

# Pollutant Reduction Plan Amendments Lemoyne Borough, Cumberland County, PA

Lemoyne Borough  
510 Herman Avenue,  
Lemoyne, PA 17043

NPDES MS4 Permit PAG 133552  
February 23, 2023

## Impaired Waters

UNT Susquehanna River  
7-E Lower Susquehanna River  
Chesapeake Bay

Prepared by  
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RETTEW Project No. 088683001

The logo for RETTEW Associates, Inc. features the word "RETTEW" in a bold, white, serif font against a dark red rectangular background. A small "SM" trademark symbol is located at the bottom right of the word.

Lemoyne Borough  
Pollutant Reduction Plan  
March 6, 2023

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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 some projects were not feasible for implementation due to coordination efforts with landowners. Therefore, the Borough has selected two new stormwater BMPs that when implemented will achieve the required sediment reductions.

## **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

No amendments proposed.

### 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**

Lemoyne 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 23, 2023**. A public notice was posted in The Patriot 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**.

Lemoyne 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 18, 2023** Borough Council Meeting Minutes

## **SECTION B - MAPS**

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

1. UNT to Susquehanna River Phase 1 – stream restoration
2. 9<sup>th</sup> Street Infiltration Bed
3. UNT to Susquehanna River Phase 2 – stream restoration

### **Attachment**

Attachment E – Map 11: Proposed BMP Structures

## **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.

<b>BMP Description</b>	<b>Pollutant Reduction TN (lbs/year)</b>
Unnamed Tributary to the Susquehanna River - Phase 1	11,220.0
Unnamed Tributary to the Susquehanna River - Phase 2	62,832.0
9th Street Infiltration Bed	9,077.5
	<b>83,129.5</b>

Required Reduction (Lbs/Year) **79,020.9**

Net Reduction: **4,108.6**

### **Attachment**

Attachment K – Selected BMP Pollutant Loading Reduction

**SECTION F - IDENTIFY FUNDING MECHANISM**

The selected BMP implementation cost is summarized below.

<b>BMP Description</b>	<b>Project Cost</b>	<b>Grant Funding</b>	<b>Borough Cost</b>
Unnamed Tributary to the Susquehanna River - Phase 1	\$ 76,320.00	\$ 76,320.00	\$ -
Unnamed Tributary to the Susquehanna River - Phase 2	\$ 450,000.00	\$ 200,000.00	\$ 250,000.00
9th Street Infiltration Bed	\$ 46,000.00	\$ -	\$ 46,000.00

\$ 572,320.00    \$ 276,320.00    \$ 296,000.00

In addition to the previous funding sources identified, the Borough is applying a portion of the American Rescue Plan Act (ARPA) grant funds to the Phase 2 stream restoration.

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

The O&M requirements have been updated to reflect the three BMPs:

**BMP 001-SR1: UNT to Susquehanna River Phase 1 - Stream Restoration:**

Location: From the existing pipe discharge to downstream of dam, on property owned by Harrisburg Academy located at the beginning of the stream.

Responsible Party: Lemoyne Borough

O&M Activities: Stabilization of stormwater outlets; select vegetation removal; dam removal, stream bank and channel stabilization; select plantings and buffering.

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

**BMP 008-IF: 9<sup>th</sup> Street Infiltration Bed:**

Location: Intersection of Hummel Avenue and 9<sup>th</sup> Street.

Responsible Party: Lemoyne Borough

O&M Activities: Clean inlet protection after each measurable precipitation event.

Frequency of O&M Activities: Complete inspection of the inlet protection after each measurable precipitation event; inspect infiltration bed annually through observation manhole.

BMP: UNT to Susquehanna River Phase 2 - Stream Restoration:

Location: From the existing culvert on Riverview Road to Glenridge Drive.

Responsible Party: Lemoyne Borough

O&M Activities: Stabilization of stormwater outlets; select vegetation removal; stream bank and channel stabilization; select plantings and buffering.

