup and disposal procedures. Facilities can include streets; roads; highways; parking lots and other large paved surfaces; maintenance and storage yards; waste transfer stations; parks; fleet or maintenance shops; wastewater treatment plants; stormwater conveyances (open and closed pipe); riparian buffers; and stormwater storage or treatment units (e.g., basins, infiltration/filtering structures, constructed wetlands, etc.).

- (1) New permittees shall create an inventory of all operations and land uses that may contribute to pollution in stormwater runoff within areas of operations that discharge to the regulated small MS4 by the end of the first year of General Permit coverage, and review and update the inventory annually thereafter.
- (2) All permittees must review and update the inventory each year of General Permit coverage, as necessary.

b. **BMP #2:** Develop, implement and maintain a written O&M program for all operations that could contribute to the discharge of pollutants from the regulated small MS4, as identified under BMP #1. This program shall address stormwater collection or conveyance systems within the regulated MS4. The written O&M program shall stress pollution prevention and good housekeeping measures, contain site-specific information, and include the following:

- Management practices, policies, and procedures shall be developed and implemented to reduce or prevent the discharge of pollutants to the regulated small MS4s. The permittee shall consider eliminating maintenance area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.
- Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach the regulated small MS4s.
- Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, salt / sand (anti-skid) storage locations and snow disposal areas. Controls for solid chemical products stored and utilized for the principal purpose of deicing roadways for public safety must be consistent with the BMPs for existing salt storage and distribution sites contained in the PAG-03 NPDES General Permit for Stormwater Discharges Associated with Industrial Activity.
- Procedures for the proper disposal of waste, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, street sweepings, and other debris.

- (1) New permittees shall develop and implement a written O&M program by the end of the first year of General Permit coverage and review and update the program each year thereafter.
- (2) All permittees must review and update the written O&M program each year of General Permit coverage, as necessary.

c. **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. The program may be developed and implemented using guidance and training materials that are available from federal, state or local agencies, or other organizations. All relevant employees and contractors shall receive training (i.e., public works staff, building, zoning, and code enforcement staff, engineering staff, police and fire responders, etc.). Training topics shall include operation, inspection, maintenance and repair activities associated with any of the operations identified under BMP #1. Training must cover all relevant parts of the permittee's overall stormwater management program that could affect operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

- (1) New permittees shall develop and implement a training program that identifies the training topics that will be covered and what training methods and materials will be used by the end of the first year of General Permit coverage.
- (2) All permittees must review and update the training program each year of General Permit coverage, as necessary.
- (3) Employee training shall occur at least annually and shall be documented in writing and reported in Annual MS4 Status Reports. Documentation shall include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).

II. POLLUTANT CONTROL MEASURES AND POLLUTANT REDUCTION PLANS

Permittees with coverage under this General Permit that discharge to impaired waters are required to implement Pollutant Control Measures (PCMs) and Pollutant Reduction Plans (PRPs), as applicable. Permittees are encouraged to consult DEP's MS4 Requirements Table, available at www.dep.pa.gov/MS4, to determine the applicability of PCMs under Appendices A, B, and C and PRPs under Appendices D and E of this General Permit.

- A. PCMs are activities undertaken by the MS4 permittee to identify and control pollutant loading to impaired waters from MS4s, regardless of whether a TMDL has been approved. PCMs are BMPs and other strategies that are in addition to the permittee's SWMP identified in Part C I of this General Permit. PCMs must be implemented where the permittee 1) has at least one stormwater outfall that discharges to impaired waters, and 2) the "cause of impairment" is one or more of the causes listed in paragraphs A.1 through A.3, below.
 1. Where surface waters are impaired for metals (e.g., Iron, Manganese and Aluminum) and/or pH associated with Abandoned Mine Drainage (AMD), the permittee shall implement the PCMs identified in **Appendix A** of this General Permit, in accordance with the schedule therein.
 2. Where surface waters are impaired for Pathogens (e.g., Fecal Coliform), the permittee shall implement the PCMs identified in **Appendix B** of this General Permit, in accordance with the schedule therein.
 3. Where surface waters are impaired for Priority Organic Compounds (e.g., Polychlorinated Biphenyls (PCBs), pesticides, or other organic compounds), the permittee shall implement the PCMs identified in **Appendix C** of this General Permit, in accordance with the schedule therein.
- B. A PRP is a planning document prepared by the permittee which guides the selection and implementation of specific BMPs to reduce pollutant loading to surface waters. The objective of a PRP is to improve the condition of surface waters such that the waters eventually attain water quality standards and its designated and existing uses in accordance with 25 Pa. Code Chapter 93. A PRP shall be developed and submitted to DEP with the NOI if one or more of the following criteria are met:
 1. At the time of the NOI submission, the permittee has at least one MS4 outfall that discharges to surface waters within the Chesapeake Bay watershed, or otherwise has at least one discharge to storm sewers owned or operated by a different entity within the Chesapeake Bay watershed. Upon DEP's written approval of General Permit coverage, permittees shall implement the PRP in accordance with **Appendix D** of this General Permit.
 2. At the time of the NOI submission, the permittee has at least one stormwater outfall that discharges to waters impaired for nutrients (i.e., nitrogen and/or phosphorus) and/or sediment (i.e., siltation), and a TMDL has not been approved for such waters, or a TMDL has been approved but no wasteload allocation (WLA) has been assigned by the TMDL for the permittee's discharge(s). Upon DEP's written approval of General Permit coverage, permittees shall implement the PRP in accordance with **Appendix E** of this General Permit.

