


Polychlorinated Biphenyl (PCB) TMDL Action Plan

Prince William County

Prepared in compliance with Permit No. VA0088595

November 22, 2016 - Draft
December 13, 2016 - Final
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Submitted by:
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CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Mary J. Aver	Chief	6. 29. 2018
Name	Title	Date

Prince William County
PCB TMDL Action Plan

Table of Contents

Tables

Maps

Prince William County
PCB TMDL Action Plan

1 Introduction

1.1 Purpose

This Polychlorinated Biphenyl (PCB) TMDL Action Plan documents how Prince William County intends to meet the "TMDL Action Plans other than the Chesapeake Bay TMDL" in Part I.D.2 of its Phase I MS4 Permit (No. VA0088595). The County's most recent permit was issued by the Virginia Department of Environmental Quality (DEQ) effective December 17, 2014 and will expire December 16, 2019.

The County's MS4 permit requires the development and implementation of action plans for impaired streams where a Total Maximum Daily Load (TMDL) assigns a Waste Load Allocation (WLA) to the County that has been approved by the State Water Control Board. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards.

The *Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia* (PCB TMDL) was established by the U.S. Environmental Protection Agency in 2007, and adopted by the State Water Control Board on April 11, 2008. While the Potomac River PCB TMDL assesses the tidal Potomac River and tributary waters, the TMDL only establishes WLAs for the direct drainage portions of the MS4 permitted jurisdictions.[1] The TMDL for the tidal Potomac River is set at an aggregate 1,510 grams per year.

PCBs are a legacy pollutant and were used as a coolant and as an insulator, particularly in transformers, hydraulic equipment, and electrical equipment. The manufacture of PCBs was banned in 1979; however, PCBs are persistent in the environment and do not readily decompose under normal conditions. They also tend to settle into the sediment of waterways or adsorb to terrestrial soils. PCBs may still be released by illegal or improper dumping of PCB-containing wastes or leaks from legacy electrical transformers containing PCBs.

[1] The applicability of the Potomac River PCB WLA to only that portion of the County MS4 with the area defined as direct drainage in the TMDL was confirmed by Jennifer Carlson, Regional TMDL Coordinator for DEQ's Northern Regional Office, in a phone conversation on July 30, 2015.

1.2 Permit Compliance Crosswalk

DEQ published draft guidance in April 2015 for MS4s to use in the development of local TMDL action plans. Table 1A provides an overview of the organization of this plan and how each section addresses the County's MS4 permit and the draft guidance.

Table 1A – Action Plan and Permit Compliance Crosswalk

Action Plan	Action Plan Element	DEQ Draft Local TMDL Action Plan Guidance	MS4 Permit
Section 1	Introduction		
Section 2.1	TMDL Report	The name(s) of the Final TMDL report(s);	
Section 2.2	Pollutant of Concern	The pollutant(s) causing the impairment(s);	
Section 2.3	PCB TMDL	The WLA(s) assigned to the MS4 as aggregate or individual WLAs;	
Section 2.4	Evaluation of Significant Sources of PCBs	Significant sources of POC(s) from facilities of concern owned or operated by the MS4 operator that are not covered under a separate VPDES permit. A significant source of pollutant(s) from a facility of concern means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL;	Section I.D.2.b)4)
Section 2.5	Existing and Planned Management Controls	Existing or new management practices, control techniques, and system design and engineering methods that have been or will be implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;	Section I.D.2.b)2)
Section 2.6	Legal Authorities	Legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the POCs identified in each respective TMDL;	Section I.D.2.b)1)
Section 2.7	Enhanced Education, Outreach, and Training	Enhancements to public education, outreach, and employee training programs to also promote methods to eliminate and reduce discharges of the POC(s) for which a WLA has been assigned;	Section I.D.2.b)3)
Section 2.8	Schedule and Milestones	A schedule of interim milestones and implementation of the items in 5, 6, and 7;	Section I.D.2.b)5)

