

REGIONAL CHESAPEAKE BAY POLLUTION REDUCTION PLAN
DUBOISTOWN BOROUGH AND SOUTH WILLIAMSPORT BOROUGH
LYCOMING COUNTY, PENNSYLVANIA

June 12, 2020

DUBOISTOWN BOROUGH

2651 Euclid Avenue

Duboistown PA 17702

570-323-3646

NPDES MS4 Permit PAG134807 – Effective February 1, 2019

SOUTH WILLIAMSPORT BOROUGH

329 West Southern Avenue

South Williamsport PA 17702

570-322-0158

NPDES MS4 Permit PAG134808 – Effective February 1, 2019

Prepared by:

Lycoming County Water and Sewer Authority

216 Old Cement Road, P O Box 186

Montoursville PA 17754

570-546-8005

In Cooperation with:

RETTEW Associates, Inc.

3020 Columbia Avenue

Lancaster PA 17603

800-738-8395

CONTENTS

Executive Summary

Section A – Public Participation Measures:

Duboistown Borough

South Williamsport Borough

- Public Notices *(to be attached to final document)*
- Minutes from Council meetings *(to be attached to final document)*
- Copy of Comments from Public, with Responses *(to be attached to final document)*

Section B – Maps *(all to be attached to final document)*

- Joint Storm Sewer System Map *(see separate document at www.lcwsa.net, for public review)*
- Chesapeake Conservancy High Resolution Land Cover Raster Analysis for the Borough of Duboistown, prepared by Lycoming County Planning and Community Development Department, GIS Division *(see separate document at www.lcwsa.net, for public review)*
- South Williamsport Storm Sewer System Map, including Storm Sewersheds and existing BMPs *(see separate document at www.lcwsa.net, for public review)*
- Chesapeake Conservancy High Resolution Land Cover Raster Analysis for the Borough of South Williamsport, prepared by Lycoming County Planning and Community Development Department, GIS Division *(see separate document at www.lcwsa.net, for public review)*
- Preliminary Design for Stormwater Basin Retrofit (BMP Option 1), prepared by Rettew Associates, dated March 10, 2020 *(see separate document at www.lcwsa.net, for public review)*

Section C – Pollutants of Concern:

- Appendix C – Priority Organic Compound of Polychlorinated Biphenyls (PCBs)
- Appendix D – Nutrients and Siltation

Section D – Determine Existing Loadings for Pollutants of Concern

- Initial Loadings
- Reductions to Initial Loadings
- Final Adjusted Loadings
- Minimum Required Reduction

Section E – Selected BMPs to Achieve the Minimum Required Reductions:

- BMP Option 1: Detention Basin Retrofit to Bioretention Basin
- BMP Option 2: Bioswale
- BMP Option 3: Demolition of South Williamsport Swimming Pool
- BMP Option 4: Installation of Sediment Traps along Norfolk Southern R/R
- BMP Option 5: Stabilization of PPL Utility Right-of-Way
- BMP Option 6: Dirt & Gravel Road Project for Woodside Avenue
- BMP Option 7: Reduction to Initial Load – Impervious Area Appeals
- BMP Option 8: Reduction to Initial Load – Credit Program BMP Installation
- BMP Option 9: Add Sediment Sumps to Inlets – Street Program
- BMP Option 10: Remove Storm Sewer System Solids – Drain Cleaning

Section F – Identify Funding Mechanism

Section G – Identify Responsible Parties for Operation and Maintenance (O&M) of BMP

- Party(ies) responsible for ongoing O&M
- Activities involved with O& M of each BMP
- Frequency at which O&M activities will occur

