

POCONO TOWNSHIP

MS-4 INDIVIDUAL PERMIT
POLLUTANT REDUCTION PLAN

Project No. 1630022

July 10, 2017

Prepared For:

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JUL 21 2017
POCONO TOWNSHIP

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INTRODUCTION

This narrative has been prepared on behalf of Pocono Township to address the Pollution Reduction Plan requirements of the PADEP MS-4 program.

Pocono Township has been identified by the PADEP as containing 5,504 acres of urbanized area. The designation is based on the 2010 U.S. Census. Many of the tributaries to, and streams within Pocono Township carry a designation of "high quality" or "exceptional value." These two criteria require the Township to obtain an Individual NPDES Permit under the Clean Water Act, 33 U.S.C. Section 1251, et seq. and the PA Clean Streams Law, as amended 35 P.S. Section 691.1 et seq.

The PADEP has made a determination that stormwater runoff from the urbanized areas is contributing to sediment/nutrient loading, and pathogen pollution of tributaries and streams within the Township. This Pollution Reduction Plan focuses specifically on addressing reduction of the sediment/nutrient loading. Reduction of pathogens must be addressed before the end of three years once the NPDES Permit is issued.

SWIFTWATER LAKE

A portion (15.31 acres) of the PADEP Urbanized Area in Pocono Township discharges stormwater to an unnamed tributary which drains to Swiftwater Creek and which, in turn, ultimately empties into Swiftwater Lake. Swiftwater Lake is located within Paradise Township and has been classified by the PADEP as a Non Attaining Lake. A Non Attaining Lake is defined by PADEP as having high levels of pollutants which has not attained a targeted level of water quality. The desired target level of water quality is not defined by PADEP. PADEP states Swiftwater Lake is impaired by undesirable nutrients (organic enrichment/low dissolved oxygen). The drainage area to the unnamed tributary to Swiftwater Lake is 45.20 acres, which includes 115.31 acres of urbanized area. This is the Swiftwater Lake PRP Planning Area. It has been calculated that the nutrient loading from this PRP Planning Area is 11,482 pounds per year utilizing PADEP methodology.

BRODHEAD CREEK

A second portion (23.88 acres) of the PADEP Urbanized Area in Pocono Township discharges stormwater to an unnamed tributary to the Brodhead Creek which flows to the Brodhead Creek. The unnamed tributary is located along the eastern municipal boundary shared with Stroud Township, and has a Chapter 93 Classification of High Quality. PADEP has determined that this unnamed tributary is impaired by sediment and undesirable nutrients (organic enrichment/low dissolved oxygen). The Urbanized Area (23.88 acres) discharging stormwater to the unnamed tributary to the Brodhead Creek, and lands upstream of and discharging stormwater through this Urbanized Area have a total area of 60.01 acres, and is the Unnamed Tributary to the Brodhead Creek PRP Planning Area. Boucher & James, Inc. has calculated that the existing sediment and nutrient loading from this PRP Planning Area is 4,674 pounds per year, utilizing PADEP methodology.

REQUIRED REDUCTIONS

The PADEP is mandating that sediment loading be reduced by 10%, and the nutrient loading be reduced by 5%. Best management practices, including, but not limited to stream restoration, forest buffers, infiltration, and/or basin retrofitting may be implemented by the Township to reduce the undesirable nutrients existing in Swiftwater Lake by five percent (5%), or 574 pounds per year, and to reduce the sediment and undesirable nutrients existing in the unnamed tributary to the Brodhead Creek by ten percent (10%), or 467 pounds per year. The required five percent (5%) reduction of existing nutrients in the unnamed tributary to Brodhead Creek is simultaneously achieved through the ten percent (10%) reduction of existing sediment.

PATHOGENS

The remainder of the Urbanized Area (5,465 acres) in Pocono Township partly discharges stormwater to Scot Run which drains to Pocono Creek, or partly discharges stormwater to Bulgars Run and Cranberry Creek which drain to Pocono Creek, or partly discharges stormwater to Pocono Creek alone. Pocono Creek is tributary to McMichael Creek. The remainder of the Urbanized Area also partly discharges stormwater to the Brodhead Creek alone. PADEP has identified

McMichael Creek and Brodhead Creek as being impaired by pathogens. Under the MS-4 Individual Permit the Township will be required to investigate suspected sources of existing pathogens and address any illegal connections or discharges to the impaired waters. The investigation of pathogens and the implementation of measures to control pathogens are not part of this Pollutant Reduction Plan.