Action Plan	Action Plan Element	DEQ Draft Local TMDL Action Plan Guidance	MS4 Permit
Section 3	Assessment of Effectiveness	Methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs; and	Section I.D.2.b)5)
Section 4	Measurable Goals	Measurable goals and the metrics that the permittee and Department will use to track those goals (and the milestones required by the permit). Evaluation metrics other than monitoring may be used to determine compliance with the TMDL(s).	Section I.D.2.b)5)

2 PCB TMDL Action Plan

2.1 TMDL Report

The *Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia* was established by the U.S. Environmental Protection Agency on October 31, 2007 and adopted by the State Water Control Board on April 11, 2008.

The tidal waters of the Potomac River and several of its tributaries were placed on the Virginia 303(d) impaired waters lists for elevated fish tissue levels of PCBs starting in 2002. The District of Columbia, Maryland, and Virginia agreed to coordinate the TMDL development process. The objective of the PCB TMDL is to ensure that the "fish consumption" use is protected in each of the impaired waterbodies by identifying maximum allowable loads of PCBs that would meet the applicable PCB water quality criteria and result in fish tissue PCB concentrations that do not exceed jurisdictional thresholds. See Section 2.3 for more information on the TMDL WLAs.

2.2 Pollutant of Concern

The cause of the impairment is PCB in fish tissue for the impaired segments addressed in the TMDL. As described in the 2014 impaired waters fact sheet, the fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated April 19, 1999 and modified December 13, 2004 and October 7, 2009, limits consumption of bullhead catfish, channel catfish less than eighteen inches long, largemouth bass, anadromous (coastal) striped bass, sunfish species, smallmouth bass, white catfish, white perch, gizzard shad, and yellow perch to no more than two meals per month. The advisory also bans the consumption of American eel, carp, and channel catfish greater than eighteen inches long.

2.3 PCB TMDL

In Table 10 of the PCB TMDL, the following MS4 permits are aggregated under the Prince William County primary location:

- Prince William County
- FBI Academy
- Prince William County Public Schools
- US Marine Corps – Quantico – MS4

The cities of Manassas and Manassas Park are assigned their own WLAs in the TMDL. Prince William County's WLAs are assigned as shown in Table 2A. These stormwater WLAs only apply in the areas directly draining to the tidal Potomac as shown in Map 2A.