Other Attachments/Reference Documents: *(all to be attached to final document)*

- PAG-13, Appendix C
- PAG-13, Appendix D
- Initial Load Calculation Spreadsheet
- Documentation on Reductions to Initial Loading Calculations:
 - o Duboistown - Duboistown Heights
 - o Duboistown - Arch Street Complex
 - o Duboistown – PennDOT R/W
 - o South Williamsport – Lake View Apartments
 - o South Williamsport – Steve Shannon Tire
 - o South Williamsport – PennDOT R/W
- Intergovernmental Cooperation Agreement
- Rates, Rules & Regulations for Regional Stormwater Management Program
- Regional Stormwater Management Program Budget
- Growing Greener-Plus Grant Application

Executive Summary

The Borough of Duboistown prepared and submitted a Chesapeake Bay Pollution Reduction Plan (CBPRP), dated September 15, 2017. By letter dated January 10, 2019, the Pennsylvania Department of Environmental Protection (DEP) approved the PRP, noting that "...The Department does not approve the proposed (Optional) stream restoration at this time..." and requested that a revised PRP be provided to the Department.

The Borough of South Williamsport prepared and submitted a CBPRP, dated September 15, 2017. By letter dated January 22, 2019, DEP approved the PRP and the proposed BMPs.

Effective January 13, 2020, the Borough of Duboistown, the Borough of South Williamsport and the Lycoming County Water and Sewer Authority executed an Intergovernmental Cooperation Agreement (ICA) for the Creation and Implementation of a Regional Stormwater Management Program (SMP). Under the terms of this ICA, LCWSA is authorized to prepare and submit this Regional Chesapeake Bay Pollution Reduction Plan on behalf of the Borough of Duboistown and the Borough of South Williamsport. In addition, the ICA authorizes LCWSA, in cooperation with the Borough of Duboistown and the Borough of South Williamsport, to develop and implement a Stormwater Management Program (SMP) fee and to utilize the SMP fee to administer and implement the SMP, including ensuring that BMP Projects are constructed.

The notable changes from the original CBPRPs for each Borough and this Regional CBPRP for the Boroughs working cooperatively are as follows:

Duboistown Borough

- The initial loading calculations for the Borough of Duboistown were originally made using the Chesapeake Conservancy High Resolution Land Cover Database, as supplied by the Lycoming County Planning and Community Development Department, GIS Division.
- Boundaries of the Storm Sewersheds within the Borough of Duboistown Urbanized Area were reevaluated and slightly revised, prior to the calculation of the initial loading.
- Estimated sediment load reductions associated with the Lot #1 (detention basin) and Lot #2 through Lot #8 (rain gardens, soil amendment areas and tree conservation areas) of the Duboistown Heights Development BMPs (SWSHED-0013) and the Arch Street Complex BMP (SWSHED-0031) have been revised and applied to the loading calculations for the Borough of Duboistown.
- The area and impervious coverage associated with PennDOT right-of-ways have been parsed out of the initial loading calculation for the Borough of

Duboistown utilizing the Parcel Data within the Lycoming County Planning and Community Development Department, GIS Division.

- Following the submission and approval of the initial CBPRP for the Borough of Duboistown, the primary BMPs originally proposed for the Borough of Duboistown have been determined to either not be in compliance with DEP standards or to have substantially reduced pollution reduction capacities. The primary BMPs have been deleted from this Regional CBPRP.

South Williamsport Borough

- The initial loading calculations for the Borough of South Williamsport were originally made using the Stroud Water Research Center Wiki Watershed Tool and the National Land Cover Database 2011. For this Regional CBPRP, the initial loading calculations for the Borough of South Williamsport have been made using the Chesapeake Conservancy High Resolution Land Cover Database, as supplied by the Lycoming County Planning and Community Development Department, GIS Division.
- Boundaries of the Storm Sewersheds within the Borough of South Williamsport's Urbanized Area were reevaluated and revised, prior to the calculation of the initial loading.
- Estimated sediment load reductions associated with the Lakeview Apartment BMPs (SWSHED-0049) and the Shannon Tire BMPs (SWSHED-0063) have been applied to the loading calculations for the Borough of South Williamsport.
- The area and impervious coverage associated with PennDOT right-of-ways have been parsed out of the initial loading calculation for the Borough of South Williamsport utilizing the Parcel Data within the Lycoming County Planning and Community Development Department, GIS Division.
- All of the BMPs originally proposed for the Borough of South Williamsport have been retained. In addition, other BMPs have been listed
- The Chesapeake Conservancy High Resolution Land Cover data has been used to determine the impervious and pervious coverage within the area draining to the proposed BMPs in South Williamsport Borough. As a result, the original estimates of the sediment load to these BMPs have been revised and the original estimate of the load reduction capacity of the proposed BMPs have been revised.