The following Pollutant Reduction Plan includes Sections A through G for Public Participation, Pollutant Reduction Planning Area Map, Pollutants of Concern, Existing Pollutant Loading Calculations, Proposed Best Management Practices for Pollutant Loading Reductions, Funding Sources, and Operation and Maintenance of Proposed Best Management Practices.

SECTION A
PUBLIC PARTICIPATION

PUBLIC NOTICE OF POLLUTANT REDUCTION PLAN

The Pocono Township Board of Commissioners will accept comments from the public beginning on August 3, 2017 and extending through September 4, 2017 associated with the Township's Pollutant Reduction Plan as required by the Pennsylvania Department of Environmental Protection as a component of the Township's National Pollutant Discharge Elimination System (NPDES) Individual Permit to Discharge Stormwater from Small Separate Storm Sewer Systems (MS4s). The Pollutant Reduction Plan outlines in general terms the Township's 5-year plan between 2018 and 2023 to reduce sediment and nutrient (organic enrichment/Low D.O.) loadings from the MS4 stormwater discharges to an Unnamed Tributary to Brodhead Creek and nutrient (organic enrichment/Low D.O) loadings to Swiftwater Lake.

The Pollutant Reduction Plan will be available for public review Monday through Friday between the hours of 8:00 AM and 4:30 PM at the municipal offices of Pocono Township at 112 Township Drive, Tannersville, Pennsylvania 18372. Comments may be provided in writing and delivered in person to Donna Asure, Township Manager, Pocono Township, sent via email to dasure@poconopa.gov or regular mail addressed to the Township Municipal Building. The Township will accept comments from any interested member of the public at the regularly scheduled meeting of Pocono Township on August 21, 2017.

Public Questions, Comments, and Concerns

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SECTION B
POLLUTANT REDUCTION
PLANNING AREA MAP

SECTION C
POLLUTANTS OF CONCERN

Pollutants of Concern

The Pennsylvania Department of Environmental Protection has determined that Swiftwater Lake, which is located in Paradise Township, is impaired by nutrients (organic enrichment/low dissolved oxygen). A five percent (5%) reduction of the existing nutrient loading is required.

The Pennsylvania Department of Environmental Protection has also determined that the unnamed tributary to Brodhead Creek is impaired by sediment and nutrients (organic enrichment/low dissolved oxygen). A ten percent (10%) reduction of the existing sediment loading is required. The required five percent (5%) reduction of the existing nutrient loading is accomplished through the ten percent (10%) sediment loading reduction.

SECTION D

EXISTING POLLUTANT LOADING CALCULATIONS

Existing Pollutant Loading Calculations Summary

The existing nutrient loading, and the existing nutrient and sediment loading were calculated utilizing the Simplified Method, as suggested by the PADEP. The Simplified Method calculates the existing sediment and nutrient loadings by multiplying existing impervious and pervious land use areas within, and outside of the identified Urbanized Area with the Loading Rates listed below. Existing land use areas were obtained from Wiki Watershed, which is a GIS based program that identifies and quantifies existing land uses within the Township.

The following Loading Rates were provided by the Pennsylvania Department of Environmental Protection and were utilized with the Simplified Method to calculate the existing sediment and nutrient loadings:

Developed Impervious Area	1,839.00 pounds/acre/year
Developed Pervious Area	264.96 pounds/acre/year
Other Pervious Areas (outside the Urbanized Area)	234.60 pounds/acre/year

The nutrient loading based upon the existing land uses within the Swiftwater Lake PRP Planning Area is 11,482 pounds per year.

The existing sediment and nutrient loading based upon the existing land uses within the Unnamed Tributary to the Brodhead Creek PRP Planning Area is 4,674 pounds per year. Existing areas of private development were "parsed out" (removed) from the existing sediment and nutrient loading.

See Spreadsheet on next page for calculations.

SECTION E
PROPOSED BEST MANAGEMENT PRACTICES FOR
POLLUTANT LOADING REDUCTIONS

Summary of Best Management Practices to Reduce Pollutant Loading to Swiftwater Lake

The amount of nutrient loading reduction required within the Swiftwater Lake PRP Planning Area is 574 pounds per year (5% of 11,482 pounds per year). Various best management practices may be implemented by the Township to reduce the existing nutrient loading in Swiftwater Lake. The following options are provided as part of this Pollutant Reduction Plan. Over the next 5 years, Pocono Township will take the appropriate steps to implement one, or more of the following options.

