Baltimore Harbor and Curtis Creek/Bay Polychlorinated Biphenyls (PCB) TMDL Implementation Plan Update

Sampling and Analysis Plan

July 2025

Prepared for:

Anne Arundel County
Department of Public Works
Watershed Protection and Restoration Program
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Contents

List of Acronyms

CB	Chlorinated Biphenyl
DOC	Dissolved Organic Carbon
EPA	Environmental Protection Agency
HRGC	High Resolution Gas Chromatography
HRMS	High Resolution Mass Spectrometry
LDPE	Low Density Polyethylene
MDE	Maryland Department of The Environment
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyl
POC	Particulate Organic Carbon
PRC	Performance Reference Compounds
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance and Quality Control
SAP	Sampling and Analysis Plan
SOPs	Standard Operating Procedures
SW-WLA	Stormwater Wasteload Allocation
TMDL	Total Maximum Daily Load
WIP	Watershed Implementation Plan
WLA	Waste Load Allocation
WQS	Water quality standard

1 Background and Introduction

In 2012, the U.S. Environmental Protection Agency (EPA) Region III approved Maryland Department of the Environment's (MDE) Total Maximum Daily Load (TMDL) for Polychlorinated Biphenyls (PCBs) for the Baltimore Harbor, Curtis Creek/Bay, and Bear Creek portions of the Patapsco River Mesohaline Tidal Chesapeake Bay Segment (MDE 2012). This report will be referred to as the Baltimore Harbor PCB TMDL. Among other objectives, the Baltimore Harbor PCB TMDL established PCB waste load allocations (WLAs) for PCB sources to achieve reductions needed to meet applicable water quality standards (WQSs).

An aggregate stormwater WLA (SW-WLA) was assigned to regulated stormwater from National Pollutant Discharge Elimination System (NPDES) stormwater permit holders in Anne Arundel County for portions of the Baltimore Harbor Embayment and Curtis Creek/Bay watersheds within Anne Arundel County. Anne Arundel County (the County) is an NPDES Phase I Municipal Separate Storm Sewer System (MS4) permit holder.

In 2022, the Maryland Department of the Environment issued guidance for developing implementation plans that address PCB TMDLs (MDE, 2022a). This guidance outlines a process that includes: Source Assessment (desktop), Subwatershed Prioritization (subwatershed risk assessment), development of a monitoring plan, and subsequent multi-phase (Phase I, Phase II, Phase III) monitoring towards source trackdown. Biohabitats, Inc. completed both the Desktop Source Assessment and Subwatershed Risk Assessment for the County in 2024 and provided detailed summaries of the results to the County in a Technical Memorandum sent in January 2025.

The first phase of monitoring, Phase I Sampling, is conducted following completion of the Desktop Source Assessment and Subwatershed Risk Assessment. A Sampling and Analysis Plan (SAP) is required for Phase I Sampling, which is defined by MDE as a PCB Subwatershed Screening. The County's MS4 permit also requires development of a PCB source tracking monitoring plan for all applicable TMDL WLAs where watershed reductions are required to meet water quality standards under Part IV.G.3. pg 17, Assessment of Controls, PCB Source Tracking. This SAP satisfies the requirements for the MS4 PCB Source Tracking for the Baltimore Harbor.

A SAP for Anne Arundel County's Patuxent River PCB TMDL was approved by MDE in September of 2024, and this document is structured in parallel and draws from that document. The Phase I SAP for Baltimore Harbor and Curtis Creek/Bay is presented in this document and is organized as follows:

Section 1 Introduces the PCB SAP and TMDL watersheds.

Section 2 Describes the sampling framework, which includes sampling locations in each subwatershed with the highest risk score and/or targeted near PCB sources identified from the Desktop Source Assessment. Reference sites to establish background PCB concentrations are also described in this section.

Section 3 Presents the data analysis and statistical approach used for data collected from the sampling.

Section 4 Presents the quality control activities including field blanks, field quality controls, and data review procedures.

Section 5 Describes documentation, forms, and data management procedures used.