As a result of the changes noted above, the most notable changes in this Regional CBPRP are as follows:

- The initial sediment loading for the Borough of South Williamsport is reduced from 1,050,720 pounds per year to 880,191 pounds per year.
- The initial sediment loading for the Borough of Duboistown is increased from 155,982 pounds per year to 169,068 pounds per year.
- The resultant combined minimum sediment load reduction requirement is 104,926 pounds per year.
- The estimated sediment reduction capacity of the currently proposed BMP Option 1 (formerly BMP Option 2) is increased from 100,554 pounds per year to 105,506 pounds per year.
- BMP Option 1 should be sufficient to meet the minimum sediment load reduction requirements for both Boroughs.

FOR PUBLIC REVIEW AND COMMENT

Section A – Public Participation Measures:

DUBOISTOWN BOROUGH

The Regional CBPRP, for the period from 2018 to 2023, was reviewed and approved for public review and comment at the regularly scheduled Borough Council Meeting held on **Thursday, June 4, 2020**.

A copy of the 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, is attached. This notice was published, in the Sun Gazette, a newspaper of general circulation in the area, on **Friday, June 12, 2020** and on **Saturday, July 18, 2020**.

Duboistown Borough Council accepted written comments for a minimum of 30 days from the date of the first publication of the public notice. written comments were received from the public relating to the Regional CBPRP as a result of the advertised 30-day written public comment period. A copy of the comments received and the responses to the comments are attached to this document. *(to be attached to final document)*

Duboistown Borough Council held a public hearing on the Regional CBPRP at the regularly scheduled Borough Council Meeting held on **Thursday, August 6, 2020**, accepting additional written or verbal comments from any interested member of the public in attendance.

Duboistown Borough Council considered and made a record of the consideration of each timely comment, received either from the public during the public comment period or during the public hearing, concerning the Regional CBPRP, identifying any changes made to the plan in response to the comment. A copy of the permittee's record of consideration of all timely comments received during the public hearing, pertaining to the Regional CBPRP, are attached.

Duboistown Borough Council adopted the Regional CBPRP on **Thursday, August 6, 2020**, with no additional amendments, supplements and/or conditions.

SOUTH WILLIAMSPORT BOROUGH

The Regional CBPRP, for the period from 2018 to 2023, was reviewed and approved for public review and comment at the regularly scheduled Borough Council Meeting held on **Monday, June 8, 2020**.

A copy of the 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, is attached. This notice was published, in the Sun Gazette, a newspaper of general circulation in the area, on **Friday, June 12, 2020** and on **Saturday, July 18, 2020**.

South Williamsport Borough Council accepted written comments for a minimum of 30 days from the date of the first publication of the public notice. written comments were received from the public relating to the Regional CBPRP as a result of the advertised 30-day written public comment period. A copy of the comments received and the responses to the comments are attached to this document. *(to be attached to final document)*

South Williamsport Borough Council held a public hearing on the Regional CBPRP at the regularly scheduled Borough Council Meeting held on **Monday, August 10, 2020**, accepting additional written or verbal comments from any interested member of the public in attendance.

South Williamsport Borough Council considered and made a record of the consideration of each timely comment, received either from the public during the public comment period or during the public hearing, concerning the Regional CBPRP, identifying any changes made to the plan in response to the comment. A copy of the permittee's record of consideration of all timely comments received during the public hearing, pertaining to the Regional CBPRP, are attached.