Option 1 – Stream Restoration

The existing nutrient loading in Swiftwater Lake can be reduced by the implementation of stream restoration.

An analysis to identify existing erosive conditions along the unnamed tributary to Swiftwater Creek which discharges stormwater into Swiftwater Lake will be completed to determine the appropriate location(s) for stream restoration along the 1,822 feet of the unnamed tributary located within the PRP Planning Area. Design of the proposed stream restoration will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to construct the stream restoration and to maintain it in perpetuity. Also, the existing length of unnamed tributary within the PRP Planning Area is insufficient to reduce the existing nutrient loading in its entirety, therefore it will be necessary to partner with Jackson Township to develop this option alone.

Option 2 – Forest Buffer

The existing nutrient loading in Swiftwater Lake can be reduced by the implementation of a forest buffer. The forest buffer may be created anywhere along the 1,822 feet of the unnamed tributary to Swiftwater Creek which discharges stormwater into Swiftwater Lake, located within the PRP Planning Area that is not already forested. The forest buffer is required to be located adjacent to the unnamed tributary and have a minimum width of 35-feet. The forest buffer must include trees, shrubs and other vegetation to provide filtration of the stormwater prior to it entering the unnamed tributary.

To implement the forest buffer option, the Township will determine locations to plant trees, shrubs, and other vegetation along the unnamed tributary. Existing areas of forest along the unnamed tributary may not be utilized to reduce the existing nutrient loading. Design of the proposed forest buffer will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to install a forest buffer and to maintain it in perpetuity. Also, it may be

necessary to partner with Paradise Township if insufficient area is present within the boundaries of Pocono Township to develop this option.

Option 3 – Stream Restoration and Forest Buffer

The existing nutrient loading in Swiftwater Lake can also be reduced by the implementation of both stream restoration and a forest buffer. Stream restoration and forest buffers are harmonious and can achieve nutrient loading reduction more efficiently than establishing forest buffer alone.

To implement the stream restoration and forest buffer option, the Township will determine locations to provide stream restoration based upon an analysis of existing erosive conditions along the 1,822 feet of the unnamed tributary to Swiftwater Creek which discharges stormwater into Swiftwater Lake, within the PRP Planning Area. The forest buffer must be 35-feet wide, and may be located along the stream restoration, and/or other areas along the 1,822 feet of the unnamed tributary within the PRP Planning Area, that are not already forested. The forest buffer must include trees, shrubs and vegetation to provide filtration of stormwater prior to it entering the unnamed tributary. Existing areas of forest along the unnamed tributary may not be utilized to reduce the existing nutrient loading. Design of the proposed stream restoration and forest buffer will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to construct the stream restoration and install the forest buffer, and to maintain these in perpetuity. While the Township will still be required to obtain easements, the number of private properties affected may be reduced with the double benefit of stream restoration and forest buffers. Also, it may be necessary to partner with Paradise Township if insufficient area for stream restoration and forest buffers is present within the boundaries of Pocono Township to develop this option.

Option 4 – Stream Restoration, Forest Buffer, and Infiltration

The existing nutrient loading in Swiftwater Lake can also be reduced by the implementation of both stream restoration and a forest buffer, with infiltration facilities. Infiltration can be accomplished by constructing a berm to provide an opportunity for stormwater to infiltrate prior to it entering the forest buffer and/or the unnamed tributary to the Swiftwater Creek which discharges stormwater into Swiftwater Lake.

To implement the stream restoration, forest buffer and infiltration option, the Township will determine locations to provide stream restoration based upon an analysis of existing erosive conditions along the 1,822 feet of the unnamed tributary to Swiftwater. The forest buffer must be 35-feet wide, and may be located along the stream restoration, and/or other areas along the 1,822 feet of the unnamed tributary within the PRP Planning Area, that is not already forested. The forest buffer must include trees, shrubs and other vegetation to provide filtration of the stormwater prior to it entering the unnamed tributary. Existing areas of forest along the unnamed tributary may not be utilized to reduce the existing nutrient loading.