1.1 Baltimore Harbor and Curtis Creek PCB Local TMDL

The Baltimore Harbor and Curtis Creek watersheds are located within the Patapsco River Mesohaline Chesapeake Bay Segment and the Baltimore Harbor 8- Digit watershed (02130903). Both Curtis Creek and Baltimore Harbor watersheds are located on the southwest shore of the Baltimore Harbor and share political boundaries with Baltimore City to the north. This effort focuses on portions of the Baltimore Habor and Curtis Creek watersheds located within the County. A locator map is provided in Figure 1.

Figure 1. Locator Map

These two watersheds have impaired waters listings according to the Maryland's Final 2024 Integrated Report of Surface Water Quality. The County's PCB implementation plan and this SAP specifically addresses the Baltimore Harbor and Curtis Creek PCB TMDL as approved by the Environmental Protection Agency (EPA) in 2012.

Subwatersheds for the TMDL segments were defined in the Baltimore Harbor and Curtis Creek/Bay PCB TMDL Action Strategy (2019) as defined in Table 1 and depicted in Figure 2.

Table 1. Subwatershed IDs and Names within TMDL Basins

TMDL Watershed	Subwatershed ID	Subwatershed Name
Baltimore Harbor	PT0	Stony Creek
	PT4	Swan Creek
	PT9	Cox Creek
	PTA	Patapsco Tidal
	PTB	Rock Creek
	PTH	Nabbs Creek
	PTI	Patapsco Tidal
	PTJ	Patapsco Tidal
	PTK	Patapsco Tidal
Curtis Creek	PT1	Unnamed Tributary
	PT2	Cabin Branch 2
	PT3	Cabin Branch
	PT5	Furnace Creek
	PT6	Curtis Creek
	PT7	Sawmill Creek 1
	PT8	Marley Creek 1
	PTC	Back Creek
	PTD	Sawmill Creek 2
	PTE	Marley Creek 2
	PTF	Marley Creek 3
	PTG	Marley Creek 4