South Williamsport Borough Council adopted the Regional CBPRP on **Monday, August 10, 2017**, with no additional amendments, supplements and/or conditions.

- Public Notices *(to be attached to final document)*
- Copy of Comments from Public, with Responses *(to be attached to final document)*

Section B – Maps *(all to be attached to final document)*

Information related to the Storm Sewer Systems of the Borough of Duboistown and the Borough of South Williamsport is maintained with in the GIS data base and Asset Management Program maintained by the Lycoming County Water and Sewer Authority. From this data base, the following maps have been printed and included. Additional details are available upon request.

- Duboistown Storm Sewer System Map, including Storm Sewersheds and existing BMPs *(see separate document at www.lcwsa.net , for public review)*
- Chesapeake Conservancy High Resolution Land Cover Raster Analysis for the Borough of Duboistown, prepared by Lycoming County Planning and Community Development Department, GIS Division *(see separate document at www.lcwsa.net , for public review)*
- South Williamsport Storm Sewer System Map, including Storm Sewersheds and existing BMPs *(see separate document at www.lcwsa.net , for public review)*
- Chesapeake Conservancy High Resolution Land Cover Raster Analysis for the Borough of South Williamsport, prepared by Lycoming County Planning and Community Development Department, GIS Division *(see separate document at www.lcwsa.net , for public review)*
- Preliminary Design for Stormwater Basin Retrofit (BMP Option 1), prepared by Rettew Associates, dated March 10, 2020 *(see separate document at www.lcwsa.net , for public review)*

Section C – Pollutants of Concern:

From PAG-13, Appendix C, the West Branch of the Susquehanna River is noted to be impaired due to the Priority Organic Compound of Polychlorinated Biphenyls (PCBs). As there are not suspected or know sources of PCBs within the Borough of Duboistown or the Borough of South Williamsport, there is no existing loading calculated for the pollutant.

From PAG-13, Appendix D, the Chesapeake Bay Watershed is noted to be impaired due to Nutrients and Siltation. These pollutants of concern for each storm sewershed are the same as they are for the overall CBPRP Planning Area for both Boroughs. This Regional CBPRP has been prepared using DEP's "presumptive approach" in which it is assumed that a 10% reduction in Sediment will accomplish a 5% reduction in Total Phosphorus and a 3% reduction in Total Nitrogen.

Section D – Determine Existing Loadings for Pollutants of Concern

Initial Loadings

Within the Borough of Duboistown, the Urbanized Area was divided into 29 Storm Sewersheds. For each Storm Sewershed, the area for each of 12 categories of Land Cover types were identified from the Chesapeake Conservancy High Resolution Land Cover data through an analysis prepared by the Lycoming County Planning and Community Development, GIS Division. The categories of Structures, Other Impervious Surfaces, Roads, Tree Canopy over Structures, Tree Canopy over Other Impervious Surfaces and Tree Canopy Over Roads are identified as Impervious Surfaces. The categories of Water, Wetlands (emergent), Tree Canopy, Scrub-Shrub, Low Vegetation and Barren are identified as Pervious Surfaces. The 13th category of Background was not found in any Storm Sewershed.

As a result of this analysis, a total of 349.62 acres of land was evaluated with an average Impervious area of 23.4% and an average pervious area of 76.6%. This is comparable to the 352 acres of land identified by the US Census Bureau as land area for the Borough. Subsequently, 8 Storm Sewersheds were determined to either be water or have a direct discharge to Waters of the Commonwealth without entering the Storm Sewer System for the Borough and were not included in the initial loading calculations

Within the Borough of South Williamsport, the Urbanized Area was divided into 44 Storm Sewersheds. For each Storm Sewershed, the area for each of 12 categories of Land Cover types were identified from the Chesapeake Conservancy High Resolution Land Cover data through an analysis prepared by the Lycoming County Planning and Community Development, GIS Division. The categories of Structures, Other Impervious Surfaces, Roads, Tree Canopy over Structures, Tree Canopy over Other Impervious Surfaces and Tree Canopy Over Roads are identified as Impervious Surfaces. The categories of Water, Wetlands (emergent), Tree Canopy, Scrub-Shrub, Low Vegetation

and Barren are identified as Pervious Surfaces. The 13th category of Background was not found in any Storm Sewershed.