III. OTHER REQUIREMENTS

- A. Screenings and other solids collected by the permittee shall be handled, recycled and/or disposed of in compliance with the Solid Waste Management Act (35 P.S. §§ 6018.101 – 6018.1003), 25 Pa. Code Chapters 287, 288, 289, 291, 295, 297, and 299 (relating to requirements for landfilling, impoundments, land

application, composting, processing, and storage of residual waste), federal regulation 40 CFR Part 257, The Clean Streams Law, and the Federal Clean Water Act and its amendments.

- B. DEP may require monitoring of stormwater discharge(s) as may be reasonably necessary in order to characterize the nature, volume or other attributes of that discharge or its sources.
- C. The permittee shall ensure that its SWMP, including its Stormwater Management Ordinance(s) or SOPs, is designed to prevent increased loadings of pollutants and to not cause or contribute to a violation of water quality standards by any discharge from its regulated small MS4.
- D. The permittee shall develop and maintain adequate legal authorities, where applicable, and shall maintain adequate funding and staffing to implement this General Permit, including the SWMP contained in Part C I of this General Permit.
- E. In accordance with 40 CFR § 122.35, the permittee may rely on another entity to satisfy NPDES permit obligations to implement a minimum control measure if: (1) the other entity, in fact, implements the control measure; (2) the particular control measure, or component thereof, is at least as stringent as the corresponding NPDES permit requirement; and (3) the other entity agrees to implement the control measure on the permittee's behalf. The permittee must specify in Annual MS4 Status Reports that it is relying on another entity to satisfy some of its NPDES permit obligations. The permittee remains responsible for compliance with permit obligations if the other entity fails to implement the control measure (or component thereof).

APPENDIX B

POLLUTANT CONTROL MEASURES FOR WATERS IMPAIRED BY PATHOGENS

The permittee shall implement the following Pollutant Control Measures (PCMs) within the storm sewershed of any outfall that discharges to waters impaired due to Pathogens (e.g., Fecal Coliform), regardless of whether there is an approved TMDL:

- A. Map and Inventory.
 1. The permittee shall develop map(s) of the storm sewershed(s) associated with all outfalls that discharge to surface waters subject to Appendix B. The purpose is to identify the area the permittee is responsible for within its legal boundaries in developing a source inventory. For new permittees, the map(s) shall be submitted to DEP with an Annual MS4 Status Report that is due no later than two years following DEP's written approval of General Permit coverage. For existing permittees, the map(s) shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2019.
 2. The permittee shall develop an inventory of all suspected and known sources of bacteria in stormwater within the storm sewershed, at a minimum, that discharge to impaired waters. The inventory must identify whether the source is suspected or known, the basis for this determination, the responsible party (if known), and any corrective action the permittee has taken or plans to take for any of these sources. For new permittees, the inventory shall be submitted to DEP with an Annual MS4 Status Report is due no later than three years following DEP's written approval of General Permit coverage. For existing permittees, the inventory shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2020.
- B. The permittee shall complete an investigation of each suspected source. This investigation must include stormwater sampling if the investigation is required as part of implementing the IDD&E program under MCM #3 of the General Permit, and otherwise is voluntary. For new permittees, the results of the investigation shall be submitted to DEP with an Annual MS4 Status Report that is due no later than five years following DEP's written approval of General Permit coverage. For existing permittees, the results of the investigation shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2022.
- C. The permittee shall enforce ordinances that prohibit illicit and illegal connections and discharges of sewage to the MS4. Anytime an illicit and illegal connection or discharge of sewage into the MS4 is discovered by the permittee, the permittee shall report the finding in the subsequent Annual MS4 Status Report along with a description of corrective action by the permittee.
- D. If not already established in its Stormwater Management Ordinance (municipal permittees) or SOP (non-municipal permittees), the permittee shall enact an ordinance or develop and adopt an SOP that requires proper management of animal wastes on property owned by the permittee. If an ordinance or SOP already exists that controls animal wastes, it must be attached to the first Annual MS4 Status Report due following the first year of coverage for new permittees and no later than September 30, 2018 for existing permittees (unless the ordinance or SOP was attached to the NOI for General Permit coverage). If a new ordinance or SOP is enacted or adopted, the new ordinance or SOP must be attached to the first Annual MS4 Status Report due following enactment or adoption, but no later than September 30, 2022.
- E. The permittee shall document the progress of its investigations, source control efforts and BMPs to control sources of pathogens in its Annual MS4 Status Reports.

APPENDIX C

POLLUTANT CONTROL MEASURES FOR WATERS IMPAIRED BY PRIORITY ORGANIC COMPOUNDS

The permittee shall implement the following Pollutant Control Measures (PCMs) within the storm sewershed of any outfall that discharges to waters impaired due to Priority Organic Compounds, including but not limited to Polychlorinated Biphenyls (PCBs), Pesticides, and any other organic compound listed at 40 CFR Part 423, Appendix A, regardless of whether there is an approved TMDL:

A. Map and Inventory.

1. The permittee shall develop map(s) of the storm sewershed(s) associated with all outfalls that discharge to surface waters subject to Appendix C. The purpose is to identify the area the permittee is responsible for within its legal boundaries in developing a source inventory. For new permittees, the map(s) shall be submitted to DEP with an Annual MS4 Status Report that is due no later than two years following DEP's written approval of General Permit coverage. For existing permittees, the map(s) shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2019.
2. The permittee shall develop an inventory of all suspected and known anthropogenic (caused or produced by humans) sources of Priority Organic Compounds in stormwater within the drainage area of outfalls discharging to impaired waters. The inventory must identify whether the source is suspected or known, the basis for this determination, the responsible party (if known), and any corrective action the permittee has taken or plans to take for any of these sources. For new permittees, the inventory shall be submitted to DEP with an Annual MS4 Status Report that is due no later than three years following DEP's written approval of General Permit coverage. For existing permittees, the inventory shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2020.

