

POLLUTION REDUCTION PLAN (PRP)

**LEHIGH TOWNSHIP
NORTHAMPTON COUNTY
PENNSYLVANIA**

SEPTEMBER 16, 2017

Prepared for:

**Lehigh Township
1069 Municipal Road
Walnutport, PA 18088**

Prepared by:



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Hanover Project LT17-26

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I. Introduction

Lehigh Township, Northampton County has prepared this Pollutant Reduction Plan (PRP) in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit to Discharge Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). This PRP has been created to specifically address impaired waters of the Commonwealth in which the Township's MS4 currently discharge to. Lehigh Township's MS4 currently discharges to two (2) impaired waters, the Hokendauqua Creek which is impaired for Siltation, Suspended Solids (Sediment) and the Lehigh River which is impaired for Metals, Organic Enrichment, Low Dissolved Oxygen and Siltation.

Since the entire Township falls within the Lehigh River watershed, the complete Township area was used in the calculations to establish the existing loading of pollutants from the Township MS4. This plan provides BMPs and supporting calculations necessary to reduce these pollutant levels. Lehigh Township will submit a general permit application, along with this PRP, on September 16, 2017 to continue coverage of the PAG-13 MS4 General Permit (PAG#132239).

II. Public Participation - *(to be completed following Public Comment Period)*

As part of the requirements for this Plan, public participation is required. The Township will advertise the development of the PRP via Public Notice during the final quarter of 2017 in a newspaper of general circulation in the area. The notice will state the PRP is available for review and comment at the Township Municipal Building for 30-days prior to a publicly held meeting. A copy of all written public comments will be added to this plan. The Township will use the public comments to update the PRP as follows:

(Insert list of updates to the PRP based on public comments)

A. Copy of Public Notice

NOTICE

NOTICE IS HEREBY GIVEN that the Lehigh Township will receive public comments on the proposed **Pollutant Reduction Plan (PRP)** required for the **2018-2023 NPDES Municipal Separate Storm Sewer Systems (MS4) Permit**.

The proposed PRP is available for review at the Township Municipal Building.

The Township will accept written comments for 30 calendar days from the date of this public notice. Interested parties may submit written comments to Ms. Alice Rehrig, Township Manager.

V. BMPs Selected to Achieve the Minimum Required Reductions in Pollutant Loading

For Lehigh Township, which falls entirely within the Lehigh River drainage basin, the sediment pollution was managed by setting the minimum proposed pollutant reduction at 10%. To control this volume of material, a combination of several BMPs will be necessary. The following is a brief description of the BMPs that have been chosen to achieve the required sediment reduction:

Street Sweeping

Lehigh Township will increase the street sweeping schedule to approximately twice per month. With an effectiveness of 9% removal, this BMP will provide a reduction of 198,612 lbs/yr.

Dry Extended Detention Basin

Lehigh Township will inspect and maintain, several existing detention basins, in conformance with the Operation and Maintenance (O&M) provisions of the Ordinance. With an effectiveness of 60% removal, this BMP will provide a reduction of 204,681 lbs/yr.

Vegetated Open Channel

Lehigh Township will inspect and maintain, several roadside conveyance swales, in conformance with the Operation and Maintenance (O&M) provisions of the Ordinance. With an effectiveness of 50% removal, this BMP will provide a reduction of 41,378 lbs/yr.

Infiltration Practices

Lehigh Township will inspect and maintain, two (2) recently installed infiltration basins, in conformance with the Operation and Maintenance (O&M) provisions of the Ordinance. With an effectiveness of 90% removal, this BMP will provide a reduction of 30,454 lbs/yr.

Infiltration Retrofit

Lehigh Township will convert an existing regional detention facility into an infiltration BMP and continue to inspect and maintain in conformance with the Operation and Maintenance (O&M) provisions of the Ordinance. With an effectiveness of 90% removal, this BMP will provide a reduction of 173,786 lbs/yr.

Sediment Filter Bags

Lehigh Township will install, inspect and maintain sediment filter bags on 300 inlets in conformance with the Operation and Maintenance (O&M) provisions of the Ordinance. With an effectiveness of 80% removal, this BMP will provide a reduction of 75,096 lbs/yr.