As a result of this analysis, a total of 1,200.41 acres of land was evaluated with an average Impervious area of 34.2% and an average pervious area of 65.8%. This is comparable to the 1,210 acres of land identified by the US Census Bureau as land area for the Borough. Subsequently, 4 Storm Sewersheds were determined to either be water or have a direct discharge to Waters of the Commonwealth without entering the Storm Sewer System for the Borough and were not included in the initial loading calculations.

Reductions to Initial Loadings

Within the Borough of Duboistown, the Unadjusted Initial Loading was then reduced to reflect the existing BMPs related to the Dry Detention Basin on Lot #1 and to the Soil Amendment areas and Rain Gardens constructed on Lot # 2 - #10 within the Duboistown Heights Development and to the Dry Detention Basin constructed on the Arch Street Complex. In addition, the Loading was also reduced to reflect the area located within PennDOT R/Ws.

Within the Borough of South Williamsport, the Unadjusted Initial Loading was then reduced to reflect the existing BMPs related to the Bioretention Basin constructed for the Lakeview Apartments Development and the Dry Extended Detention Basin constructed for the Steve Shannon Tire Development. In addition, the Loading was also reduced to reflect the area located within PennDOT R/Ws.

Final Adjusted Loadings

The Final Adjusted Sediment Loadings for Sediments are 169,068 pounds per year for the Borough of Duboistown, 880,191 pounds per year for the Borough of South Williamsport or a total of 1,049,258 pounds per year combined.

The Final Adjusted Loadings for Total Nitrogen are 3,758 pounds per year for the Borough of Duboistown, 16,579 pounds per year for the Borough of South Williamsport or a total of 16,579 pounds per year combined.

The Final Adjusted Loadings for Total Phosphorus are 302 pounds per year for the Borough of Duboistown, 1,464 pounds per year for the Borough of South Williamsport or a total of 1,766 pounds per year combined.

Minimum Required Reduction

Based upon a 10% reduction for Sediments, the Required Reductions are 16,907 pounds per year for the Borough of Duboistown, 88,019 pounds per year for the Borough of South Williamsport or a total of **104,926** pounds per year combined.

Based on a 3% reduction for Total Nitrogen, the Required Reductions are 113 pounds per year for the Borough of Duboistown, 497 pounds per year for the Borough of South Williamsport or a total of **610** pounds per year combined.

Based on a 5% reduction for Total Phosphorus, the Required Reductions are 15 pounds per year for the Borough of Duboistown, 73 pounds per year for the Borough of South Williamsport or a total of **88** pounds per year combined.

Section E – Selected BMPs to Achieve the Minimum Required Reductions:

BMP Option 1: Detention Basin Retrofit – Dry Detention Basin to Bioretention Basin (A/B Soils w/ Underdrain) – This is the same BMP identified as BMP Option 2 in the initial CBPRP for South Williamsport Borough. The same methodology has been used for determining the loadings to the proposed BMP that were utilized for the calculation of the initial loadings throughout the Boroughs. As a result, the anticipated Sediment load to the BMP is 131,883 pounds per year and with an 80% removal efficiency the reduction capability of the proposed BMP is **105,506** pounds per year of Sediment. As a result, the anticipated Total Nitrogen load to the BMP is 2,215 pounds per year and with an 70% removal efficiency the reduction capability of the proposed BMP is **1,551** pounds per year of Total Nitrogen. As a result, the anticipated Total Phosphorus load to the BMP is 210 pounds per year and with an 75% removal efficiency the reduction capability of the proposed BMP is **157** pounds per year of Total Phosphorus.

