

Pollutant Reduction Plan Amendments Myerstown Borough, Lebanon County, PA

Myerstown Borough
101 S. Railroad Street
Myerstown, PA 17067

NPDES MS4 Permit PAG 133703
March 10, 2023

Impaired Waters
Tulpehocken Creek
(Appendix E)

Prepared by
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RETTEW Project No. 085803001



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INTRODUCTION

RETTEW Associates, Inc. has reviewed the proposed project lists within the Pollutant Reduction Plan, as prepared by ARRO Consulting, Inc. dated May 2017, last revised August 2017 and determined revisions were required to satisfy PA DEP's comments provided with the permit approval. Based upon updating pollutant load calculations to satisfy PA DEP's comments, an additional BMP has been selected to achieve the required reduction.

SUMMARY OF PROPOSED AMENDMENTS

Section A: Public Participation

Amended to meet the requirements for public comment on the amended portions of the Pollutant Reduction Plan.

Section B – Map

Amended to show the updated proposed BMPs.

Section C – Pollutants of Concern

No amendments proposed.

Section D – Determine Existing Loading for Pollutants of Concern

Amended to address PA DEP comments provided with permit approval.

Section E – Selected BMPs

Amended to show the updated proposed BMPs.

Section F – Identify Funding Mechanisms

Amended to account for the cost of the new selected BMPs.

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

Amended to include the Operation and Maintenance of the new proposed BMPs.

Section H – PRP Implementation Schedule

Amended to include the new proposed BMPs.

PROPOSED AMENDMENTS

All proposed amendments are included in the follow pages. The original Pollutant Reduction Plan is available at the Borough office. No other changes other than the following amendments are proposed.

SECTION A - PUBLIC PARTICIPATION

Myerstown Borough has promoted public participation and involvement in water quality decisions by making the Pollutant Reduction Plan (PRP) Amendment available for public review and comment as required. A complete copy of the PRP amendment was made available for public review on **March 24, 2023**. A public notice was posted in The Lebanon Daily News containing a description of the Amendment, where it may be reviewed by the public, and the length of time made available for the receipt of comments. The municipality accepted both written and verbal comments from the public until **April 24, 2023**.

Myerstown Borough **did/did not** receive any written or verbal comments during the 30-day public review and comment period and no changes were made to the Plan.

Attachment

- A1: A copy of the public notice
- A2: A copy of the **May 9, 2023** Borough Council Meeting Minutes

SECTION B - MAPS

The proposed BMP Structure map has been revised to reflect the two selected BMPs.

- 1. BMP 007-BS1 - Bioswale
- 2. BMP 002-NSB – Hydrodynamic Structure

Attachment

Attachment E – Map 11: Proposed BMP Structures

SECTION D.1 – EXISTING BMP LOAD REDUCTIONS

The adjusted design base pollutant loading and required pollutant reduction goal is summarized below:

Base Pollutant Loading With Existing BMPs Summary:

Drainage Area ID	Drainage Area (Ac)			PA DEP Land Loading		
	Impervious	Pervious	Total	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Owl Creek	41.39	32.11	73.49	2,549.85	89.41	89,303.95
Tulpehocken Creek	191.07	125.47	316.53	11,004.24	395.68	396,987.45
Unnamed Tributary to Tulpehocken Creek	16.84	11.99	28.84	927.25	32.35	32,141.62
				14,481.33	517.44	518,433.03
Required Reduction Percent:				3%	5%	10%
Adjusted Required Reduction (Lbs.):				434.44	25.87	51,843.30
Maximum Permitted Reduction for Storm Sewer System Solids Removal (50%)				217.22	12.94	25,921.65

Attachment

- Attachment G – Existing BMP Pollutant Reductions
- Attachment H – Existing Loading with BMPs for Pollutants of Concern

SECTION E - SELECT BMPs TO ACHIEVE THE MINIMUM REQUIRED REDUCTIONS IN POLLUTANT LOADING

The proposed BMP pollutant reduction is summarized below and in attachment K.

	Drainage Area ID	Prop. BMP ID	BMP Description	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Tulpehocken Creek						
	OF-007	BMP 007-BS1	Bioswale	965.08	42.48	46,830.65
	OF-002	BMP 002-NSB	Hydrodynamic Structure	189.76	13.86	13,976.93
				1,154.84	56.35	60,807.58
Required Reduction (Lbs/Year)				434.44	25.87	51,843.30
Net Reduction:				720.40	30.47	8,964.28

Notes:

1. For planning purposes, the Hydrodynamic Structure efficiency has been calculated per PA DEP’s BMP Effectiveness Values Table (3800-PM-BCW0100m) at 10% reduction for sediment.
2. Alternatively, the Borough may calculate the actual removal based on the weight of material collected, in accordance with the BMP effectiveness guidelines for “Storm Sewer System Solids Removal” per PA DEP’s BMP Effectiveness Values Table (3800-PM-BCW0100m). PA DEP will allow up to 50% of total pollutant reduction requirements to be met through this BMP. Pollutant reduction to be reported through annual MS4 reporting.