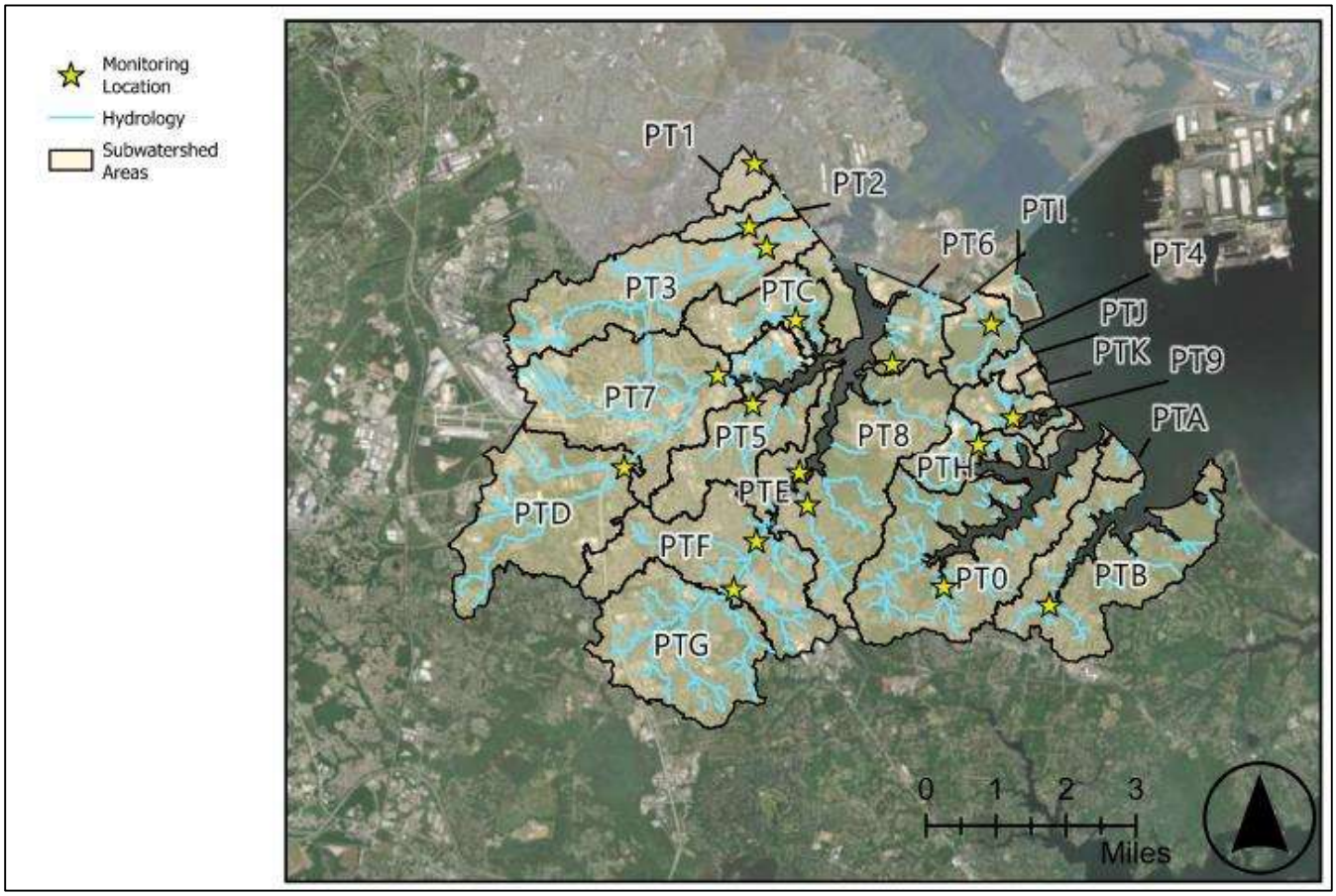

Figure 2. Delineated TMDL Subwatershed Areas

2 Monitoring Approach and Sample Design

In accordance with the 2022 MDE Guidance for Developing Local PCB TMDL (Total Maximum Daily Load) Stormwater Wasteload Allocation (SW-WLA) Watershed Implementation Plans (WIPs), this section details the Anne Arundel County PCB monitoring design approach for Phase I Sampling in the Baltimore Harbor and Curtis Creek watersheds, as required for each. As described below, reference site data (see Section 2.3.1) will be used to inform the County of background levels of PCBs within each TMDL watershed. The initial Phase I Sampling with passive samplers may indicate a need for follow up in a Phase II Sampling effort that is not described in this document.

2.1 Sampling Phases

MDE's PCB Implementation Plan Guidance (MDE, 2022a) defines multiple phases for overall PCB monitoring following the completion of the desktop PCB source assessment and subwatershed prioritization:

PHASE I SOURCE TRACKDOWN	PHASE II SOURCE TRACKDOWN	PHASE III SOURCE TRACKDOWN
Subwatershed PCB Screening	**In-stream Subwatershed PCB Characterization**	**MS4 PCB Characterization**
Confirm the presence of PCBs at levels of concern within individual subwatersheds indicating the need for further investigation to identify discrete sources of PCBs.	Comprehensive in-stream PCB characterization within these Phase I subwatersheds to identify specific areas of concern within the stream network that contain upland sources of PCBs.	Identify sources of PCBs within the storm sewershed.

This SAP addresses the requirements associated with Phase I Source Trackdown for the subwatersheds within the Baltimore Harbor and Curtis Creek TMDL watersheds. The County followed MDE's PCB Implementation Plan Guidance to identify monitoring stations for the Phase I PCB subwatershed screening within each of the TMDL watersheds.

2.2 Sampling Methods

The County's screening approach will adhere to MDE's PCB Implementation Plan Guidance whereby a single sampling location will be situated at the outlet of each selected subwatershed, where feasible. Results from subwatershed sampling will be compared with a reference threshold and TMDL water column endpoint to determine whether subwatersheds will or will not require further source trackdown investigations. Reference site selection is described in detail below in Section 2.3.1. Data analysis is described in Section 3.

This SAP will become a part of the overall Quality Assurance Project Plan (QAPP) for the project. Standard operating procedures (SOPs), quality assurance objectives, monitoring equipment, sampling protocols, and analytical methods will be discussed in detail in the QAPP. A brief description of the Phase I methods is provided below.