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

**SECTION H – IMPLEMENTATION SCHEDULE**

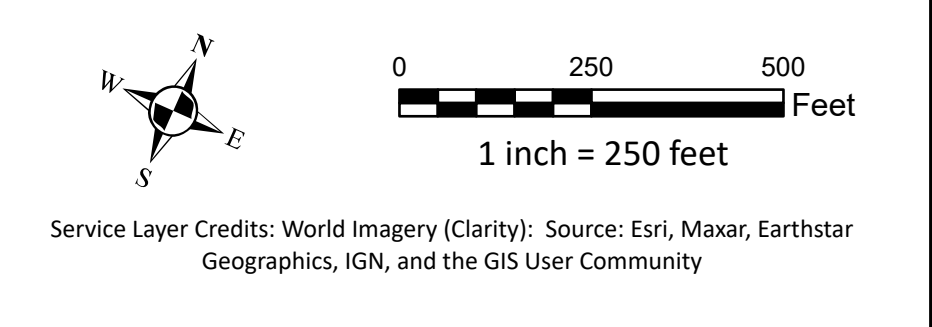
<u>Task</u>	<u>Implementation Date</u>
MS4 Permit Authorization	April 2018
UNT to Susquehanna River – Phase 1	May 2019
9 <sup>th</sup> Street Infiltration Bed	September 2020
UNT to Susquehanna River – Phase 2	June 2023

Lemoyne Borough  
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**Attachment E**