Attachment

Attachment K – Selected BMP Pollutant Loading Reduction

SECTION F - IDENTIFY FUNDING MECHANISM

The selected BMP implementation cost is summarized below.

Drainage Area ID	Prop. BMP ID	BMP Description	Project Cost	Grant Funding	Borough Cost
OF-007	BMP 007-BS1	Bioswale	\$ 73,583.00	\$ -	\$ 73,583.00
OF-007	BMP 002-NSB	Hydrodynamic Structure	\$ 334,739.00	\$ 150,000.00	\$ 184,739.00
			\$ 408,322.00	\$ 150,000.00	\$ 258,322.00

The Borough has received a grant from the Commonwealth Financing Authority for implementation of the Hydrodynamic Structure.

SECTION G - IDENTIFY RESPONSIBLE PARTIES FOR OPERATION AND MAINTENANCE (O&M) OF BMPs

The O&M requirements have been updated to reflect the addition of the Hydrodynamic Structure:

BMP 007-BS1: Bioswale

Location: Proposed swale within Borough Park extending from Fish Dam to the Tulpehocken Creek.

Responsible Party: Myerstown Borough

O&M Activities: Monitor storm sewer discharge areas and erosion, immediately stabilized vegetation in natural state, where invasive species that may develop.

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Frequency of

O&M Activities: Complete inspection of the restored corridor a minimum of once a year.
Complete restoration and/or selective vegetation management as needed based upon inspections.

BMP 002-NSB: Hydrodynamic Structure:

Location: Goodwill Street.

Responsible Party: Myerstown Borough

O&M Activities: Clean sediment through pumping, maintain structure components in accordance with manufacturer recommendations.

Frequency of
O&M Activities: Complete inspection of the structure monthly for the first year; develop cleaning protocol in accordance with the manufacturers recommendations and based on actual accumulated sediment.

SECTION H – IMPLEMENTATION SCHEDULE

<u>Task</u>	<u>Implementation Date</u>
MS4 Permit Authorization	June 2018
BMP 007-BS1 Completion	April 2023
BMP 002-NSB Completion	June 2023