B. The permittee shall complete an investigation of each suspected source. This investigation must include stormwater sampling if the investigation is required as part of implementing the IDD&E program under MCM #3 of the General Permit, and otherwise is voluntary. For new permittees, the results of the investigation shall be submitted to DEP with an Annual MS4 Status Report that is due no later than five years following DEP's written approval of General Permit coverage. For existing permittees, the results of the investigation shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2022.

C. Where it is determined that sources of Priority Organic Compounds are being discharged in stormwater from industrial sites into the permittee's MS4, the permittee shall notify DEP in writing within 90 days of the permittee's findings. DEP may require the owner or operator of the industrial site to submit an application for NPDES permit coverage and/or implement BMPs to reduce pollutant loadings. This written notification is required only once per industrial site.

D. The permittee shall document the progress of its investigations, source control efforts and BMPs to control sources of Priority Organic Compounds in its Annual MS4 Status Reports.

APPENDIX E

POLLUTANT REDUCTION PLAN REQUIREMENTS FOR DISCHARGES TO WATERS IMPAIRED FOR NUTRIENTS AND/OR SEDIMENT

MS4 permittees with at least one stormwater discharge to surface waters considered impaired for nutrients (nitrogen and phosphorus) and/or sediment, in which a TMDL has not been developed or the TMDL has not identified a wasteload allocation (WLA) for the permittee, must develop and submit a Pollutant Reduction Plan (PRP) with the NOI to reduce the pollutant loads to those waters. In the event the permittee also has at least one stormwater discharge to surface waters within the Chesapeake Bay watershed, the PRP may be combined with the CBPRP described in Appendix D.

The PRP is approved upon DEP's approval of coverage under this General Permit. The permittee shall implement its approved PRP and comply with the following:

- A. The permittee shall achieve the pollutant load reduction(s) (lbs/year) proposed in its PRP within 5 years following DEP's approval of coverage under the General Permit (identified on page 1). The minimum percent reduction for pollutant loadings of sediment and Total Phosphorus (TP) shall be 10% and 5%, respectively. If the surface water is impaired for both sediment and nutrients, both sediment (10%) and TP (5%) reductions must be achieved. If the surface water is impaired for sediment alone, a sediment (10%) reduction must be achieved. If the cause of impairment is nutrients, a TP (5%) reduction must be achieved. Pollutant reduction efficiencies for selected BMPs shall be in accordance with the BMP Effectiveness Values document published by DEP (3800-PM-BCW0100m) or Chesapeake Bay Program Office expert panel reports. The permittee shall submit a report demonstrating implementation of the PRP as an attachment to the first Annual MS4 Status Report that is due following completion of the 5th year of General Permit coverage.
- B. The BMPs proposed in the PRP for the term of General Permit coverage shall be implemented in accordance with the schedule in the PRP. In the event the permittee decides to modify the location, type or number of proposed BMPs or modify the storm sewershed map, the permittee shall submit an update to its PRP to DEP prior to implementing the changes. A modified PRP that meets the conditions of paragraphs 1 – 3 herein may be implemented upon submission to DEP unless DEP issues an objection in writing within 60 days.
- C. Where submission of a modified PRP to DEP is required, the permittee shall solicit public involvement and participation, as follows:
 1. The permittee shall make a complete copy of the PRP available for public review.
 2. The permittee shall publish, in a newspaper of general circulation in the area, a public notice containing a statement describing the plan, where it may be reviewed by the public, and the length of time the permittee will provide for the receipt of comments. The public notice must be published at least 45 days prior to the deadline for submission of the PRP to DEP.
 3. The permittee shall accept written comments for a minimum of 30 days from the date of public notice.
 4. The permittee shall accept comments from any interested member of the public at a public meeting or hearing, which may include a regularly scheduled meeting of the governing body of the municipality or municipal authority that is the permittee.
 5. The permittee shall consider and make a record of the consideration of each timely comment received from the public during the public comment period concerning the plan, identifying any changes made to the plan in response to the comment.
- D. Progress with achieving the required pollutant load reductions shall be reported in each Annual MS4 Status Report.

Appendix B

Proof of Publication

Appendix C

Existing Loading: Girty's Run Sewershed

PROJECT NAME:
LOCATION:
PREPARED BY:
CHECKED BY:

MS4 Pollutant Reduction Plan
Ross Township, Allegheny County, PA
DPS

DATE: 4/17/2024
DATE:

Girty's Run Drainage Area

Land Cover	TSS (lb/Ac/yr)	TP (lb/Ac/yr)	TN (lb/Ac/yr)
Developed Impervious	1839	2.28	23.06
Developed Pervious	265	0.84	20.72
Undeveloped	234.6	0.33	10