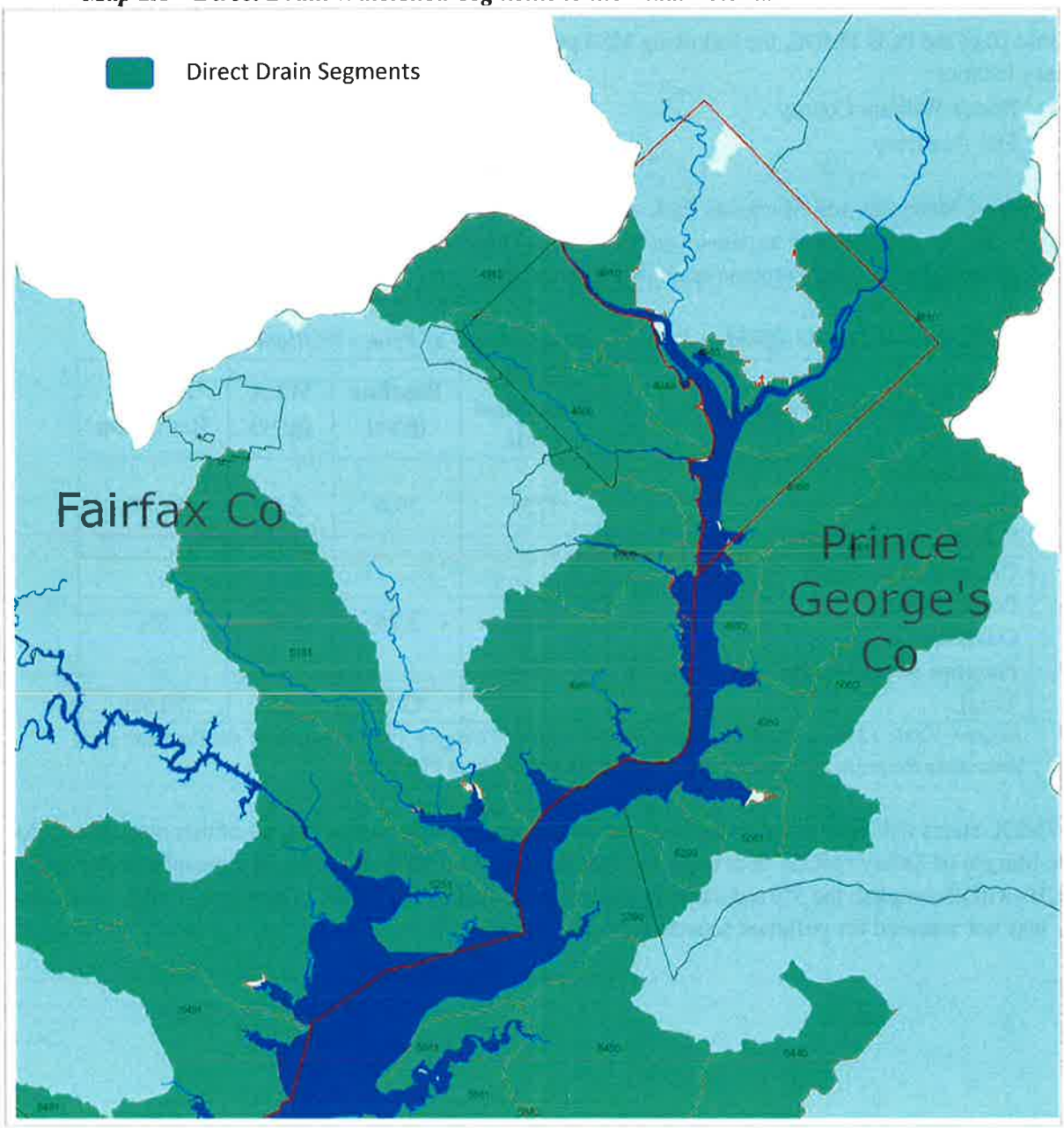
Table 2A – WLAs Assigned to Direct Drainage Areas of Prince William County

Impaired Waterbody	TMDL Watershed Code	Baseline (g/yr)	WLA (g/yr)	Percent Reduction
Belmont Bay Occoquan River Potomac River Middle	5251	39.4	5.61	85.8%
Chopawamsic Creek Powells Creek Quantico Creek Potomac River Middle	5491	3.26	3.09	5%
Total		42.66	8.7	70.6%

Source: Table 12 from Total Maximum Daily Loads of PCBs for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia

The TMDL states that "For those watersheds where the percent reduction is 5%, all of that reduction is due to the Margin of Safety (MOS). It is expected that the proposed 93% reduction in atmospheric deposition of PCBs will accomplish the 5% reduction in loads represented by the MOS." Therefore, TMDL watershed 5491 was not assessed for pollutant sources.

Map 2A – Direct Drain Watershed Segments to the Tidal Potomac



Source: Figure 8 from Total Maximum Daily Loads of PCBs for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia

2.4 Evaluation of Significant Sources of PCBs

This action plan is directed at those facilities and activities that are most likely to constitute a significant source of PCBs to surface waters. The first step in implementing this approach was to identify the portion of the County MS4 that is subject to the PCB TMDL. The second step was to evaluate whether the facilities and activities subject to the TMDL are considered a significant source of PCBs.