This single BMP has the capacity to provide the Minimum Required Reductions to Sediments, Total Nitrogen and Total Phosphorus for both Boroughs combined. A Preliminary Engineering design has been completed for this BMP and a Growing Greener Plus grant application is currently pending to cover the cost of construction. A copy of the Preliminary Engineering design for BMP Option 1 is attached to this CBPRP.

BMP Option 2: Bioswale – This is the same BMP identified as BMP Option 1 in the initial CBPRP for South Williamsport Borough. The same methodology has been used for determining the loadings to the proposed BMP that were utilized for the calculation of the initial loadings throughout the Boroughs. As a result, the Sediment load to the BMP is 51,331 pounds per year and with an 80% removal efficiency the reduction capability of the proposed BMP is **41,065** pounds per year of Sediment. As a result, the anticipated Total Nitrogen load to the BMP is 1,232 pounds per year and with an 70% removal efficiency the reduction capability of the proposed BMP is **862** pounds per year of Total Nitrogen. As a result, the anticipated Total Phosphorus load to the BMP is 95 pounds per year and with an 75% removal efficiency the reduction capability of the proposed BMP is **71** pounds per year of Total Phosphorus.

BMP Option 3: Demolition of former South Williamsport Swimming Pool site and restore area to lawn. This BMP is currently under design and will involve an area of approximately 7,000 square feet that would have been counted as impervious area as a part of SWSHED-0064. The anticipated sediment load reduction (based on the

conversion of impervious area at 1,989.64 #/Ac./yr. to pervious area at 277.38 #/Ac./yr.) is approximately 275 pounds per year. The actual Sediment, Total Nitrogen and Total Phosphorus load reductions associated with this BMP will be calculated with the design of the BMP and will be documented within the Annual MS4 Status Report following the completion of the project.

BMP Option 4: Installation of Sediment Traps on the inlet side of the existing stormwater culverts within the Norfolk-Southern Railroad property – This BMP Option is the same as included in the CBPRP for Duboistown Borough, although the anticipated load reduction capabilities of this BMP Option have been deleted. A number of storm sewersheds within the Borough of Duboistown discharge to a series of open channels located along the upstream side of the Norfolk-Southern Railroad (R/R), subsequently pass under the railroad property through culverts owned and maintained by Norfolk-Southern Railroad and eventually flow to a defined outfall to the West Branch of the Susquehanna River. The proposed BMP is to construct a pipe riser (with trash rack) on the inlet end of the R/R culverts and add inlet controls to create Dry Extended Detention Ponds within the existing open channels on the upstream side of the R/R embankment. These facilities are proposed to be constructed by the R/R as a cooperative effort between the Borough and the R/R and as a part of the R/R's routine maintenance and operation of the deteriorated condition of the culvert inlets and outlets. Future operation and maintenance would be the responsibility of the R/R and under the annual inspection program of the Borough of Duboistown for BMPs. As a result of a preliminary design of this BMP Option following the submission of the initial CBPRP, the prior estimates of load reductions were found to be too high. The actual Sediment, Total Nitrogen and Total Phosphorus load reductions associated with this BMP will be calculated with the design of the BMP and will be documented within the Annual MS4 Status Report following the completion of the project.

BMP Option 5: Stabilization of un-stabilized area of PPL Utility Right-of-Way access road - This BMP Option is the same as included in the CBPRP for Duboistown Borough. One existing sediment generating, erosion related problem area within the Borough of Duboistown is a portion of the PPL Utility Right-of-Way and access road located in the western portion of the Borough. This area is identified as the 8.65 acre Storm Sewershed 102 within the Borough and is currently a regulated construction site with inadequate erosion and sedimentation control. Storm Sewershed 102 also receives stormwater runoff from the 42.94 acre, adjacent, upstream drainage area within Armstrong Township (SWSHED-0105) that is undeveloped woodland. Erosion and Sedimentation Control Level 2 (EandS2) is proposed to be applied to the 8.694 acres and, as documented within the attached spreadsheet, anticipates a reduction of 21.74 pounds of Nitrogen, 1.15 pounds of Phosphorus and 1,325.75 pounds of sediment. This project is proposed to be 100% funded through an Environmental Stewardship Program major grant from the PPL Foundation. Future operation and maintenance of the resulting facilities will be the responsibility of PPL and under the annual inspection program of the Borough for BMPs. The actual Sediment, Total Nitrogen and Total Phosphorus load reductions associated with this BMP will be calculated with the design of the BMP and will be documented within the Annual MS4 Status Report following the completion of the project.