Stream Restoration

Lehigh Township will stabilize and vegetate approximately 3000 linear feet of eroding stream bank over the permit term. This BMP will provide a reduction of 134,640 lbs/yr.

In combination, the above listed BMPs will provide a sediment reduction of 858,646 lbs/yr which are capable of treating the entire existing pollutant loading.

The Township's Stormwater Management Ordinance requires legally binding Operation and

LEHIGH TOWNSHIP POLLUTANT REDUCTION PLAN

IMPAIRED WATERS	CONTROLLING REQUIREMENTS	TOTAL CONTRIBUTING MS4 AREA (AC)	UNDEVELOPED AREA (AC)	DEVELOPED AREA (AC)	PERCENT IMPERVIOUS (%)	PERCENT PERVIOUS (%)
HOKENDAUQUA CREEK/LEHIGH RIVER	SILTATION	16,923	9214	7709	35	65

LOADING RATES FOR NORTHAMPTON COUNTY

CATEGORY	TSS (SEDIMENT) LBS/AC/YR
UNDEVELOPED	234.6
DEVELOPED IMPERVIOUS	1839
DEVELOPED PERVIOUS	264.96

EXISTING LOADING (LBS/YR) =	8451177
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MINIMUM SEDIMENT REDUCTION REQUIRED (LBS/YR)=	845118
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SELECTED BMP	BMP EFFECTIVENESS	IMPERVIOUS AREA TO BMP (AC)	SEDIMENT REDUCTION (LBS/YR)
STREET SWEEPING	9%	1200	198612
DRY ED BASIN	60%	186	204681
VEGETATED OPEN CHANNEL	50%	45	41378
INFILTRATION PRACTICES	90%	18	30454
INFILTRATION RETROFIT	90%	105	173786
SEDIMENT FILTER BAGS ON 300 INLETS	80%	120	75096
	LBS/FT/YR	STREAM LENGTH (FT)	
STREAM RESTORATION	44.88	3000	134640
		TOTAL REDUCTION=	858646