2.4.1 MS4 Service Area Delineation Methodology

The County MS4 service area is defined as areas draining to an outfall owned and/or operated by the County. Storm sewer system maps were used in conjunction with hydrologic features, local topographic data, and high-resolution aerial photos to delineate the County's MS4 boundary and to create an MS4 boundary polygon layer. Drainage features were thoroughly reviewed by engineers and planners using a GIS environment in order to accurately account for storm sewer drainage areas and determine break points between the manmade and natural hydrologic systems. The County MS4 service area is presented on Map 2B.

2.4.2 Identification of County Facilities within the Tidal Potomac Watershed

The WLAs in the TMDL are limited to the direct drainage watershed segments to the tidal Potomac. An evaluation of the County regulated MS4 service area was conducted to identify County properties within the MS4 area that discharge to the area impacted by the PCB TMDL (TMDL Watershed 5251). This evaluation identified the County properties listed in Appendix A.

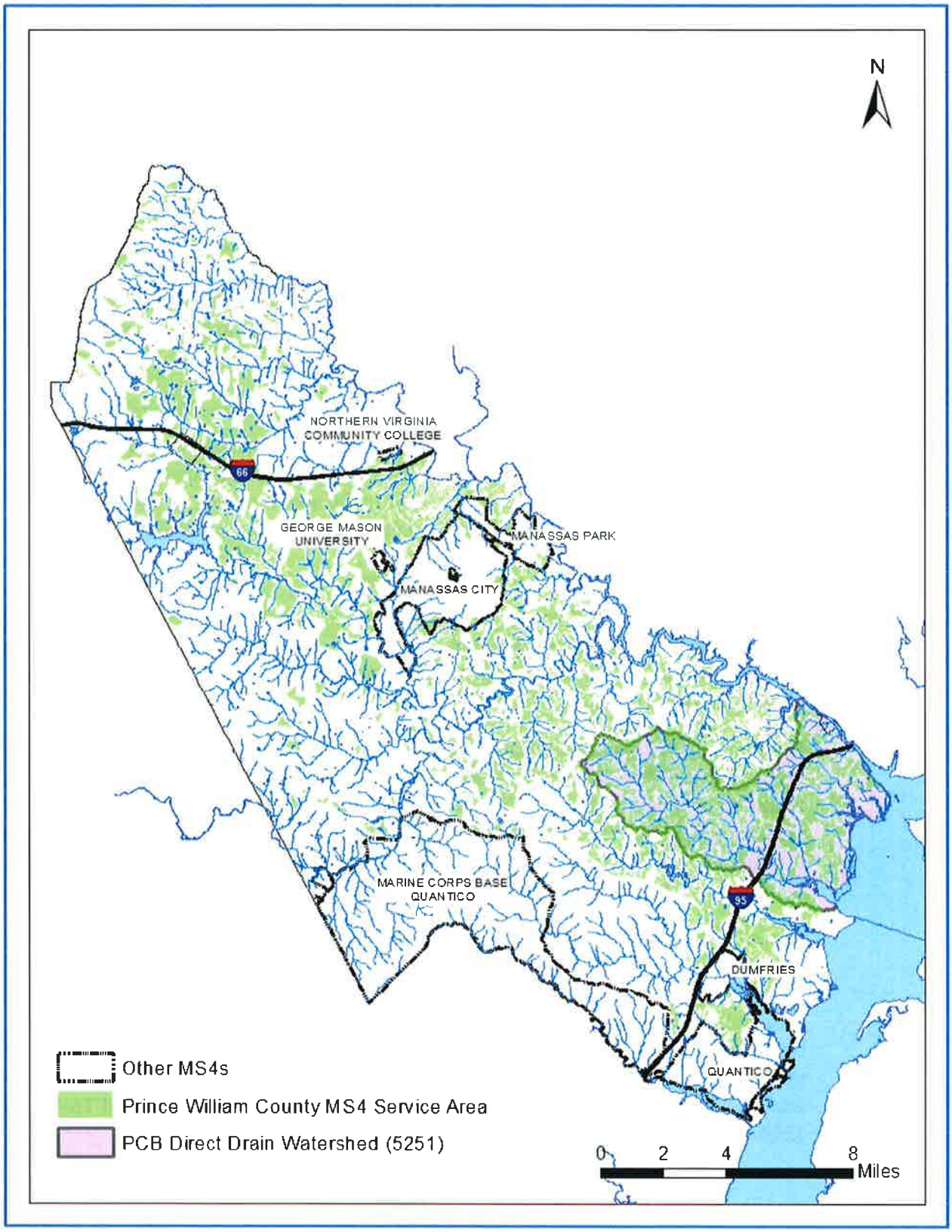
2.4.3 Evaluation of Significant Sources of PCBs