The areas of infiltration may occur anywhere along the 1,822 feet of the unnamed tributary, or other approved areas within the PRP Planning Area. The location of the infiltration facilities and the use of infiltration will be dependent upon identifying areas with favorable infiltration rates. Prior to construction of the infiltration area, testing will be performed to confirm infiltration is a viable option. Design of the proposed stream restoration, forest buffer, and infiltration facilities will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to construct these best management practices, and to maintain them in perpetuity. While the Township will still be required to obtain easements, the number of private properties affected may be reduced with the triple benefit of stream restoration, forest buffers, and infiltration. Also, it may be necessary to partner with Paradise Township if insufficient area for stream restoration, forest buffers, or infiltration is present within the boundaries of Pocono Township to develop this option.

Option 5 –Basin Retrofitting

The existing nutrient loading in Swiftwater Lake can also be reduced by the implementation of infiltration best management practices. The Township will explore the possibility of attaining easements over existing detention basins to retrofit these detention basins into infiltration best management practices.

Prior to retrofitting an existing detention basin, testing will be performed to confirm infiltration is a viable option. Design of the proposed infiltration best management practices will be completed prior to performing any work.

Summary of Best Management Practices to Reduce Pollutant Loading to an Unnamed Tributary to Brodhead Creek

The amount of sediment and nutrient loading reduction required within the Unnamed Tributary to the Brodhead Creek PRP Planning Area is 467 pounds per year (10% of 4,674 pounds per year). It is assumed that the ten percent (10%) sediment loading reduction will also accomplish the five percent (5%) nutrient loading reduction. Various best management practices may be implemented by the Township to reduce the existing sediment and nutrient loading. The following options are provided as part of this Pollutant Reduction Plan. Over the next 5 years, Pocono Township will take the appropriate steps to implement one, or more of the following options.

Option 1 – Stream Restoration

The existing sediment and nutrient loading in the unnamed tributary to the Brodhead Creek can be reduced by the implementation of stream restoration.

An analysis to identify existing erosive conditions along the unnamed tributary will be completed to determine the appropriate location(s) for stream restoration along the 2,703 feet of unnamed tributary located within the PRP Planning Area. Design of the proposed stream restoration will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to construct the stream restoration and to maintain it in perpetuity. Also, it may be necessary to partner with Stroud Township if insufficient area is present within the boundaries of Pocono Township to develop this option.

Option 2 – Forest Buffer

The existing sediment and nutrient loading in the unnamed tributary to the Brodhead Creek can also be reduced by the implementation of a forest buffer. The forest buffer may be created anywhere along the 2,703 feet of the unnamed tributary to the Brodhead Creek, located within the PRP Planning Area that is not already forested. The forest buffer is required to be located adjacent to the unnamed tributary and have a minimum width of 35-feet. The forest buffer will include trees, shrubs and other vegetation to provide filtration of the stormwater prior to it entering the unnamed tributary.

To implement the forest buffer option, the Township will determine locations to plant trees, shrubs, and other vegetation along the unnamed tributary. Existing areas of forest along the unnamed tributary may not be utilized to reduce the existing sediment and nutrient loading. Design of the proposed forest buffer will be completed, and any required state or federal permits will be obtained prior to performing any work. It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to install a forest buffer and to maintain it in perpetuity. Also, it may be necessary to partner with Stroud Township if insufficient area is present within the boundaries of Pocono Township to develop this option.

Option 3 – Stream Restoration and Forest Buffer

The existing sediment and nutrient loading in the unnamed tributary to the Brodhead Creek can also be reduced by the implementation of both stream restoration and a forest buffer. Stream restoration and forest buffers are harmonious and can provide Pocono Township with the required sediment and nutrient loading reduction by establishing less forest buffer, and/or by providing less stream restoration.

To implement the stream restoration and forest buffer option, the Township will determine locations to provide stream restoration based upon an analysis of existing erosive conditions along the 2,703 feet of the unnamed tributary to the Brodhead Creek, within the PRP Planning Area. The forest buffer must be 35-feet wide, and may be located along the stream restoration, and/or other areas along the 2,703 feet of the unnamed tributary within the PRP Planning Area, that are not already forested. The forest buffer will include trees, shrubs and vegetation to provide filtration of stormwater prior to it entering the unnamed tributary. Existing areas of forest along the unnamed tributary may not be utilized to reduce the existing sediment and nutrient loading. Design of the proposed stream restoration and forest buffer will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to construct the stream restoration and install the forest buffer, and to maintain these in perpetuity. While the Township will still be required to obtain easements, the number of private properties affected may be reduced with the double benefit of stream restoration and forest buffers. Also, it may be necessary to partner with Stroud Township if insufficient area for stream restoration and a forest buffer is present within the boundaries of Pocono Township to develop this option.

