



EXECUTIVE SUMMARY

NEW BRITAIN TOWNSHIP'S TOTAL MAXIMUM DAILY LOAD (TMDL)/POLLUTION REDUCTION PLAN (PRP) FOR NESHAMINY CREEK

September 11, 2017



Figure 1. Neshaminy Creek Watershed

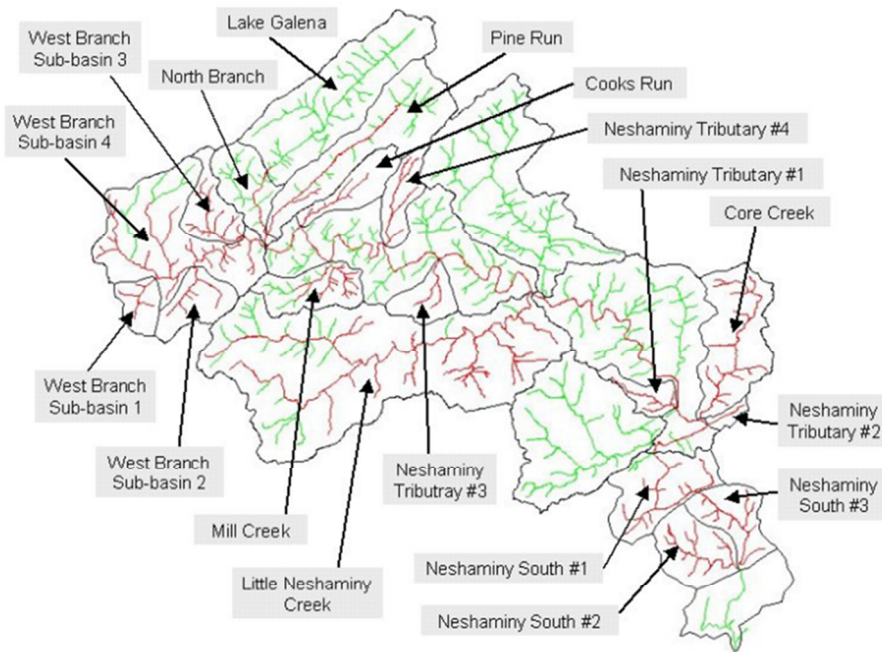
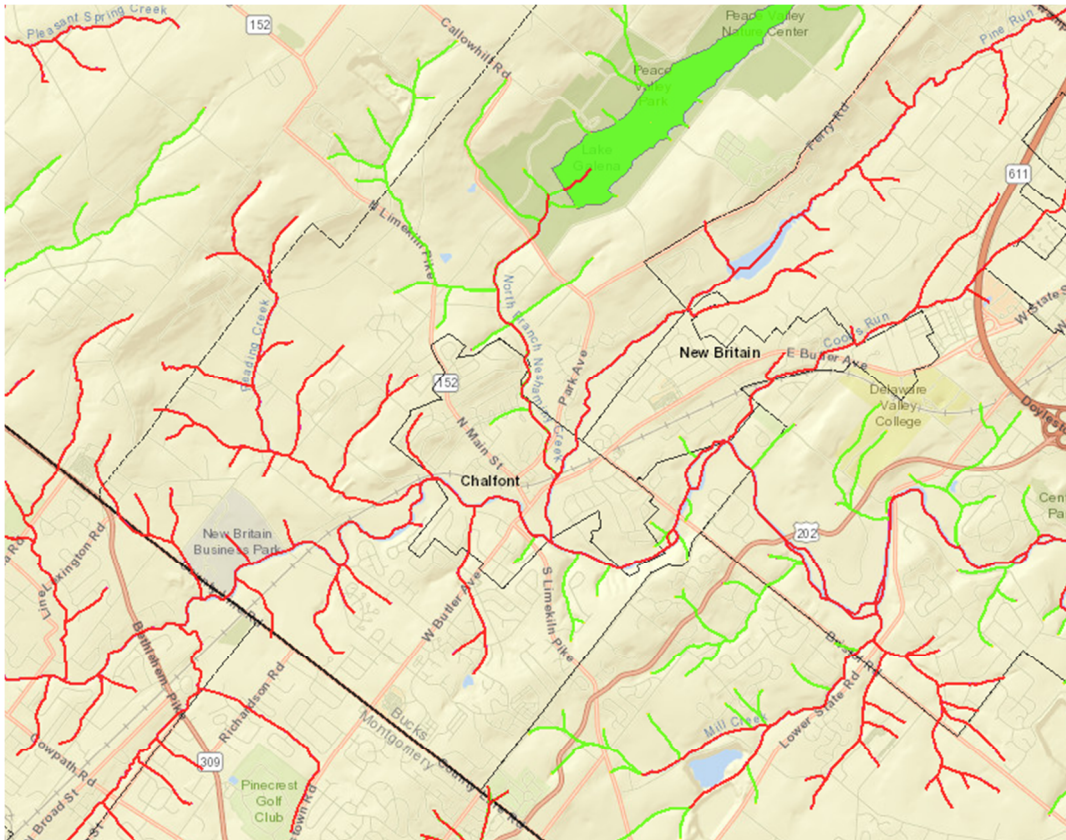