Class 3 Land Use Description	Percent Developed Impervious	Percent Developed Pervious	Percent Undeveloped	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
Industrial	72%	28%	0%							
Industrial Complex	80%	20%	0%							
Chemical	80%	20%	0%							
Manufacturing	75%	25%	0%							
Major Highways	60%	40%	0%	4.592325	2.76	1.84	0.00	5554	7.83	101.60
Railroads	40%	60%	0%							
Airports	60%	40%	0%							
Substations	50%	50%	0%							
Water/Sewer Treatment Plants	40%	60%	0%							
Dams	100%	0%	0%							
Docking Ports	100%	0%	0%							
Powerline & Pipeline ROW	10%	25%	65%	2.846117	0.28	0.71	1.85	1146	1.86	39.81
Strip Mines	50%	50%	0%							
Slag Piles	50%	50%	0%							
Quarries	75%	25%	0%							
Gravel Pits	50%	50%	0%							
Mixed Barren	0%	100%	0%							
Mall	75%	25%	0%							
Commercial Strip	85%	15%	0%	4.280971	3.64	0.64	0.00	6862	8.84	97.22
Commercial and Services	85%	15%	0%	82.85390	70.43	12.43	0.00	132807	171.01	1881.53
Business Complex	40%	50%	10%	0.196317	0.08	0.10	0.02	175	0.27	4.04
Mixed Urban	70%	25%	5%							
Institutional	30%	40%	30%	31.36319	9.41	12.55	9.41	22835	35.10	571.00
Transitional Cleared / Construction	0%	100%	0%	1.205452	0.00	1.21	0.00	319	1.01	24.98
High Density Residential	65%	35%	0%	32.57517	21.17	11.40	0.00	41960	57.85	724.50
Medium Density Residential	30%	70%	0%	917.42034	275.23	642.19	0.00	676322	1166.96	19652.98
Medium Low Density Residential	25%	75%	0%	198.376624	49.59	148.78	0.00	130631	238.05	4226.41
Large Yard	10%	80%	10%							
Low Density Rural	15%	60%	25%							
Cemeteries	15%	75%	10%	7.857298	1.18	5.89	0.79	3913	7.90	157.14
Parks and Recreation	15%	55%	30%	15.685983	2.35	8.63	4.71	7717	14.16	280.07
Golf Courses	10%	70%	20%							
Nurseries	10%	70%	20%							
Farmstead	5%	80%	15%							
Fallow Fields	0%	100%	0%							
Row Crops	0%	80%	20%							
Rivers	100%	0%	0%							
Reservoirs	100%	0%	0%							
Lakes	100%	0%	0%							
Streams	100%	0%	0%							
Ponds	100%	0%	0%							
Mixed Rangeland	0%	50%	50%	4.552739	0.00	2.28	2.28	1137	2.66	69.93
Pasture	0%	50%	50%							
Vegetated Buffer	0%	0%	100%							
Open Space	0%	0%	100%	0.011152	0.00	0.00	0.01	3	0.00	0.11
Shrub and Brush	0%	0%	100%							
Sparse Tree Crown	0%	0%	100%							
Mixed Forest	0%	0%	100%	162.511083	0.00	0.00	162.51	38125	53.63	1625.11

	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
TOTALS	1466.328663	436.12	848.64	181.57	1069507	1767.13	29456.43

PROJECT NAME:
LOCATION:
PREPARED BY:
CHECKED BY:

MS4 Pollutant Reduction Plan
Ross Township, Allegheny County, PA
DPS

DATE: 4/17/2024
DATE:

McKnight Run Drainage Area

Land Cover	TSS (lb/Ac/yr)	TP (lb/Ac/yr)	TN (lb/Ac/yr)
Developed Impervious	1839	2.28	23.06
Developed Pervious	265	0.84	20.72
Undeveloped	234.6	0.33	10

Class 3 Land Use Description	Percent Developed Impervious	Percent Developed Pervious	Percent Undeveloped	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
Industrial	72%	28%	0%							
Industrial Complex	80%	20%	0%							
Chemical	80%	20%	0%							
Manufacturing	75%	25%	0%							
Major Highways	60%	40%	0%	0.019357	0.01	0.01	0.00	23	0.03	0.43
Railroads	40%	60%	0%							
Airports	60%	40%	0%							
Substations	50%	50%	0%							
Water/Sewer Treatment Plants	40%	60%	0%	0.326726	0.13	0.20	0.00	292	0.46	7.08
Dams	100%	0%	0%							
Docking Ports	100%	0%	0%							
Powerline & Pipeline ROW	10%	25%	65%							
Strip Mines	50%	50%	0%							
Slag Piles	50%	50%	0%							
Quarries	75%	25%	0%							
Gravel Pits	50%	50%	0%							
Mixed Barren	0%	100%	0%							
Mall	75%	25%	0%							
Commercial Strip	85%	15%	0%	35.275972	29.98	5.29	0.00	56544	72.81	801.08
Commercial and Services	85%	15%	0%	34.08232	28.97	5.11	0.00	54631	70.35	773.98
Business Complex	40%	50%	10%							
Mixed Urban	70%	25%	5%							
Institutional	30%	40%	30%	7.07948	2.12	2.83	2.12	5154	7.92	128.89
Transitional Cleared / Construction	0%	100%	0%	1.189490	0.00	1.19	0.00	315	1.00	24.65
High Density Residential	65%	35%	0%	22.79433	14.82	7.98	0.00	29361	40.48	506.97
Medium Density Residential	30%	70%	0%	73.62026	22.09	51.53	0.00	54273	93.64	1577.09
Medium Low Density Residential	25%	75%	0%	17.853677	4.46	13.39	0.00	11757	21.42	380.37
Large Yard	10%	80%	10%							
Low Density Rural	15%	60%	25%							
Cemeteries	15%	75%	10%							
Parks and Recreation	15%	55%	30%	1.811929	0.27	1.00	0.54	891	1.64	32.35
Golf Courses	10%	70%	20%							
Nurseries	10%	70%	20%							
Farmstead	5%	80%	15%							
Fallow Fields	0%	100%	0%							
Row Crops	0%	80%	20%							
Rivers	100%	0%	0%							
Reservoirs	100%	0%	0%							
Lakes	100%	0%	0%							
Streams	100%	0%	0%							
Ponds	100%	0%	0%							
Mixed Rangeland	0%	50%	50%							
Pasture	0%	50%	50%							
Vegetated Buffer	0%	0%	100%							
Open Space	0%	0%	100%							
Shrub and Brush	0%	0%	100%							
Sparse Tree Crown	0%	0%	100%							
Mixed Forest	0%	0%	100%	45.945421	0.00	0.00	45.95	10779	15.16	459.45