2.2.1 PASSIVE SAMPLING

In accordance with the Passive Sampler Guidelines from the MDE's PCB Guidance Resource Package, single time-integrative passive samplers will be placed in the water column at each Phase I sampling location. For three months at minimum, the sampler should remain covered with water but sufficiently above the substrate to avoid sediment deposition. Specifics of the deployment will depend on the characteristics of each site including water depth, the type and mobility of the substrate, and discharge regime. Elements including a concrete block to affix the support plate, buoy, and marker line will be used as needed to maintain the correct position in the water column.

This passive sampling method requires continuous exposure over an extended period of time to achieve PCB concentration equilibrium. Each monitoring station will require at least one visit for installation and another for retrieval, though site conditions such as exceptional storm events could merit additional trips to ensure that the sampler remains properly placed or to install a replacement if the sampler is damaged or lost.

As described in the Patuxent River SAP, SiREM's SP3™ passive sampler consists of a 4 cm × 10 cm polyethylene sheet housed in a steel-mesh envelope attached to an 8 cm × 18 cm × 0.1 cm stainless steel support plate (Figure 3). SiREM will pre-load the SP3™ samplers with performance reference compounds (PRCs) to enable quantification (i.e., concentrations) of individual PCB congeners. SiREM uses a standard list of 10 PCB congeners rarely found in the environment as PRCs. These 10 PCBs are rarely found in sediment and biological tissue and are used to evaluate the sampling kinetics of the sampler during the exposure period. As these congeners are added to each SP3™ sampler, a freely dissolved concentrations (Cfree) value for these 10 PCBs cannot be reported (although by assumption, due to their rarity, they would not be detectable).

Figure 3. Low Density Polyethylene Passive Sampler

2.2.2 ANALYTICAL METHODS

The SP3™ samplers for this application will be used to quantify the freely dissolved concentrations (Cfree) of PCB congeners in the surface water via an in-situ deployment. The samplers will be deployed instream for a minimum of three months to enable measurement of as many of the target analytes as practicable under static (unagitated) conditions. Quantification of Cfree is dependent on the site-specific conditions surrounding each sampler that affects the sampling rates for each analyte. Cfree estimates of analytes that do not reach at least 10% of steady state concentrations in the SP3™ sampler during deployment will be reported with a qualifier.

After retrieval, the passive samplers will be collected and shipped to Eurofins Environment Testing America Knoxville, Tennessee, for PCB congener analysis by EPA 1668A (US EPA, 2003), a low detection level congener-based method, and PRC analysis. Method 1668 was developed by EPA's Office of Science and Technology for congener-specific determination of PCB congeners designated as toxic by the World Health Organization. Revision A of Method 1668 has been expanded to include congener-specific determination of more than 150 chlorinated biphenyl (CB) congeners. The toxic PCBs and the beginning and ending level-of-chlorination CBs are determined by isotope dilution high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS).

2.3 Sampling Locations

MDE's PCB Implementation Plan Guidance requires a single sampling site at the outlet of each subwatershed with the goal of identifying sampling locations that are representative of the entire drainage area of the subwatershed and are not influenced by backwater conditions.

Monitoring stations were identified using digital data and aerial imagery and later verified in the field. Monitoring stations are located in the downstream portions of each subwatershed while also considering accessibility, ownership, perennial flow, and absence of tidal influence. Where possible, sites were chosen where Anne Arundel County has previously performed biological and/or water quality monitoring, as site conditions and permission to access the property have already been determined. Four subwatersheds - PTA, PTI, PTJ, and PTK - were deemed unsuitable for Phase I monitoring due to lack of a stream channel with perennial flow.

Table 2 and Figure 4 identify the 17 proposed monitoring locations. Appendix A includes maps of each of the monitoring locations.