Figure 2. Neshaminy Creek Sub-Watersheds Analyzed in the TMDL



eMapPA Listing of Impaired Streams (Green = Attaining, Red = Impaired)

Background

- Section 303(d) of the Clean Water Act (CWA) and its implementing regulations require a TMDL to be developed for those waterbodies identified as impaired by the state.
- Based on biological assessments for the Neshaminy Creek, the creek and its sub-watersheds were listed as showing aquatic life use impairments due to sediment and nutrients ostensibly as a result of growth and land development within the watershed.
- The Neshaminy Creek Watershed TMDL was prepared by DEP and approved by EPA on 12/9/03.
- On 4/5/08, the Nutrient (including organic enrichment, DO/BOD) portions of the TMDL were withdrawn by DEP, with EPA approval.
- The Township submitted a TMDL Strategy in 2012 noting the intent to reduce sediment by 50% via increased street sweeping. Under the new regulations, street sweeping may not be the only measure in place.
- The Township will be required to apply for an Individual Permit for 2018-2023 which is required to include a combined TMDL/PRP Plan, #structuralbmps.

Based on computer modeling, the adjusted Existing Loading are as follows, and based on the TMDL's % reduction required, the new loading reductions are assumed as noted:

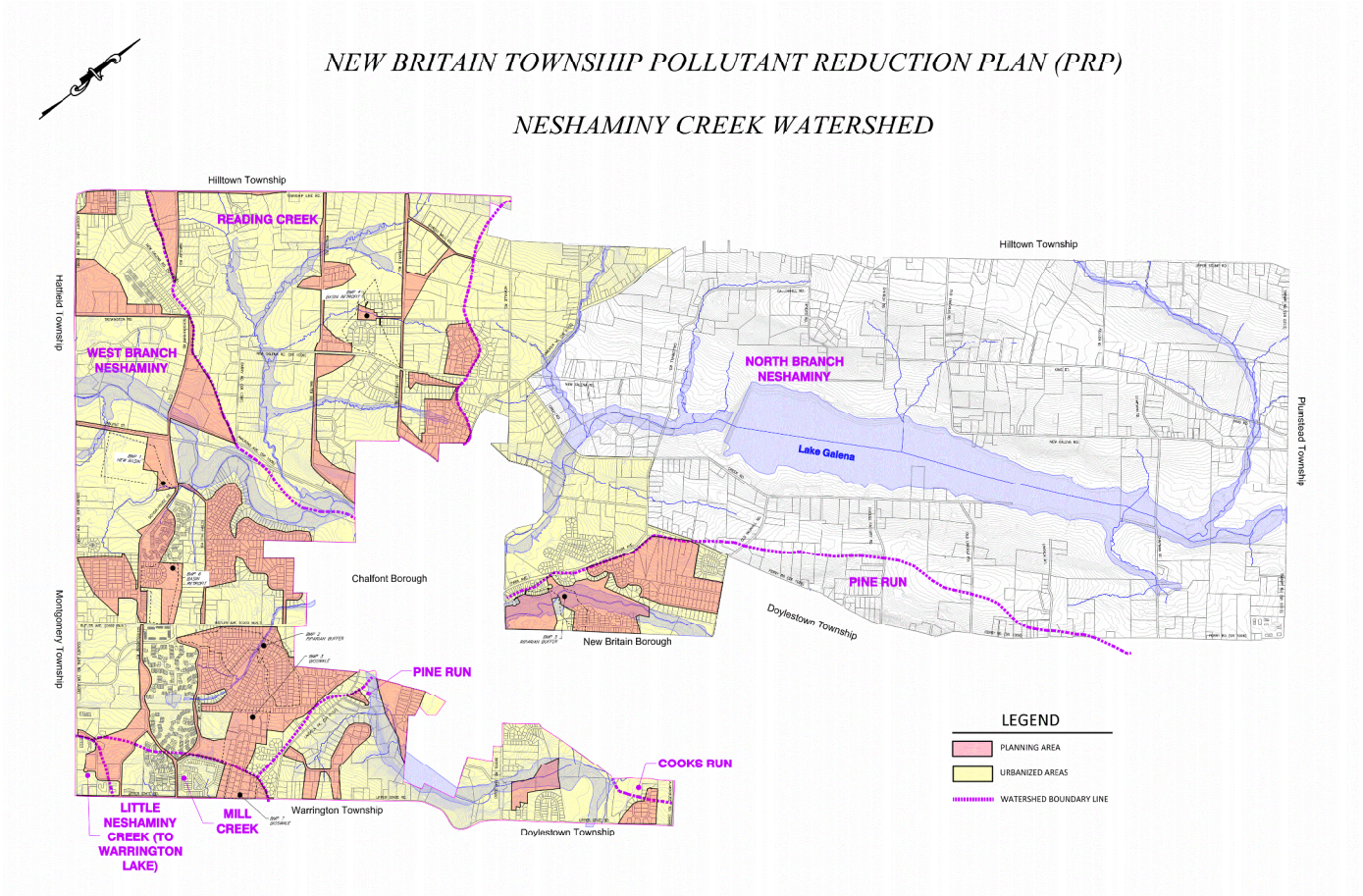
Sub-Basin	UA Acres	Adjusted Loading for NBT Based on Mapshed (lbs/yr)	% Reduction Required from TMDL	Loading Reduction Required for NBT (lbs/yr)
Part of Pine Run	360	384,534	52.5%	201,880
Part of West Branch #3	1,473	282,882	28.4%	80,338
Part of Mill Creek	130	18,092	52.0%	9,408
Total	1,963	685,508	34.4%*	235,815
*Weighted Average				