BMP Option 6 - Dirt and gravel road erosion and sediment control with additional outlets along Woodside Avenue - This BMP Option is the same as included in the CBPRP for Duboistown Borough. This proposed BMP would reduce the amount of sediment runoff from Woodside Avenue, an existing dirt and gravel road located within the Borough of Duboistown and with a primary outfall within Armstrong Township. The contributing drainage area is identified as the 3.80 acre Storm Sewershed 123 within the Borough of Duboistown and is currently undeveloped woodland. Storm Sewershed 123 also receives stormwater runoff from the 26.3 acre, adjacent, upstream drainage area within Armstrong Township (SWSHED-0124) that is also undeveloped woodland. SWSHED-0123 is not included in the initial loading for the Borough of Duboistown. The use of driving surface aggregates (DSA), the use of additional Drainage Outlets and Erosion and Sedimentation Control Level 2 (EandS2) is proposed to be applied to the full length of Woodside Avenue that slopes and drains to the west and south. The amount of sediment reduction will be dependent on the complement of control measures to be applied and determined as a part of the design of the proposed improvements. The Borough will apply for applicable grants and related financing to cover the Borough's design and construction costs of this work. Funding for this project would be sought from the Dirt and Gravel Road program within PA. Future operation and maintenance of the resulting facilities will be the responsibility of the Borough. The actual Sediment, Total Nitrogen and Total Phosphorus load reductions associated with this BMP will be calculated with the design of the BMP and will be documented within the Annual MS4 Status Report following the completion of the project.

BMP Option 7: Reductions to Initial Loading Calculation related to successful appeals to the initial Impervious Area calculations for individual properties. These reductions will be documented as appeals to the Stormwater Management Program fee are received and will be totaled and documented within the Annual MS4 Status Report following the approval of the appeal.

BMP Option 8: Reductions to Initial Load Calculation related to BMPs installed by individual property owners as a part of the Stormwater Management Program fee Credit policy. These reductions will be documented as Credit Applications are approved and will be totaled and documented within the Annual MS4 Status Report following the completion of the BMP project.

BMP Option 9: Add sumps to select inlets located within Borough Streets – This BMP Option is the same as included in the CBPRP for Duboistown Borough and is now extended to South Williamsport Borough. As PennDOT roads have been parsed-out of the initial loading calculations, the application of this BMP to PennDOT roads has been removed. The proposed BMP is to replace existing inlet boxes with new inlet boxes with sumps. These facilities are proposed to be constructed by the Borough as a part of their future street improvement projects and included in their routine maintenance and operation of inlets. The construction, operation and maintenance of these inlets with sumps anticipate a reduction of 0.00175 pounds of Nitrogen, 0.0007 pounds of Phosphorus and 1.0 pounds of sediment for every dry pound of sediment documented to have been removed on average per year over the 5-year term of the permit. The dry

pounds of these sediments and the description of the placement of these sediments are to be documented by the Borough as they are completed and will be documented within the Annual MS4 Status Report following the completion of the project.