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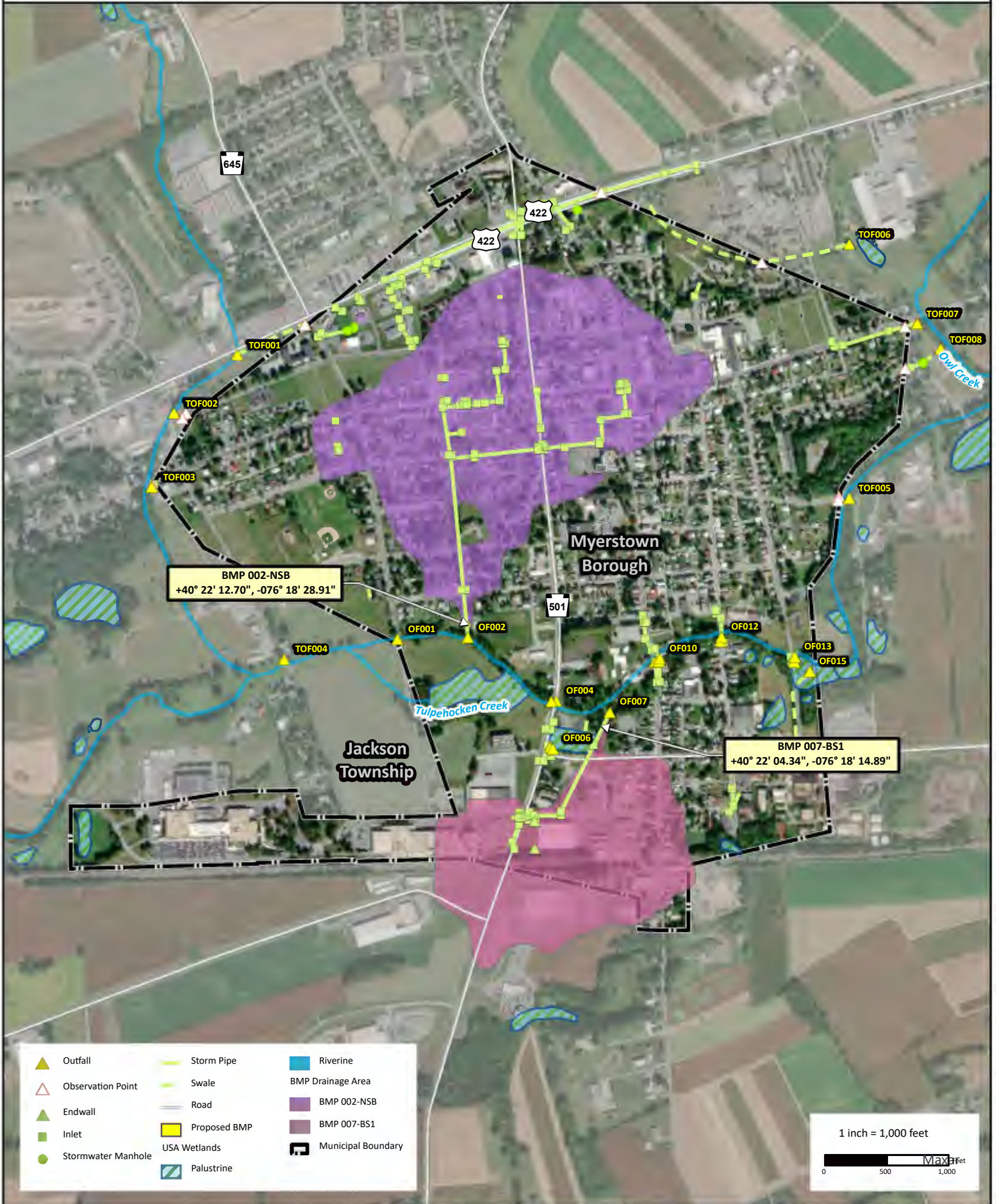
Attachment E

Map 11: Proposed BMP Structures



Myerstown Borough

Proposed Best Management Practice Structures



BMP 002-NSB
+40° 22' 12.70", -076° 18' 28.91"

BMP 007-BS1
+40° 22' 04.34", -076° 18' 14.89"

- | | | |
|--------------------|--------------|--------------------|
| Outfall | Storm Pipe | Riverine |
| Observation Point | Swale | BMP Drainage Area |
| Endwall | Road | BMP 002-NSB |
| Inlet | Proposed BMP | BMP 007-BS1 |
| Stormwater Manhole | USA Wetlands | Municipal Boundary |
| | Palustrine | |

1 inch = 1,000 feet

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Attachment G

Existing BMP Pollutant Reductions

Myerstown Borough
 Pollutant Reduction Plan (PRP)
 RETTEW No.: 085803001
 Existing BMP Pollutant Reduction

PA DEP Land Loading:		TN (lbs/acre/year)	TP (lbs/acre/year)	TSS (lbs/acre/year)
Lebanon	Impervious	40.58	1.85	1948.53
	Pervious	27.11	0.4	269.81
	Undeveloped	10	0.33	234.6

Tulpehocken Creek
OF-007
 BMP 006 Dry Detention Basin

BMP ID	Drainage Area (SF)			Drainage Area (Ac)			PA DEP Land Loading								
	Impervious	Pervious	Total	Impervious	Pervious	Total	TN - Impervious Area (lbs/year)	TN - Pervious Area (lbs/year)	TN (lbs/year)	TP - Impervious Area (lbs/year)	TP - Pervious Area (lbs/year)	TP (lbs/year)	TSS - Impervious Area (lbs/year)	TSS - Pervious Area (lbs/year)	TSS (lbs/year)
BMP 006	246,224	3,897	250,121	5.7	0.1	5.7	229.38	2.43	231.80	10.46	0.04	10.49	11,014.1	24.1	11,038.2

Expert Panel Performance Standards 65% 76% 83%
Pollutant Reduction **150.67** **7.97** **9,161.75**

OF-007
 BMP 007 Dry Detention Basin

BMP ID	Drainage Area (SF)			Drainage Area (Ac)			PA DEP Land Loading								
	Impervious	Pervious	Total	Impervious	Pervious	Total	TN - Impervious Area (lbs/year)	TN - Pervious Area (lbs/year)	TN (lbs/year)	TP - Impervious Area (lbs/year)	TP - Pervious Area (lbs/year)	TP (lbs/year)	TSS - Impervious Area (lbs/year)	TSS - Pervious Area (lbs/year)	TSS (lbs/year)
BMP 007	0	0	0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0