	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
TOTALS	239.998958	102.86	88.53	48.61	224021	324.92	4692.34

PROJECT NAME:
LOCATION:
PREPARED BY:
CHECKED BY:

**MS4 Pollutant Reduction Plan
Ross Township, Allegheny County, PA
DPS**

DATE: 4/17/2024
DATE:

Nelson Run Drainage Area

Land Cover	TSS (lb/Ac/yr)	TP (lb/Ac/yr)	TN (lb/Ac/yr)
Developed Impervious	1839	2.28	23.06
Developed Pervious	265	0.84	20.72
Undeveloped	234.6	0.33	10

Class 3 Land Use Description	Percent Developed Impervious	Percent Developed Pervious	Percent Undeveloped	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
Industrial	72%	28%	0%							
Industrial Complex	80%	20%	0%							
Chemical	80%	20%	0%							
Manufacturing	75%	25%	0%							
Major Highways	60%	40%	0%	0.528979	0.32	0.21	0.00	640	0.90	11.70
Railroads	40%	60%	0%							
Airports	60%	40%	0%							
Substations	50%	50%	0%							
Water/Sewer Treatment Plants	40%	60%	0%							
Dams	100%	0%	0%							
Docking Ports	100%	0%	0%							
Powerline & Pipeline ROW	10%	25%	65%	7.085985	0.71	1.77	4.61	2853	4.62	99.10
Strip Mines	50%	50%	0%							
Slag Piles	50%	50%	0%							
Quarries	75%	25%	0%							
Gravel Pits	50%	50%	0%							
Mixed Barren	0%	100%	0%							
Mall	75%	25%	0%							
Commercial Strip	85%	15%	0%							
Commercial and Services	85%	15%	0%	28.44093	24.17	4.27	0.00	45588	58.70	645.87
Business Complex	40%	50%	10%							
Mixed Urban	70%	25%	5%							
Institutional	30%	40%	30%							
Transitional Cleared / Construction	0%	100%	0%							
High Density Residential	65%	35%	0%	4.85239	3.15	1.70	0.00	6250	8.62	107.92
Medium Density Residential	30%	70%	0%	74.84326	22.45	52.39	0.00	55174	95.20	1603.29
Medium Low Density Residential	25%	75%	0%	43.751787	10.94	32.81	0.00	28811	52.50	932.13
Large Yard	10%	80%	10%							
Low Density Rural	15%	60%	25%							
Cemeteries	15%	75%	10%	116.217627	17.43	87.16	11.62	57883	116.80	2324.24
Parks and Recreation	15%	55%	30%	0.260195	0.04	0.14	0.08	128	0.23	4.65
Golf Courses	10%	70%	20%							
Nurseries	10%	70%	20%							
Farmstead	5%	80%	15%							
Fallow Fields	0%	100%	0%							
Row Crops	0%	80%	20%							
Rivers	100%	0%	0%							
Reservoirs	100%	0%	0%							
Lakes	100%	0%	0%							
Streams	100%	0%	0%							
Ponds	100%	0%	0%							
Mixed Rangeland	0%	50%	50%							
Pasture	0%	50%	50%							
Vegetated Buffer	0%	0%	100%							
Open Space	0%	0%	100%	3.184014	0.00	0.00	3.18	747	1.05	31.84
Shrub and Brush	0%	0%	100%							
Sparse Tree Crown	0%	0%	100%							
Mixed Forest	0%	0%	100%	115.705752	0.00	0.00	115.71	27145	38.18	1157.06

	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
TOTALS	394.870920	79.22	180.46	135.20	225219	376.81	6917.80

PROJECT NAME:
LOCATION:
PREPARED BY:
CHECKED BY:

MS4 Pollutant Reduction Plan
Ross Township, Allegheny County, PA
DPS
DATE: 4/17/2024
DATE:

Overall Girty Run Drainage Area

Land Cover	TSS (lb/Ac/yr)	TP (lb/Ac/yr)	TN (lb/Ac/yr)
Developed	1839	2.28	23.06
Impervious			
Developed Pervious	265	0.84	20.72
Undeveloped	234.6	0.33	10