A desktop evaluation of County facilities within the regulated MS4 services area (Appendix A) was completed to determine the likelihood of PCB contamination that could affect stormwater runoff. Two factors were used to determine that none of the County facilities is likely to be a significant source of PCBs.

First, none of the County facilities subject to this action plan fall under one of DEQ's high risk categories for PCBs. High risk category sites for potential sources of residual PCBs include the following Standard Industrial Classifications (SICs): 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221 & 1222 (Bituminous Coal).

Secondly, the County researched the U.S. Environmental Protection Agency (EPA) PCB Transformer Registration Database at https://www.epa.gov/pcbs/registering-transformers-containing-polychlorinated-biphenyls-pcbs to determine if any County properties are registered sites, indicating the presence and location of PCB-containing transformers that may be located on County properties. No County facilities are listed as currently operating a PCB-containing transformer. A private facility is on the list: Dominion Virginia Power – Possum Point Power Station. This facility is privately owned and operated and is located outside of TMDL watershed 5251.

Map 2B – Prince William County MS4 Service Area Delineation



In addition, the U.S. EPA cited potential indoor uses of PCBs as having the potential of entering the environment if not disposed of properly. These include but are not limited to fluorescent light ballast and caulking. Seven County properties within the MS4 and the direct drainage area were constructed before PCBs were banned in 1979:

- Dr. A.J. Ferlazzo Building, 15941 Donald Curtis Drive, Woodbridge
- County Government Office, 15960 Sindlinger Way, Woodbridge
- Birchdale Community Center, 14730 Birchdale Avenue, Woodbridge
- Sharron Baucom Dale City Recreation Center, 14300 Minnieville Road, Woodbridge
- Park Authority Maintenance Facility, 14998 Birchdale Avenue, Woodbridge
- Maintenance Building, 15904 Jefferson Davis Highway, Woodbridge
- Potomac Community Library, 2201 Opitz Boulevard, Woodbridge

Any PCBs at these properties would only become a source of stormwater pollution if disposed of improperly in contravention of County, state, and federal requirements.

Dominion Virginia Power maintains transformers that are part of the system of providing electric service throughout the County. Dominion confirmed that the majority of transformers are filled with non-PCB mineral oil. However, there may be transformers in service that were manufactured prior to July 1979 that could contain detectable levels of PCB. Dominion noted that under normal operating conditions, these facilities are not subject to leaking or spilling. If an incident were to occur, Dominion has in place plans and procedures to promptly respond in accordance with state and federal regulatory requirements.

Railroad transformers are specifically listed as a potential source of PCBs by the U.S. EPA. Two railroads operate in Prince William County: CSX and Norfolk Southern. Both of these railroads are privately owned and operated.

Based on this evaluation, the County has determined that no particular County site or operation is considered a significant source of PCBs. Therefore, the actions proposed in this action plan focus on educating staff to heighten awareness of potential PCB sources, such as an older transformer operated by Dominion Virginia Power, and how to respond to the discovery of an unexpected source of PCBs.

2.5 Existing and Planned Management Controls

Prince William County has put into place all necessary programmatic and legal requirements to meet the "TMDL Action Plans other than the Chesapeake Bay TMDL." The details of the existing program elements and associated legal authorities required to comply with the PCB TMDL are discussed in this section.