Expert Panel Performance Standards 66% 77% 84%
Pollutant Reduction **0.00** **0.00** **0.00**

OF-002
 BMP 008 Dry Detention Basin

BMP ID	Drainage Area (SF)			Drainage Area (Ac)			PA DEP Land Loading								
	Impervious	Pervious	Total	Impervious	Pervious	Total	TN - Impervious Area (lbs/year)	TN - Pervious Area (lbs/year)	TN (lbs/year)	TP - Impervious Area (lbs/year)	TP - Pervious Area (lbs/year)	TP (lbs/year)	TSS - Impervious Area (lbs/year)	TSS - Pervious Area (lbs/year)	TSS (lbs/year)
BMP 008	0	0	0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0

Expert Panel Performance Standards 5% 10% 10%
Pollutant Reduction **0.00** **0.00** **0.00**

TOTAL BMP POLLUTANT REDUCTION:	150.67									7.97			9,161.75		
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Attachment H

Existing Loading with BMPs for Pollutants of Concern

Base Pollutant Loading (No Existing BMPs) Summary:

Appendix E - Tulpehocken Creek

Drainage Area ID	Drainage Area (Ac)			PA DEP Land Loading		
	Impervious	Pervious	Total	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Owl Creek	41.39	32.11	73.49	2,549.85	89.41	89,303.95
Tulpehocken Creek	191.07	125.47	316.53	11,154.91	403.66	406,149.20
Unnamed Tributary to Tulpehocken Creek	16.84	11.99	28.84	1,008.66	35.96	36,057.88
				14,713.42	529.02	531,511.03

Required Reduction Percent

3% 5% 10%

Required Reduction (Lbs/Year)

441.40 26.45 53,151.10

Base Pollutant Loading With Existing BMPs Summary:

Drainage Area ID	Drainage Area (Ac)			PA DEP Land Loading		
	Impervious	Pervious	Total	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Owl Creek	41.39	32.11	73.49	2,549.85	89.41	89,303.95
Tulpehocken Creek	191.07	125.47	316.53	11,004.24	395.68	396,987.45
Unnamed Tributary to Tulpehocken Creek	16.84	11.99	28.84	927.25	32.35	32,141.62
				14,481.33	517.44	518,433.03

Reequred Reduction Percent:

3% 5% 10%

Adjusted Required Reduction (Lbs.):

434.44 25.87 51,843.30

Maximum Permitted Reduction for Storm Sewer System Solids Removal (50%)

217.22 12.94 25,921.65

Myerstown Borough
 Pollutant Reduction Plan (PRP)
 RETTEW No.: 085803001
 Base Pollutant Loading Summary

Myerstown Borough

Base Pollutant Loading With Existing BMPs Summary:

Drainage Area ID	Drainage Area (Ac)			PA DEP Land Loading		
	Impervious	Pervious	Total	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Tulpehocken Creek	191.07	125.47	316.53	11,154.91	403.66	406,149.20
BMP Reductions				150.67	7.97	9,161.75
Base Pollutant Loading With Existing BMPs				11,004.24	395.68	396,987.45

Required Reduction Percent	3%	5%	10%
Required Reduction (Lbs/Year)	330.13	19.78	39,698.75
Required Reduction (Tons/Year)	0.17	0.01	19.85

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Attachment K

Selected BMP Pollutant Reduction

Myerstown Borough
 Pollutant Reduction Plan (PRP)
 RETTEW No.: 085803001
Selected BMP Summary

Drainage Area ID	Prop. BMP ID	BMP Description	Pollutant Reduction		
			TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
OF-007	BMP 007-BS1	Bioswale	965.08	42.48	46,830.65
OF-002	BMP 002-NSB	Hydrodynamic Structure	189.76	13.86	13,976.93
			1,154.84	56.35	60,807.58

Myerstown Borough
 Pollutant Reduction Plan (PRP)
 RETTEW No.: 085803001
Proposed BMP Pollutant Reduction

PA DEP Land Loading:		TN (lbs/acre/year)	TP (lbs/acre/year)	TSS (lbs/acre/year)
Lebanon	Impervious	40.58	1.85	1948.53
	Pervious	27.11	0.4	269.81
	Undeveloped	10	0.33	234.6