BMP Option 10: Remove Storm Sewer System Solids (AKA Storm Drain Cleaning) – This BMP Option is the same as included in the CBPRP for Duboistown Borough and is now extended to South Williamsport Borough. As PennDOT roads have been parsed-out of the initial loading calculations, this BMP is not applicable to PennDOT roads. This BMP involves the collection or capture and proper disposal of solid material within the storm sewer system to prevent discharge to surface waters. Proper maintenance practices are to be observed and a standard operating procedure for tracking the material removed from the storm sewer system will be developed and followed. The removal of sediments anticipates a reduction of 0.0027 pounds of Nitrogen, 0.0006 pounds of Phosphorus and 1.0 pounds of sediment for every dry pound of sediment documented to have been removed and the removal of organic matter anticipates a reduction of 0.0111 pounds of Nitrogen, 0.0012 pounds of Phosphorus and 1.0 pounds of sediment for every dry pound of organic material documented to have been removed. The dry pounds of these sediments and organic materials and the description of the placement of these sediments and organic materials are to be documented by the Borough as they are completed and will be documented within the Annual MS4 Status Report following the completion of the project.

Section F – Identify Funding Mechanism:

A copy of the Intergovernmental Cooperation Agreement (ICA), a copy of the Regional Stormwater Management Program Budget and a copy of the Rates, Rules and Regulations for the Regional Stormwater Management Program of LCWSA are attached to document the cost sharing and dedicated revenue source in place to fund the MS4 Program requirements, the CBPRP requirements and the Storm Sewer System operation, maintenance and improvement programs established by each Borough. In addition, a Growing Greener Plus grant application has been submitted to cover the anticipated construction costs for the proposed BMP.

Section G – Identify Responsible Parties for Operation and Maintenance (O&M) of BMP:

Party(ies) responsible for ongoing O&M - Under the terms of the ICA, the primarily responsible for the O&M related to Bioretention Basin of BMP Option 1 will be retained by LCWSA.

Activities involved with O&M of BMP - O&M for the Bioretention Basin of BMP Option 1 to include the following:

- Remove unwanted vegetation as needed including weeds, invasive species, noxious plants, brush, trees, etc.

- Remove litter and debris.
- Materials illegally dumped within the BMP site are to be removed immediately. Actions should be taken to identify the source of the illegal dumping and to prohibit further illegal dumping.
- Prune, mow, and/or trim vegetation, as needed. Height of vegetation should not reduce the free movement of water or function of BMP.
- Repair areas of erosion. Mulch should be re-spread to cover bare spots where erosion is evident. Maintain vegetative cover of at least 85% to minimize erosion.
- Restore bank stability, as needed.
- Remove accumulations of sediment greater than 2" deep over more than 10% of the vegetated area that is subjected to temporary ponding.
- Correct areas of prolonged ponding greater than a few days following a rain event.
- Repair damage to or blockage of the outlet structures and/or trash racks or other devices to collect debris, as needed.
- During periods of extended drought, watering may be required to sustain the vegetative cover.

Activities involved with O&M related to Levee related functions (see Exhibit A to the USACE Levee Regulations) - O&M for the Bioretention Basin of BMP Option 1 to include the following:

- "Areas used for ponding in connection with (stormwater) pumping plants or for temporary storage of interior run-off during flood periods, shall not be allowed to become filled with silt, debris, or dumped material."
- Inlet and outlet channels and pipes or culverts are to be kept free of trash and debris.
- Pipes, riprap and headwalls are to be maintained in good condition.
- Erosion that may endanger the structures shall be corrected.
- Channels or floodways are to be kept clear of debris, wild growth, shoals, or encroachments and shall not be restricted by the depositing of waste materials, building of unauthorized structures, or other encroachments.

Frequency at which O&M activities will occur – O&M for the Bioretention Basin of BMP Option 1, to be completed as needed immediately following the identification of the need for O&M either as the result of a report of damage or during the required minimum of two inspections per year, that may include the required inspection following all major storm events (>1 inch of rainfall depth). An initial annual inspection should be completed in the Spring, following the full reemergence of the annual vegetative cover.

Attachments/Reference Documents:

FOR PUBLIC REVIEW AND COMMENT