2.5.1 Existing Management Controls

Prince William County has adopted an MS4 Program Plan that documents implementation of all MS4 permit requirements, including the necessary programmatic and legal authorities to fully implement the plan. The full MS4 Program Plan can be found at http://www.pwcgov.org/government/dept/publicworks/environment/pages/ms-4-permit.aspx. Table 2B provides a

summary of elements of the MS4 Program Plan that relate to controlling discharges that have the potential to contain PCBs.

Table 2B – MS4 Program Plan Elements Related to Meeting the Tidal Potomac PCB TMDL

MS4 Program Plan Element	MS4 Program Plan Elements Related to Understanding and Controlling Various Pollutants, Including PCBs
Illicit Discharges and Improper Disposal (BMP e.5) and Dry Weather Screening Program (BMP l.1)	Prince William County implements a program to locate and eliminate illicit discharges and improper disposal into the MS4 per Section I.B.2.e)5) of its MS4 permit. This program includes both direct sources of PCBs and sediment that can have attached PCBs.
Spill Prevention and Response (BMP f.1)	Prince William County participates in the Department of Emergency Management Services' regional Hazardous Materials response programs and maintains a National Incident Management System Type 1 HAZMAT Team for emergency response
Industrial & High Risk Runoff (BMPs g.1 – g.5)	Prince William County implements a program to identify and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities and any other industrial or commercial discharges the County determines are contributing a significant pollutant loading to the MS4 per Section I.B.2.g) of its MS4 permit.
County Facilities (BMP i.3)	Prince William County has identified high priority municipal facilities that have a high potential of discharging pollutants and will implement Stormwater Pollution Prevention Plans (SWPPPs) on these sites by December 17, 2017.

2.5.2 Planned Management Controls

It is possible that County field personnel could encounter an unexpected source of PCBs in the routine course of business or as part of the County's dry weather outfall inspection program. Further, damage to electric utility infrastructure could cause the release of substances from small transformers operated by Dominion Virginia Power. As a result, the County will update the Illicit Discharge Identification and Elimination Program Manual (see MS4 Program Plan BMP l.1) to include a section on PCBs. The updated IDDE Manual will include:

- Potential sources of PCBs that could be encountered in the County. These include, but are not limited to:
  - Improperly discarded building caulk (pre-1979).
  - Improperly discarded fluorescent light ballast manufactured prior to 1979. Electronic ballast does not contain PCBs and is clearly labeled as electronic ballast. Magnetic ballast is assumed to contain PCBs unless specifically labeled "No PCBs."
  - Improperly discarded or accidentally damaged transformers. Some existing transformers may still contain PCBs or trace amounts above reportable thresholds.
  - Other improperly discarded electrical equipment containing substances under the trade names Aroclor, Pyranol, Inerteen, and Noflamol.
- Safety precautions and how to handle potential leaks or discharges.
- Emergency and non-emergency notification information and who to contact for clean-up. These include, but are not limited to:
  - 911
  - Fire Marshalls office

- Dominion Virginia Power
- Virginia Department of Environmental Quality
- U.S. EPA National Response Center

The County will enhance its existing training programs (discussed in Section 2.7) to heighten awareness of potential PCB sources and how to respond if a potential source is identified in accordance with the updated IDDE Manual.

In addition, the County will develop a standard operating procedure (SOP) that addresses the required controls to be implemented during the demolition of county-facilities, which minimizes the exposure of potential PCB materials to precipitation and stormwater. The SOP shall apply to any County structure with at least 10,000 square feet of floor space and built or renovated prior to January 1, 1980.

2.6 Legal Authorities

The County's primary tool for preventing the discharge of PCBs to the storm sewer system is Section 23.2-4.1(a) of the County Code, which states "It shall be a violation of this article for any person to discharge:

(1) Any wastes, trash, garbage, or any matter causing or aiding pollution on any property in the County in any manner so as to allow such to be washed into any stormwater system by storm or floodwater.

