



H.F. LENZ  
COMPANY

*POLLUTANT REDUCTION PLAN*

*FOR*

*RICHLAND TOWNSHIP - MS4 PROGRAM*

*LITTLE PAINT CREEK AND SAMS RUN (APPENDIX E)*

*RICHLAND TOWNSHIP, CAMBRIA COUNTY, PENNSYLVANIA*

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## **POLLUTANT REDUCTION PLAN**



**1. INTRODUCTION**

Richland Township, Cambria County, Pennsylvania is part of the Johnstown, PA urbanized area. Richland Township has been part of the urbanized area and required to submit documentation to the Pennsylvania Department of Environmental Protection for MS4 Permit coverage since 2003. As part of the new renewal Notice of Intent form, Richland Township is required to submit for approval from PADEP a Pollutant Reduction Plan. The Pollutant Reduction Plan is required for impaired waters listed in PADEP Appendix E. Sams Run and Little Paint Creek are listed in Appendix E as having a pollutant of siltation (TSS).

**2. POLLUTANT REDUCTION PLAN (PRP)**

A. Public Participation

Public participation will be encouraged by the public at a scheduled meeting after approval of the draft provisions by PADEP.

B. Mapping

Richland Township has been updating the mapping to be in compliance with the requirements of PADEP for the Pollutant Reduction Plan. The mapping is enclosed at the end of this report. An overall map was prepared to establish the limits of the Richland Township MS4. Five additional enlarged plans are provided to detail the locations of the outfalls in Richland Township.

C. Pollutants of Concern

In accordance with the PADEP Municipal Requirements table and the location of the impaired waters within Richland Township, Richland Township is subject to Appendix E of the MS4 permit. Two streams, Sams Run and Little Paint Creek, are listed as impaired according to Appendix E – Siltation.

a. Sams Run

The stream is listed in Appendix E as having an impairment of Siltation. The Pollutant Reduction Plan indicates that a total of a 10% reduction of sediment (TSS) shall be removed. The Pollutant Reduction Plan has been prepared to meet at a minimum the required 10% reduction of sediment entering Sams Run.

b. Little Paint Creek

The stream is listed in Appendix E as having an impairment of Siltation. The Pollutant Reduction Plan indicates that a total of a 10% reduction of sediment (TSS) shall be removed. The Pollutant Reduction Plan has been prepared to meet at a minimum the required 10% reduction of sediment entering Little Paint Creek.

D. Existing Loading for Pollutants of Concern

The overall drainage area for Sams Run and Little Paint Creek were calculated within Richland Township. The area was further separated by urbanized and undeveloped area within Richland Township. Sams Run was entirely within an urbanized area.

a. Sams Run Existing Pollutant Loading

The impervious area for Sams Run was determined to be 23% impervious. The area for Sams Run is provided in the table below:

<b>Sams Run Drainage Area (AC)</b>			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
153.33	513.32	0	666.65

According to the Pollutant Reduction Plan instructions, the developed land loading rates is provided for Cambria County to develop the existing pollutant loadings. The existing pollutant loading is provided as follows:

<b>PADEP Land Loading TSS (LBS/AC/YEAR)</b>		
Developed (Urbanized Area)		Undeveloped
Impervious	Pervious	
2155.29	325.30	234.60

The existing pollutant loading was calculated for each condition. 10% of the total existing pollutant was determined for the required reduction for Sams Run. Sams Run has the following required reduction:

<b>Sams Run Required Land Loading TSS (LBS/YEAR)</b>			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
330,469.54	166,983.16	0.00	497,452.70
Required Reduction Percent			10%
Required Reduction (LBS/YEAR)			49,745.27



b. Little Paint Creek Existing Pollutant Loading

The impervious area for Little Paint Creek was determined to be 4% impervious in the urbanized area. The area for Little Paint Creek is provided in the table below:

<b>Little Paint Creek Drainage Area (AC)</b>			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
65.62	1574.91	1515.28	3155.81

According to the Pollutant Reduction Plan instructions, the developed land loading rates is provided for Cambria County to develop the existing pollutant loadings. The existing pollutant loading is provided as follows:

<b>PADEP Land Loading TSS (LBS/AC/YEAR)</b>		
Developed (Urbanized Area)		Undeveloped
Impervious	Pervious	
2155.29	325.30	234.60

The existing pollutant loading was calculated for each condition. 10% of the total existing pollutant was determined for the required reduction for Little Paint Creek. Little Paint Creek has the following required reduction:

<b>Little Paint Creek Required Land Loading TSS (LBS/YEAR)</b>			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
141,430.13	512,318.22	355,484.69	1,009,233.04
Required Reduction Percent			10%
Required Reduction (LBS/YEAR)			100,923.30

E. Selected BMP's – Required Reductions in Pollutant Loading

Richland Township currently has numerous outfalls which discharge to vegetative swales prior to reaching Sams Run and Little Paint Creek. Areas that contribute to the vegetative swales were calculated as an existing pollutant load reduction. Richland Township have inlets with a sump. The sump in the inlets allow for sediment and

debris to be trapped and pumped out bi-annually. The sediment is disposed of offsite. Richland Township also performs street sweeping on a regular basis. Sediment from street sweeping is stored at the Richland Township maintenance yard prior to disposal. The sweeping material is covered to prevent the sediment from entering the nearby stream during rain events. The calculations for existing pollutant load reductions only includes the area contributory to the existing vegetative swales. The sediment removed from the inlet sumps and street sweeping is not included. The vegetative swales are located within C/D soils. The BMP is effective to 50% sediment removal according to PADEP.

a. Sams Run Existing Pollutant Load Reduction

Sams Run Drainage Area (AC) to Vegetative Swales			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
63.38	212.18	0	275.56

Sams Run Existing Pollutant Load Reduction TSS (LBS/YEAR)			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
136,599.69	69,022.54	0.00	205,622.24
Required Reduction Percent			50%
Required Reduction (LBS/YEAR)			102,811.12

b. Little Paint Creek Existing Pollutant Load Reduction

Little Paint Creek Drainage Area (AC) to Vegetative Swales			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
44.62	401.60	51.86	498.08

Little Paint Creek Existing Pollutant Load Reduction TSS (LBS/YEAR)			
Developed (Urbanized Area)		Undeveloped	Total
Impervious	Pervious		
96,169.04	130,640.48	12,166.36	238,975.88
Required Reduction Percent			50%
Required Reduction (LBS/YEAR)			119,487.94

c. Summary of Pollutant Loading

Remaining Required Pollutant Load TSS (LBS/YEAR)			
Stream	Required Pollutant Load	Existing Pollutant Load Reduction	Difference
Sams Run	49,745.27	102,811.12	-53,065.85
Little Paint Creek	100,923.30	119,487.94	-18,564.63

The existing pollutant load reduction is greater than the required pollutant load. No additional BMP's are required to be installed to reduce the pollutant loading for sediment (TSS).

F. Funding Mechanism

No additional funds would be required to install additional BMP's to further reduce the pollutant load. Richland Township has met the current pollutant loading requirements.





G. Responsible Parties for Operation and Maintenance of BMP's

Richland Township owns and operates the existing BMP's identified in the Pollutant Reduction Plan. The following is the responsibility of Richland Township to perform at each BMP location.

a. Operation and Maintenance Activities

Monitor vegetative swales for sediment collected. Excessive sediment shall be removed from the vegetative swales. Inspect the swales for signs of stream bank erosion. Any areas that show signs of erosion shall be stabilized immediately. Maintain vegetation within swale area.

b. Operation and Maintenance Frequency

Vegetative Swales shall be checked after every significant rainfall event (equal to or greater than a 25-year storm event). Vegetative swales shall be checked a minimum of once per year.

H. Pollutant Reduction Plan Implementation Schedule

- |                               |             |
|-------------------------------|-------------|
| ▪ MS4 Permit Authorization    | March 2018  |
| ▪ Vegetative Swale Monitoring | 2018 – 2023 |
| ▪ MS4 Permit Expiration       | March 2023  |



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**APPENDIX A**

**MS4 DRAWINGS**