OF-002
 Hydrodynamic Structure

BMP ID	Drainage Area (SF)			Drainage Area (Ac)			PA DEP Land Loading								
	Impervious	Pervious	Total	Impervious	Pervious	Total	TN - Impervious Area (lbs/year)	TN - Pervious Area (lbs/year)	TN (lbs/year)	TP - Impervious Area (lbs/year)	TP - Pervious Area (lbs/year)	TP (lbs/year)	TSS - Impervious Area (lbs/year)	TSS - Pervious Area (lbs/year)	TSS (lbs/year)
BMP 002-NSB	2,876,406	1,792,329	4,668,735	66.0	41.1	107.2	2,679.63	1,115.47	3,795.10	122.16	16.46	138.62	128,667.7	11,101.7	139,769.3

BMP Effectiveness Value (3800-PM-BCW0100m) & Manufacture Literature* 5% 10% 10%

Pollutant Reduction **189.76** **13.86** **13,976.93**
 * Conservative method used for planning purposes

OF-007
 Bioswale

BMP ID	Drainage Area (SF)			Drainage Area (Ac)			PA DEP Land Loading								
	Impervious	Pervious	Total	Impervious	Pervious	Total	TN - Impervious Area (lbs/year)	TN - Pervious Area (lbs/year)	TN (lbs/year)	TP - Impervious Area (lbs/year)	TP - Pervious Area (lbs/year)	TP (lbs/year)	TSS - Impervious Area (lbs/year)	TSS - Pervious Area (lbs/year)	TSS (lbs/year)
BMP 007-BS1	1,263,857	323,434	1,587,291	29.0	7.4	36.4	1,177.39	201.29	1,378.69	53.68	2.97	56.65	56,535.0	2,003.3	58,538.3

BMP Effectiveness Value (3800-PM-BCW0100m) & Manufacture Literature 70% 75% 80%

Pollutant Reduction **965.08** **42.48** **46,830.65**

Myerstown Borough
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March 10, 2023

PA DEP Comment Response



JUN 14 2018

Michael Mckenna
Myerstown Borough
101 S Railroad Street
Myerstown, PA 17067-1142

Re: PAG-13 General Permit Approval
Myerstown Borough MS4
NPDES Permit No. PAG133703
Authorization ID No. 1199648
Myerstown Borough, Lebanon County

JUN 14 2018

Dear Mr. Mckenna:

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.

DEP has reviewed your Pollutant Reduction Plan(s) (PRP(s)). Your PRP(s) are hereby approved. The following elements of your PRP(s) will be evaluated by DEP during the permit term:

- Existing BMP007, and its drainage area, appears to be outside the boundaries of the borough. If so, please remove the BMP from the plan and revise the calculations as necessary.
- The drainage area of proposed BMP OP0007-BS1 appears to be about 20% outside of the boundaries of the borough. In the absence of an agreement with the neighboring municipality, the pollutant reduction should be reduced to account for only the area within the borough.
- For final designs, please ensure bioswales are designed for the appropriate loading ratios according to the DEP Stormwater BMP Manual or other reference.

During the permit term, DEP will evaluate your progress in implementing the PRP(s). If progress is not satisfactory DEP may require you to obtain coverage under an individual permit.

You are required to implement the load reduction requirements established in 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 the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at <http://ehb.courtapps.com> or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER,

Mr. Michael Mckenna

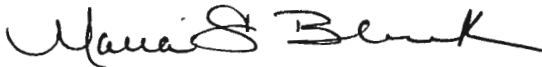
- 3 -

YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

If you have any questions, please contact Pramod Patel at 717.705.4781.

Sincerely,



Maria D. Bebenek, P.E.
Program Manager
Clean Water Program

Enclosures

cc: Arro Consulting Inc.
Central Office, Division of Operations

Comment No. 1: Existing BMP007 and its drainage area appear to be outside the boundaries of the borough. If so, please remove the BMP from the plan and revise the calculations as necessary.

Response: We believe the comment meant to refer to existing BMP 008. To address the comment, existing BMP's 7 and 8 have been deleted and the calculations have been updated to reflect that change.

Comment No. 2: The drainage area of proposed BMP OP0007-BS1 appears to be about 20 percent outside of the boundaries of the borough. In the absence of an agreement with the neighboring municipality, the pollutant reduction should be reduced to account for only the area within the borough.

Response: The drainage area has been updated and the calculations have been updated to reflect that change. The PRP amendment provides an additional BMP to address the offset in reduction.

Comment No. 3: For final design, please ensure bioswales are designed for the appropriate loading ratios according to the DEP Stormwater BMP Manual or other reference.

Response: Chapter 6.4.5 from the PA DEP BMP Manual will be utilized.