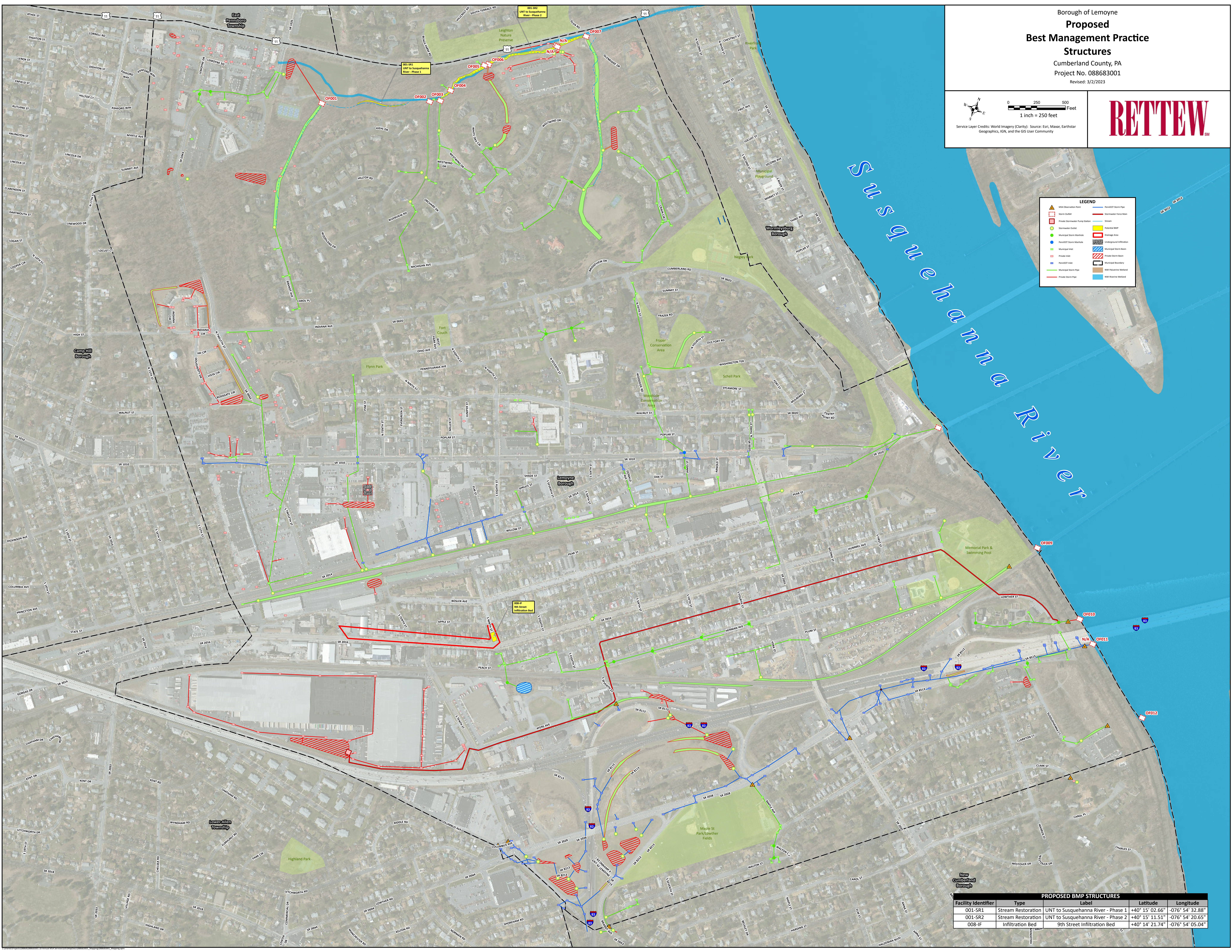
**Map 11: Proposed BMP Structures**

Borough of Lemoyne  
**Proposed  
 Best Management Practice  
 Structures**  
 Cumberland County, PA  
 Project No. 088683001  
 Revised: 3/2/2023



**LEGEND**

MM Observation Point	Permeable Storm Pipe
Storm Outlet	Stormwater Force Main
Private Stormwater Pump Station	Stream
Stormwater Outlet	Permeable BMP
Permeable Storm Manhole	Drainage Area
Permeable Storm Manhole	Underground Infiltration
Permeable Storm Pipe	Municipal Storm Basin
Private Storm Pipe	Private Storm Basin
Permeable Storm Pipe	Municipal Boundary
Private Storm Pipe	Municipal Storm Type
	MM Parapet Wall
	MM Retention Wall



**PROPOSED BMP STRUCTURES**

Facility Identifier	Type	Label	Latitude	Longitude
001-SR1	Stream Restoration	UNT to Susquehanna River - Phase 1	+40° 15' 02.66"	-076° 54' 32.88"
001-SR2	Stream Restoration	UNT to Susquehanna River - Phase 2	+40° 15' 11.51"	-076° 54' 20.65"
008-IF	Infiltration Bed	9th Street Infiltration Bed	+40° 14' 21.74"	-076° 54' 05.04"

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**Attachment K**

**Selected BMP Pollutant Reduction**

Lemoyne Borough  
 Pollutant Reduction Plan (PRP)  
 088683001  
**Proposed BMP Pollutant Reduction**

PA DEP Land Loading:		TN (lbs/acre/year)	TP (lbs/acre/year)	TSS (lbs/acre/year)
Lebanon	Impervious	29.93	1.11	2065.1
	Pervious	23.29	0.34	306.95
	Undeveloped	10	0.33	234.6

**Stream Restoration**

UNT to Susquehanna - Phase 1 Stream Restoration

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)

Linear Feet of Stream Restoration: 250  
 BMP Effectiveness Value (3800-PM-BCW0100m) & Manufacture Literature 0.075 lbs/yr/ft 0.068 lbs/yr/ft 44.880 lbs/yr/ft

**Pollutant Reduction 18.75 17.00 11,220.00**

**Stream Restoration**

UNT to Susquehanna - Phase 2 Stream Restoration

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)

Linear Feet of Stream Restoration: 1,400  
 BMP Effectiveness Value (3800-PM-BCW0100m) & Manufacture Literature 0.075 lbs/yr/ft 0.068 lbs/yr/ft 44.880 lbs/yr/ft

**Pollutant Reduction 105.00 95.20 62,832.00**

**Infiltration Facility**

9th Street Infiltration Bed

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)
008-IF	187,308	95,832	283,140	4.3	2.2	6.5	128.70	51.24	179.94	4.77	0.75	5.52	8,879.9	675.3	9,555.2

BMP Effectiveness Value (3800-PM-BCW0100m) 85% 85% 95%

**Pollutant Reduction 152.95 4.69 9,077.46**

**TOTAL: 83,129.46**