Option 4 – Stream Restoration, Forest Buffer, and Infiltration

The existing sediment and nutrient loading in the unnamed tributary to the Brodhead Creek can also be reduced by the implementation of both stream restoration and a forest buffer, with infiltration facilities. Infiltration can be accomplished by constructing a berm to provide an opportunity for stormwater to infiltrate prior to it entering the forest buffer and/or the unnamed tributary to the Brodhead Creek.

To implement the stream restoration, forest buffer and infiltration option, the Township will determine locations to provide stream restoration based upon an analysis of existing erosive conditions along the 2,703 feet of the unnamed tributary to the Brodhead Creek, within the PRP Planning Area. The forest buffer is required to be located adjacent to the unnamed tributary to the Brodhead Creek. The forest buffer must be 35-feet wide, and may be located along the stream restoration, and/or other areas along the 2,703 feet of the unnamed tributary within the PRP Planning Area, that are not already forested. The forest buffer will include trees, shrubs and other vegetation to provide filtration of the stormwater prior to it entering the unnamed tributary.

Existing areas of forest along the unnamed tributary may not be utilized to reduce the existing sediment and nutrient loading.

The areas of infiltration may occur anywhere along the 2,703 feet of the unnamed tributary, or other approved areas within the PRP Planning Area. The location of the infiltration facilities and the use of infiltration will be dependent upon identifying areas with favorable infiltration rates.

Prior to construction of the infiltration area, testing will be performed to confirm infiltration is a viable option. Design of the proposed stream restoration, forest buffer, and infiltration facilities will be completed, and any required state or federal permits will be obtained prior to performing any work.

It should be noted that the unnamed tributary within the PRP Planning Area is not located on property owned by Pocono Township. Therefore, the Township must obtain easements through private property in order to construct these best management practices, and to maintain them in perpetuity. While the Township will still be required to obtain easements, the number of private properties affected may be reduced with the triple benefit of stream restoration, forest buffers, and infiltration. Also, it may be necessary to partner with Stroud Township if insufficient area for stream restoration, forest buffers, or infiltration is present within the boundaries of Pocono Township to develop this option.

Option 5 –Basin Retrofitting

The existing sediment and nutrient loading in the unnamed tributary to the Brodhead Creek can also be reduced by the implementation of infiltration best management practices. The Township will explore the possibility of attaining easements over existing detention basins to retrofit these detention basins into infiltration best management practices.

Prior to retrofitting an existing detention basin, testing will be performed to confirm infiltration is a viable option. Design of the proposed infiltration best management practices will be completed prior to performing any work.

SECTION F
FUNDING SOURCES

Funding Sources Narrative

Possible funding sources include, but are not limited to, Township funds (i.e., General Fund and possibly Stormwater Management fees), the Pennsylvania Department of Environmental Protection's Growing Greener Program, and the Pennsylvania Department of Community and Economic Development's Watershed Restoration and Protection Program. The Township will actively seek other funding sources as well for the implementation of this PRP Plan.

SECTION G
OPERATION AND MAINTENANCE OF PROPOSED
BEST MANAGEMENT PRACTICES

Operation and Maintenance of Proposed Best Management Practices

Any selected best management practice will require Pocono Township to obtain an easement on private property in order to construct, operate and maintain the selected best management practices. The easement will be held in perpetuity on each property.

Stream Restoration

The operation and maintenance of the stream restoration will be conducted by Pocono Township and will include the following:

1. Periodic inspections to assess erosion, bank stability, sediment and debris accumulation, and vegetative conditions including the presence of invasive species. Maintain/correct erosion, bank instability as required. Remove sediment and debris, and undesirable species as required.
2. Water, weed, mulch and replant any vegetation, as required during the first 2 to 3 years. Remove undesirable species and plant replacements as necessary.