	PROPOSED BMP
	EXISTING BMP

Appendix A

Landuse and MS4 Planning Area

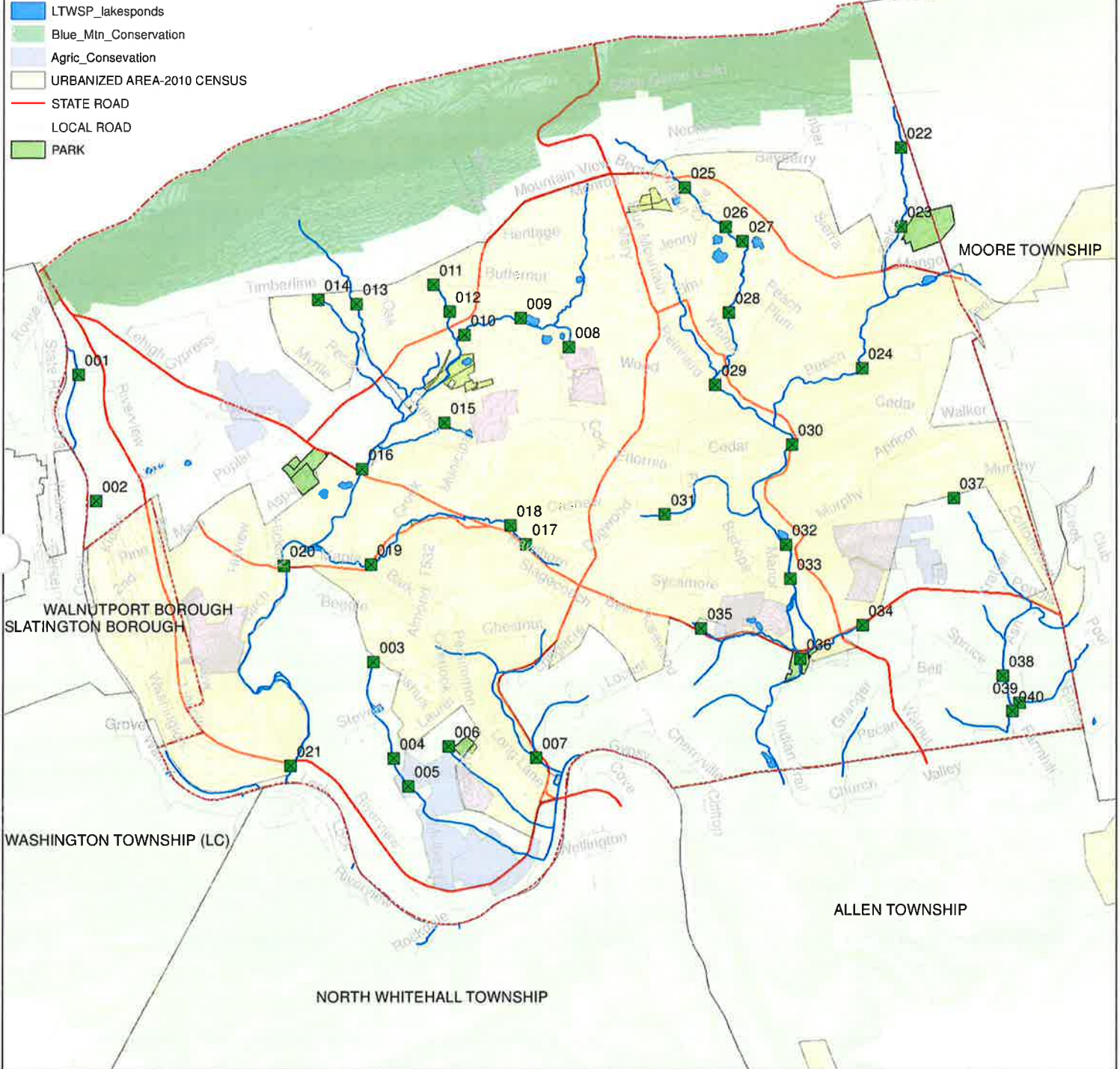
5,000 2,500 0 5,000 Feet



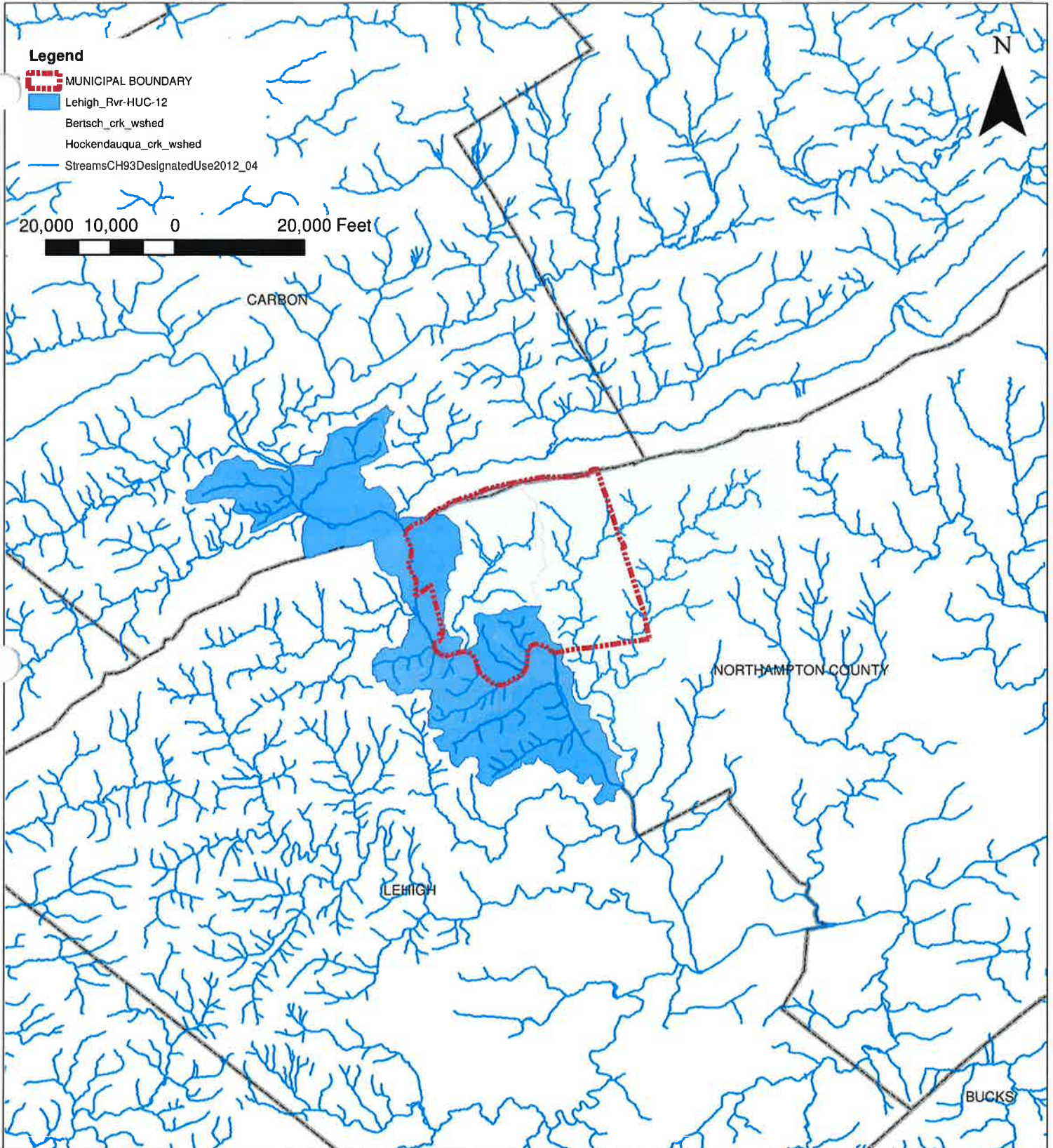
N


Legend

- MUNICIPAL BOUNDARY
- REGULATED MS4 OUTFALL
- HYDROLOGY
- LIDAR CONTOURS
- LTWSP_lakesponds
- Blue_Mtn_Conservation
- Agric_Conservation
- URBANIZED AREA-2010 CENSUS
- STATE ROAD
- LOCAL ROAD
- PARK



	PLAN TITLE: MAP OF URBANIZED AREA (UA) LANDUSE	DRAWN BY: JDC	CHECKED BY: JER
	PROJECT TITLE: MS4 PROGRAM-2018	SCALE: 1:60,000	DATE: 09/16/2017
Allentown Office 5920 Hamilton Blvd., Suite 108 P:610.395.9222 Allentown, PA 18106-8942 f:610.395.9262 HanoverEng.com	LEHIGH TOWNSHIP NORTHHAMPTON COUNTY PENNSYLVANIA		PROJECT NO. LT17-26
			SHEET NO. 1 OF 3



 HanoverEngineering	PLAN TITLE: WATERSHED BASINS FOR LEHIGH TOWNSHIP	DRAWN BY: JDC	CHECKED BY: JER
	PROJECT TITLE: MS4 PROGRAM-2018	SCALE: 1:240,000	DATE: 09/16/2017
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			SHEET NO. 2 OF 3

Appendix B

BMP Locations and Watersheds

5,000 2,500 0 5,000 Feet



N



Legend

- REGULATED MS4 OUTFALL
- VEG_OPEN_CHANNEL
- LT_INFILTRATION_PRACTICES
- STATE ROAD
- - - LT_LOCAL_ROAD_SWEEPING
- LT_ExDetBasin
- EX_DET_BASIN_CAPTURE
- HYDROLOGY
- TWSP_Parcels
- URBANIZED AREA-2010 CENSUS
- lehighvr_wshdsubarea
- hockendauquaack_wshdsubarea
- PARK
- MUNICIPAL BOUNDARY
- LIDAR CONTOURS



HanoverEngineering	PLAN TITLE: MAP OF BMP AREAS	DRAWN BY: JDC	CHECKED BY: JER
	PROJECT TITLE: MS4 PROGRAM-2018	SCALE: 1:60,000	DATE: 09/16/2017
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			SHEET NO. 3 OF 3

Appendix C

Project Designs
(to be completed during permit term)