Class 3 Land Use Description	Percent Developed Impervious	Percent Developed Pervious	Percent Undeveloped	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
Industrial	72%	28%	0%							
Industrial Complex	80%	20%	0%							
Chemical	80%	20%	0%							
Manufacturing	75%	25%	0%							
Major Highways	60%	40%	0%	5.140661	3.08	2.06	0.00	6217	8.76	113.73
Railroads	40%	60%	0%							
Airports	60%	40%	0%							
Substations	50%	50%	0%							
Water/Sewer Treatment Plants	40%	60%	0%	0.326726	0.13	0.20	0.00	292	0.46	7.08
Dams	100%	0%	0%							
Docking Ports	100%	0%	0%							
Powerline & Pipeline ROW	10%	25%	65%	9.932102	0.99	2.48	6.46	3999	6.48	138.91
Strip Mines	50%	50%	0%							
Slag Piles	50%	50%	0%							
Quarries	75%	25%	0%							
Gravel Pits	50%	50%	0%							
Mixed Barren	0%	100%	0%							
Mall	75%	25%	0%							
Commercial Strip	85%	15%	0%	39.556943	33.62	5.93	0.00	63406	81.65	898.30
Commercial and Services	85%	15%	0%	145.377115	123.57	21.81	0.00	233025	300.06	3301.37
Business Complex	40%	50%	10%	0.196317	0.08	0.10	0.02	175	0.27	4.04
Mixed Urban	70%	25%	5%							
Institutional	30%	40%	30%	38.44267	11.53	15.38	11.53	27989	43.02	699.89
Transitional Cleared / Construction	0%	100%	0%	2.394942	0.00	2.39	0.00	635	2.01	49.62
High Density Residential	65%	35%	0%	60.22189	39.14	21.08	0.00	77572	106.95	1339.40
Medium Density Residential	30%	70%	0%	1065.88386	319.77	746.12	0.00	785770	1355.80	22833.36
Medium Low Density Residential	25%	75%	0%	259.982088	65.00	194.99	0.00	171198	311.98	5538.92
Large Yard	10%	80%	10%							
Low Density Rural	15%	60%	25%							
Cemeteries	15%	75%	10%	124.074925	18.61	93.06	12.41	61797	124.70	2481.37
Parks and Recreation	15%	55%	30%	17.758107	2.66	9.77	5.33	8737	16.04	317.07
Golf Courses	10%	70%	20%							
Nurseries	10%	70%	20%							
Farmstead	5%	80%	15%							
Fallow Fields	0%	100%	0%							
Row Crops	0%	80%	20%							
Rivers	100%	0%	0%							
Reservoirs	100%	0%	0%							
Lakes	100%	0%	0%							
Streams	100%	0%	0%							
Ponds	100%	0%	0%							
Mixed Rangeland	0%	50%	50%	4.552739	0.00	2.28	2.28	1137	2.66	69.93
Pasture	0%	50%	50%							
Vegetated Buffer	0%	0%	100%							
Open Space	0%	0%	100%	3.195166	0.00	0.00	3.20	750	1.05	31.95
Shrub and Brush	0%	0%	100%							
Sparse Tree Crown	0%	0%	100%							
Mixed Forest	0%	0%	100%	324.162256	0.00	0.00	324.16	76048	106.97	3241.62
Deciduous	0%	0%	100%							

	Land Use Area (Acres)	Developed Impervious Area (Acres)	Developed Pervious Area (Acres)	Undeveloped Area (Acres)	TSS Load (lb/yr)	TP Load (lb/yr)	TN Load (lb/yr)
TOTALS	2101.198544	618.19	1117.63	365.38	1518747	2468.86	41066.56

Appendix D

Proposed BMPs: Girtys Run Sewershed

PROJECT NAME: MS4 Pollutant Reduction Plan
 LOCATION: Ross Township, Allegheny County, PA
 PREPARED BY: CEM DATE: 11/1/2024
 CHECKED BY: DPS DATE: _____

Girty's Run Sewershed Proposed Stormwater BMP Pollutant Load Reductions																		
BMP	Proposed Structural Stormwater BMP Type ¹	Total Area Controlled by BMP ² (acres)	Developed Impervious Area (acres)	Developed Pervious Area (acres)	Undeveloped Area (acres)	Loads within BMP Area ³			BMP Effectiveness Values ⁴ (%)			Proposed Load Reduction ⁴ (lb/yr)			Minimum Required Load Reduction ⁵ (lb/yr)			
						TN (lb/yr)	TP (lb/yr)	TSS (lb/yr)	TN	TP	TSS	TN	TP	TSS				
Hillcrest Avenue/Marie Drive	Bioretention / Raingarden (C/D soils with underdrain)	60.73	24.49	36.24	0.00	1316	86.3	54,639	25%	45%	55%	328.9	38.8	30,052	-	-	-	BMP#1 - Hillcrest Avenue/Marie Drive New Stormwater Pond
Evergreen Park	Bioretention / Raingarden (C/D soils with underdrain)	37.03	20.52	15.01	1.50	799	59.9	42,065	25%	45%	55%	199.8	27.0	23,136	-	-	-	BMP #2 - Evergreen Park New Stormwater Ponds
Ross Township Municipal Building	Bioretention / Raingarden (C/D soils with underdrain)	14.89	4.21	7.32	3.36	282	16.9	10,470	25%	45%	55%	70.6	7.6	5,758	-	-	-	BMP #3 - Ross Township Building Existing Pond Retrofit
Thompson Drive	Bioretention / Raingarden (C/D soils with underdrain)	92.88	33.16	55.30	4.42	1955	123.5	76,670	25%	45%	55%	488.7	55.6	42,169	-	-	-	BMP #4 - Thompson Drive New Stormwater Pond
Alternate BMP - Country Lane	Bioretention / Raingarden (C/D soils with underdrain)	50.38	14.84	34.99	0.55	1073	63.4	36,691	25%	45%	55%	268.2	28.5	20,180	-	-	-	BMP #5 - Country Lane New Stormwater Pond (Alternate)
Alternate BMP - Evergreen VFD	End of Pipe Treatment with Modular Filtration	31.96	11.02	20.94	0.00	688	42.7	25,814	0%	50%	80%	0.0	21.4	20,651	-	-	-	BMP #6 - Evergreen VFD New Stormwater Filtration Vault (Alternate)
Alternate BMP - Stream Restoration		Restoration Length (LF)				Pollutant Load Removal per Unit Length of Stream Restoration ⁶ (lbs/ft/yr)			Proposed Load Reduction (lb/yr)			Minimum Required Load Reduction ⁵ (lb/yr)			Stream Name and HUC ID No., Linear Feet and Location			
						TN	TP	TSS	TN	TP	TSS	TN	TP	TSS				
		400				-	-	-	0.075	0.0680	44.88	30.0	27.2	17,952	-	-	400 LF of Proposed Stream Restoration along Denny Park	
Totals						-	-	392.7	-	-	-	-	-	206.0	-	-	123	