In addition to the TMDL Requirements, new requirements have been established for impaired waters with an Appendix E Impairment and require a PRP Plan. All except the North Branch sub-basin, are identified on the following table as needing a PRP for nutrient impairments. The PRP is an attachment to the Permit Application and in addition to the Minimum Control Measures required: (Public Education, Public Involvement, Illicit Discharge Detection/Elimination, Stormwater During and Post Construction, and Good Housekeeping/Pollution Prevention. The PRP identifies conceptual BMPs, locations and funding sources for these BMPs.

Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)	Other Cause(s) of Impairment
Reading Creek	Appendix E- Excessive Algal Growth (5)	
Unnamed Tributaries to West Branch Neshaminy Creek		Flow Alterations (4c)
Pine Run	Appendix E- Excessive Algal Growth (5)	
West Branch Neshaminy Creek	Appendix E- Excessive Algal Growth, Nutrients, Organic Enrichment/ Low D.O. (5)	Water/Flow Variability (4c)
Warrington Lake	Appendix E-Nutrients (5)	Exotic Species (5)
Little Neshaminy Creek	Appendix B-Pathogens (5), Appendix C-PCB (5), Appendix E-Nutrients, Organic Enrichment/ Low D.O. (5)	Water/Flow Variability (4c)
Mill Creek	Appendix E-Nutrients (5)	
Neshaminy Creek	Appendix B-Pathogens (5), Appendix E-Nutrients, Organic Enrichment/ Low D.O. (5)	
Neshaminy Creek TMDL	TMDL Plan-Siltation, Suspended Solids (4a)	
North Branch Neshaminy Creek		Water/Flow Variability (4c)
Cooks Run	Appendix E-Nutrients (5)	

The Township is responsible to reduce pollution (sediment) from Township-owned parks, open space, preserved areas, municipal buildings and maintenance yards, streets, rights-of-way, etc. The municipality may

exclude areas that do not discharge to the Township’s MS4 or are part of a Chapter 102 NPDES Permit, such as West Branch Park (40.279934, -75.235080). The following map depicts the drainage areas to the Township’s MS4 and represents the Township’s Planning Area used in determining the adjusted baseline sediment load.



New Britain Township's Planning Area	
Urban Area in NBT (ac)	5,120
Area Parsed (77%)(ac)	3,928
NBT Planning Area (ac.)	1,192

Because the entire urbanized area is within the Neshaminy Creek Watershed, one TMDL/PRP Plan can be submitted to DEP with the assumption that installing BMP’s to one sub-basin would reduce sediment loading to the downstream areas. New modeling efforts allow MS4s to recalculate the existing sediment loads. Using Mapshed software, the Township’s Planning Area, new Existing Load and Required Reduction Load are as follows:

New Britain Township's Planning Areas Requirement Summary	
NBT Adjusted Baseline Loading	1,795,141 lbs/yr
10% Reduction Required	179,514 lbs/yr

Concept BMPs with Potential Load Reductions				
	Description	Location	Load Reduction (lbs/yr)	Lat/Long
BMP 1	New Basin	Cotton Park	33,195	40.277745, -75.234793
BMP 2	Riparian Buffer	Highlands Open Space	72,098	40.274531, -75.214102
BMP 3	Bioswale	Cornwall Dr	20,922	40.303372, -75.219114
BMP 4	Basin Retrofit	Walden/Crescent O.S.	32,159	40.298808, -75.235858
BMP 5	Riparian Buffer	Sycamore Cir O.S.	8,841	40.298272, -75.200088
BMP 6	Basin Retrofit	Circle Dr O.S.	26,786	40.274447, -75.226581
BMP 7	Bioswale	Upper State Road	19,787	40.299360, -75.205606
Total			213,788	

Additional measures will be installed at an average rate of 10% reduction per each subsequent 5-year term until the WLA is met.