**Note: As of the preparation of this document, Anne Arundel County has completed Phase III monitoring in the Sawmill Creek I (PT7) subwatershed, and Phase I monitoring in the Cabin Branch (PT3) and Marley Creek 3 (PTF) subwatersheds. The most downstream monitoring site in each of those subwatersheds is included in Table 2 and Figure 4.*

Table 2. Baltimore Harbor and Curtis Creek Subwatershed Phase I Monitoring Sites

Subwatershed ID	Subwatershed Name	Coordinates		Notes
		Latitude	Longitude	
PT0	Stony Creek	39.139067	-76.554286	
PT1	Unnamed Tributary	39.22684	-76.604206	
PT2	Cabin Branch 2	39.213787	-76.605651	
PT3	Cabin Branch	39.209521	-76.60107	Phase I monitoring completed March 2025.
PT4	Swan Creek	39.193304	-76.541335	
PT5	Furnace Creek	39.176962	-76.604929	
PT6	Curtis Creek	39.185206	-76.567743	
PT7	Sawmill Creek 1	39.183128	-76.614159	Phase I monitoring completed December 2020. Phase II monitoring completed November 2022. Phase III monitoring completed March 2025.
PT8	Marley Creek 1	39.156108	-76.590455	
PT9	Cox Creek	39.174007	-76.535656	
PTA	Patapsco Tidal	N/A	N/A	Perennial stream not present

Subwatershed ID	Subwatershed Name	Coordinates		Notes
		Latitude	Longitude	
PTB	Rock Creek	39.135173	-76.526225	
PTC	Back Creek	39.194494	-76.593398	
PTD	Sawmill Creek 2	39.164031	-76.639215	
PTE	Marley Creek 2	39.162909	-76.592576	
PTF	Marley Creek 3	39.148697	-76.604095	Phase I monitoring completed March 2025.
PTG	Marley Creek 4	39.138701	-76.610192	
PTH	Nabbs Creek	39.168455	-76.544866	
PTI	Patapsco Tidal	N/A	N/A	Perennial stream not present
PTJ	Patapsco Tidal	N/A	N/A	Perennial stream not present
PTK	Patapsco Tidal	N/A	N/A	Perennial stream not present