	TN	TP	TSS
Total Proposed Load Reductions due to BMP Retrofits :	-	7.6	-
Total Proposed Load Reductions due to new Structural BMPs :	-	149.9	-
Total Proposed Load Reductions due to Stream Restoration:	-	27.2	-
Total Proposed Load Reductions due to Storm Sewer System Solids Removal :	-	21.4	-
Total Proposed Load Reductions due to Tree Plantings :	-	-	-
Total Proposed Load Reductions due to Street Sweeping :	-	-	-
Total Proposed Load Reductions :	-	206.03	-
Total Min. Required Load Reductions :	-	123.00	-

Total Linear Feet of Stream Restoration :	400
Total Number of Inlets to be Cleaned per Year :	-
Total Number of New Stormwater Detention BMPs :	4
Total Number of Existing BMPs to be Retrofitted :	1

Pollutant Loading Rates (lb/acre/year)			
Land Cover	TN	TP	TSS
Developed Impervious	23.06	2.28	1839
Developed Pervious	20.72	0.84	264.96
Undeveloped	10	0.33	234.6

FOOTNOTES:

1. Listed from DEP General Permit Document 3800-PM-BCW0100m BMP Effectiveness Values and DEP Alternative E&S and PCSM BMPs document.

2. Delineated from DCNR LiDAR mapping by user within AutoCAD.

3. Calculated with user drainage areas and the Penn State University PAMAP 2005 Land Use / Land Cover GIS data.

4. Load Reduction = BMP Effectiveness Values x Load within BMP Area.

5. TP min. required load reduction = 5% x Total net TP loads within planning area
 TSS min. required load reduction = 10% x Total net TSS loads within planning area

6. $2' \times 4' \times 0.083' = 0.664 \text{ CF/yr} \times 62.4 \text{ lb/cf} \times 2.5 \times 0.6 = 62.0 \text{ lb/yr}$ (where $2' \times 4' \times 0.083'$ is the volume of an inlet box, 62.4 CF/yr is the unit weight of water, 2.5 is the specific gravity of sediment particles, 0.6 is the ratio of solid volume to total bulk volume of accumulated sediment)

7. 50% of total solids estimated to be inorganic, 40% of total solids estimated to be organic with remaining 10% to be debris. Dry weight of inorganic is 50% of total inorganic weight; dry weight of organic is 45% of total organic weight as per DEP PRP Instructions.

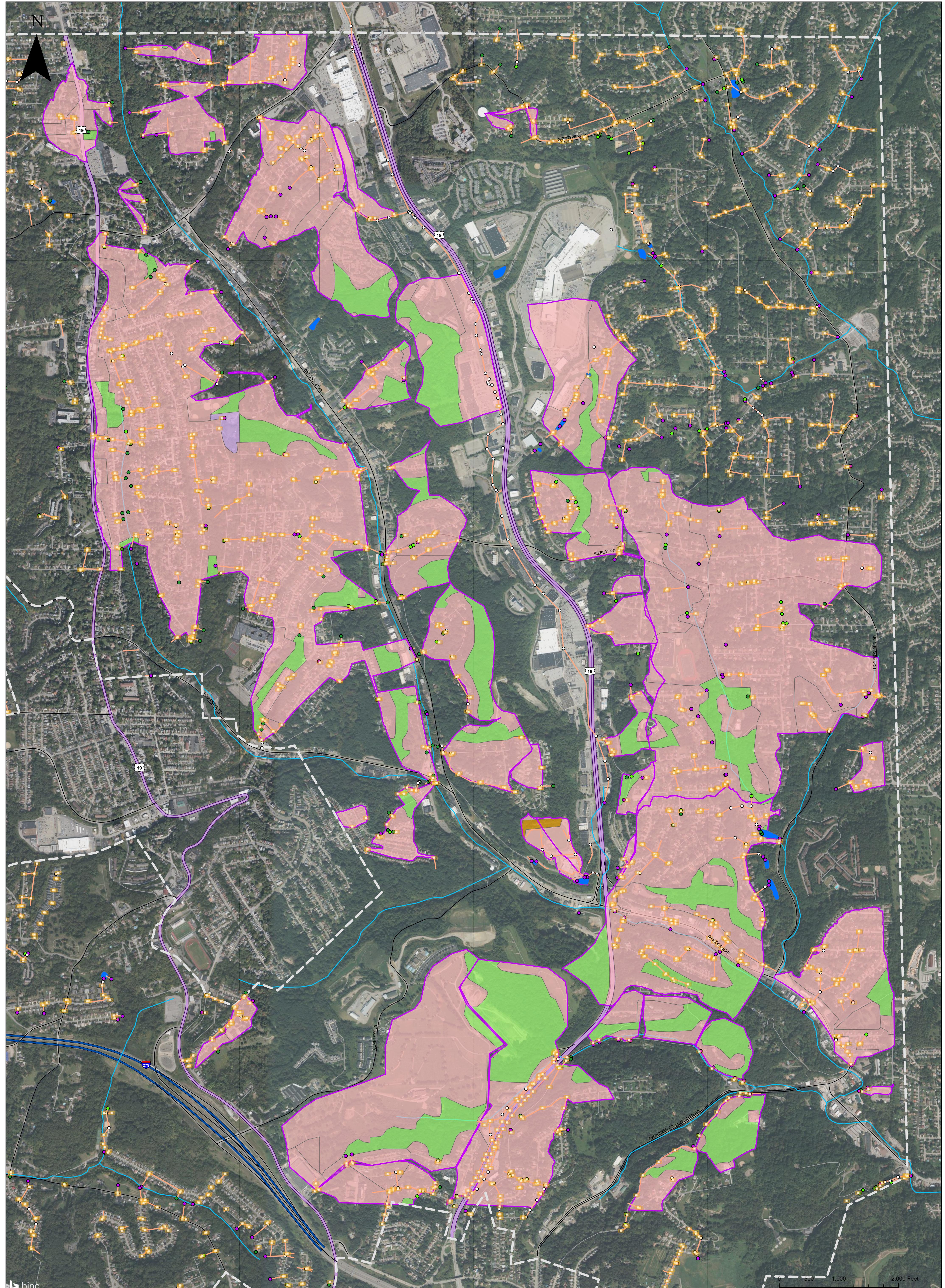
8. Per PA DEP MS4 BMP Effectiveness Values Document 3800-PM-BCW0100m, one Tree Planting is equivalent to 0.01 acre.