(2) Any grass clippings, mulch, or yard waste, animal carcasses and other wastes into the stormwater system, or do any injury to the stormwater system or in any manner pollute the stormwater system.

(3) Any discharge of gasoline, oil waste, antifreeze, or other automotive, motor or equipment fluids into the stormwater system.

(4) Any commercial, industrial, or manufacturing entity to discharge process water, wash water, or unpermitted discharge into any stormwater system.

(5) Any person to throw, place, or deposit, or cause to be thrown, placed or deposited, in any gutter, ditch, storm drain or other drainage area in the County, anything that impedes or interferes with the free flow of stormwater therein.

(6) Chlorinated swimming pool water without dissipating chlorine."

After review of the County Code, the County does not believe that additional legal authority is required for compliance with the requirements of Section I.D.2 of the MS4 Permit (TMDL Action Plans other than the Chesapeake Bay TMDL).

2.7 Enhanced Education, Outreach, and Training

Prince William County will enhance existing education, outreach, and training programs to heighten awareness of potential PCB sources and how to respond to the discovery of an unexpected source of PCBs.

BMP k.1 of the existing MS4 Program Plan provides for staff training in the recognition of illicit discharges and good housekeeping practices. This training will be modified to include information on PCBs. This information may include:

- Potential sources that may be encountered at County facilities;
- Legacy activities that could contribute to PCB pollution on historic County sites; and,
- What to do if you discover equipment, machinery, or contaminated soil that may contain PCBs.

2.8 Schedule and Milestones

The IDDE Program Manual update in Section 2.5 and the education and training actions in Section 2.7 will be developed and implemented in Permit Year 3 (PY3) in the following manner:

- BMP k.1 – Training materials will be revised in PY3 to include information relevant to potential PCB sources and steps to take if a source of PCBs is discovered at a County property. The training will be implemented in PY4 as part of the ongoing biennial training program.
- BMP l.1 – The County's Illicit Discharge Identification and Elimination Program Manual will be updated in PY3 to include information on potential sources of PCBs, safety precautions and notifications.

The timeframe for PY3 is December 17, 2016 to December 16, 2017.

The County will develop a standard operating procedure (SOP) that addresses the required controls to be implemented during the demolition of county-facilities, which minimizes the exposure of potential PCB materials to precipitation and stormwater. The SOP shall apply to any County structure with at least 10,000 square feet of floor space and built or renovated prior to January 1, 1980. The SOP will be completed by July 1, 2019.

3 Assessment of Effectiveness

Since no new sources of PCBs are allowed under federal law, reductions in PCB loads rely on the identification and correction of presently unknown sources to the MS4, if any. A review of potential sources in Section 2.4.3 determined that no particular County site or operation is considered a significant source of PCBs. Therefore, the actions proposed in this action plan focus on educating staff to be aware of potential PCB sources.

An effective training program will ensure that targeted staff have a working understanding of the potential sources of PCBs and what actions must be taken if a potential source is discovered or suspected. As a result, the measure of effectiveness of this plan is the successful delivery of this training. As described in Section 2.8, PCB-specific training will be included in BMP k.1 of the Prince William County MS4 Program Plan. In addition, BMP k.4 ensures that appropriate emergency response employees are trained in spill response. All training will be documented in annual reports to DEQ and will include example training materials and employee sign-in sheets. Should a source of PCBs ever be discovered, the County will assess the effectiveness of the training in identifying the source and take appropriate follow up actions. Modifications will then be made to the TMDL action plan, if necessary.

4 Measurable Goals

The County will document training activities on a yearly basis. Training material will be maintained, along with rosters for each training event that will include the date of the training along with personnel in

attendance. This training will be documented in the MS4 annual reports. The County will also document the Illicit Discharge Identification and Elimination Program Manual update in the MS4 annual report.