Forest Buffer

The operation and maintenance of the forest buffer will be conducted by Pocono Township and will include the following:

1. Watering:
 - a. Plantings need deep regular watering during the first growing season, either natural watering via rainfall, or planned watering by Pocono Township.
 - b. Planting in the fall increases likelihood of sufficient rain during planting establishment.
2. Mulching:
 - a. Mulch will assist in moisture retention in the root zone of plantings, moderate soil temperature, provide some weed suppression, and retard evaporation.
 - b. Use coarse, organic mulch that is slow to decompose in order to minimize repeat application.
 - c. Apply 2 to 4-inch layer, leaving air space around tree trunk to prevent fungus growth.
 - d. Use combination of woodchips, leaves, and twigs that are stockpiled for six months to a year.

3. Weed Control:

- a. Weed competition limits buffer growth and survival, therefore weeds should be controlled by either herbicide, mowing, or weed mats.
 - i. Herbicides – This is a short-term maintenance technique (2 to 3 years) that is generally considered less expensive and more flexible than mowing, and will result in a quicker establishment of the buffer. Herbicide use is regulated by the Pennsylvania Department of Agriculture. Proper care should be taken to ensure that proximity to water features is considered.
 - ii. Mowing – Mowing controls the height of the existing grasses, yet increases nutrient uptake, therefore competition for nutrients will persist until the canopy closure shades out lower layers. A planting layout similar to a grid format will facilitate ease of mowing yet yield an unnaturally spaced community. Mowing may result in strikes on the trunk unless protective measures are utilized. Mowing should occur twice each growing season. Mower height should be set between 8 to 12 inches.
 - iii. Weed Mats – Weed mats are geo-textile fabrics that are used to suppress weed growth around newly planted vegetation by providing shade and preventing seed deposition. Weed mats are installed after planting, and should be removed once the trees have developed a canopy that will naturally shade out weeds.

4. Deer Damage:

- a. Deer will browse all vegetation within reach, generally between 5 and 6 feet above the ground.
- b. Approaches to minimize damage include i) selecting plants that deer do not prefer (i.e., Paper Birch, Beech, Ash, Common Elderberry), ii) homemade deer repellents, iii) tree shelters

5. Tree Shelters

- a. Repair broken stakes.
- b. Tighten stake lines.
- c. Straighten leaning tubes.
- d. Clean debris from tube.
- e. Remove netting as tree grows.
- f. Remove when tree is approximately 2-inches wide.

6. Invasive Plants

- a. Monitor restoration sight regularly for any signs of invasive plants.
- b. Choice of control method is based on a variety of considerations, but falls into three general categories: i) mechanical, ii) mechanical with application of herbicide, iii) herbicide.

Infiltration

If selected, infiltration will be accomplished through the construction of infiltration berms. The operation and maintenance of the berms will be conducted by Pocono Township and will include the following:

1. Inspection to ensure infiltration will occur two (2) times per year; monitor drawdown time after major storm events.
2. Inspect any structural components.
3. Maintain mowing. Other vegetation will require less maintenance. Trees and shrubs may require annual mulching, while meadow planting requires annual mowing and clippings removal.
4. Avoid running heavy equipment over the infiltration area at the base of the berm. The crest of the berm may be used as access for heavy equipment when necessary to limit disturbance of the infiltration area.
5. Routinely remove accumulated trash and debris.
6. Remove invasive plants as needed.
7. Inspect for signs of flow channelization; restore level gradient immediately after deficiencies are observed.

Basin Retrofitting

If selected, infiltration will be accomplished through retrofitting existing detention basins into infiltration best management practices (BMP). The operation and maintenance of the infiltration best management practices will be conducted by Pocono Township and will include the following:

1. Catch basins and inlets (upgradient of the infiltration BMP) should be inspected and cleaned at least two (2) times per year and after runoff events.
2. The vegetation along the surface of the infiltration BMP should be maintained in good condition, and any bare spots vegetated as soon as possible.

3. Vehicles should not be parked or drive on an infiltration BMP, and care should be taken to avoid excessive compaction by mowers.
4. Inspect the BMP after runoff events and make sure that runoff drains down within 72 hours. Mosquito's should not be a problem if the water drains in 72 hours. Mosquitoes require a considerably long breeding period with relatively static water levels.
5. Inspect for accumulation of sediment, damage to outlet structures, erosion control measures, signs of water contamination/spills, and slope stability in the berms.
6. Mow only as appropriate for vegetative cover species.
7. Remove accumulated sediment from the BMP as required. Restore original cross section and infiltration rate. Properly dispose of sediment.