9. Per PA DEP MS4 BMP Effectiveness Values Document 3800-PM-BCW0100m, TN credit cannot exceed 4:1 upslope area-to-buffer area ratio, TP and TSS credits cannot exceed 2:1 upslope area-to-buffer area ratio.

10. Per PA DEP MS4 BMP Effectiveness Values Document 3800-PM-BCW0100m, only street lanes that are swept at least 25 times per year shall be included.

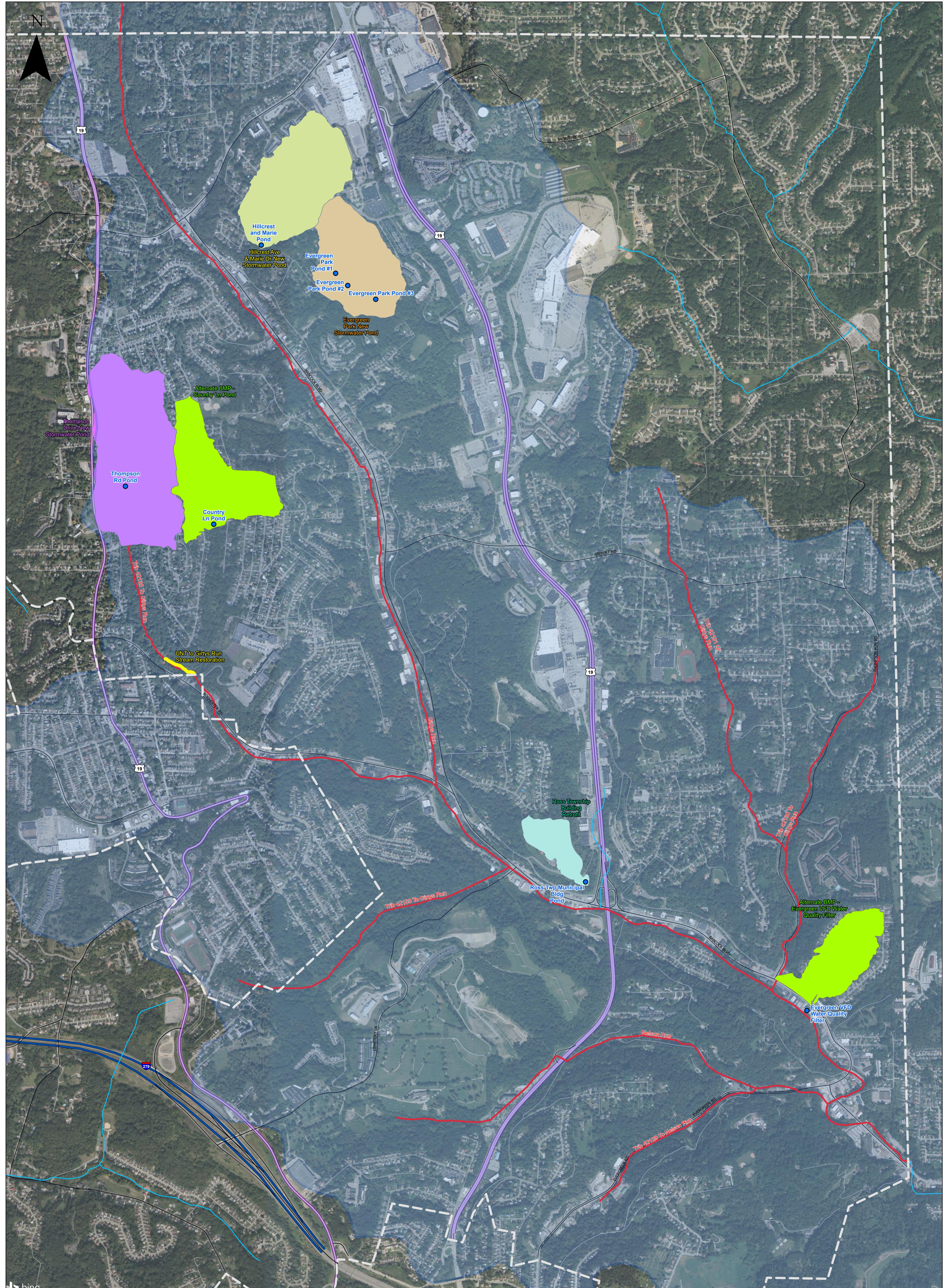
Appendix E

Girtys Run Land Use Areas Map



Appendix F

Girtys Run BMP Map



LEGEND

- Thompson Drive New Stormwater Pond
- Ross Township Building Retrofit
- Hillcrest Ave & Marie Drive New Stormwater Pond
- Evergreen Park New Stormwater Pond
- Girty's Run Alternate BMPs Drainage Areas
- Girty's Run Drainage Area
- Impaired Streams
- Streams
- Girty's Run Ponds
- UNT to Girty's Run Stream Restoration

0 500 1,000 2,000 Feet

**GIRTYS RUN BMP MAPPING
FOR
ROSS TOWNSHIP, PA**