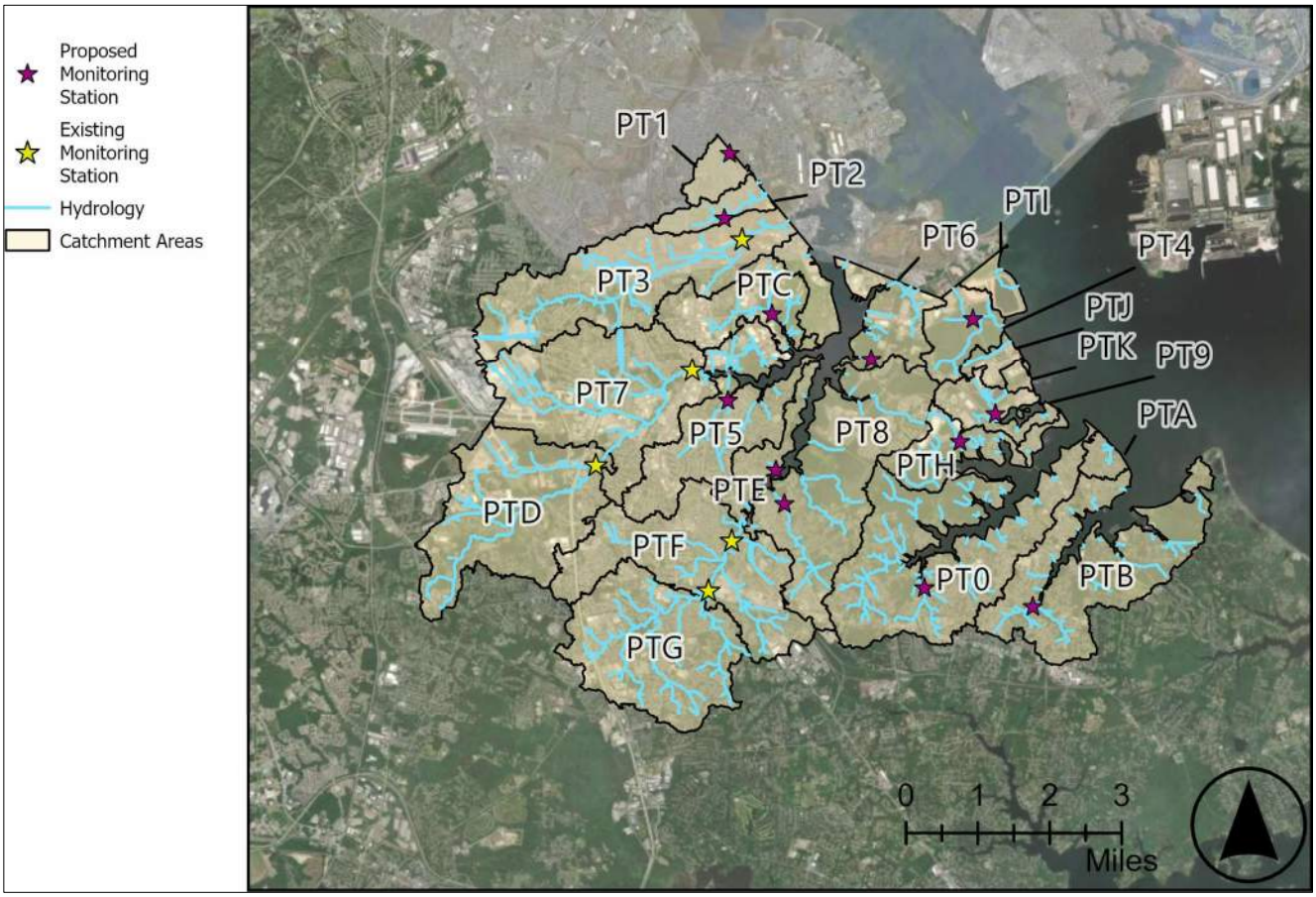

Figure 4. Baltimore Harbor and Curtis Creek Phase I Monitoring Locations

2.4 Reference Site Selection

Two reference sites per TMDL watershed are required for PCB screening to establish background levels of PCBs. Reference sites should have concurrent sampling within a portion of a subwatershed where no urban development or potential source of PCBs are present as identified through the PCB Source Assessment.

As these conditions (no development, no potential sources of PCBs) do not exist within the Baltimore Habor and Curtis Creek subwatersheds, the County will continue to leverage its existing reference sites established as part of prior PCB monitoring initiatives—one in the Severn River watershed (Anne Arundel County) and the other in the Back River watershed (Baltimore County). Both sites have received approval from MDE. These sites are identified in Figure 5.

2.5 Sample Deployment, Field Checks, and Collection

During deployment, SP3™ samplers will be securely attached to a cinder block with a zip tie or attached to a steel u-channel post anchored into the stream bed. Samplers will be installed in an area of the stream with sufficient water depth to remain fully submerged for a minimum of three months. Each sampling location will be visited upon installation and retrieval of the sampler. Two additional visits prior to retrieval (after one month and after two months) are planned in addition to post-high flow event visits as needed. If the sampler is impacted, lost, or deemed to be compromised, a replacement sampler will be installed.

2.5 Sample Forms

Field sampling staff will document the sampling location (site ID), specific description of the location where the passive sampler was installed, time the sampler was installed, initials of sampling personnel, and other notes or comments. Photographs of the sampler installation location will also be collected and recorded on the sampling forms to facilitate retrieval. Additional photos may be taken during follow-up visits if necessary.

2.6 Sampling Team Personnel

Sampling activities will be performed by a minimum of a two-person team. The personnel responsible for sample collection will be trained to perform those activities. The training for field staff will include a review of applicable SOPs, sampling locations, sampling equipment and containers, field forms and labels to be completed on-site (e.g., chain-of-custody forms, sample collection forms, sample labels), sample preservation information, and coordination with the analytical laboratory. All field personnel will understand the field safety elements of the data collection and use appropriate personal protective equipment for the field conditions.

2.7 Sample Transportation

After retrieval, the SP3™ samplers will be stored under refrigeration at 4°C or below, minimizing exposure to elevated temperatures and sunlight, for up to two weeks. Once all samplers have been collected, they will be shipped directly to the analytical laboratory, Eurofins Environment Testing America, for PCB congener analysis following EPA Method 1668A and PRC analysis. The laboratory will be notified a few days in advance of the shipment to ensure it is prepared to promptly process the samples upon arrival. Chain-of-custody protocols will be maintained for all samples upon delivery to the laboratory.

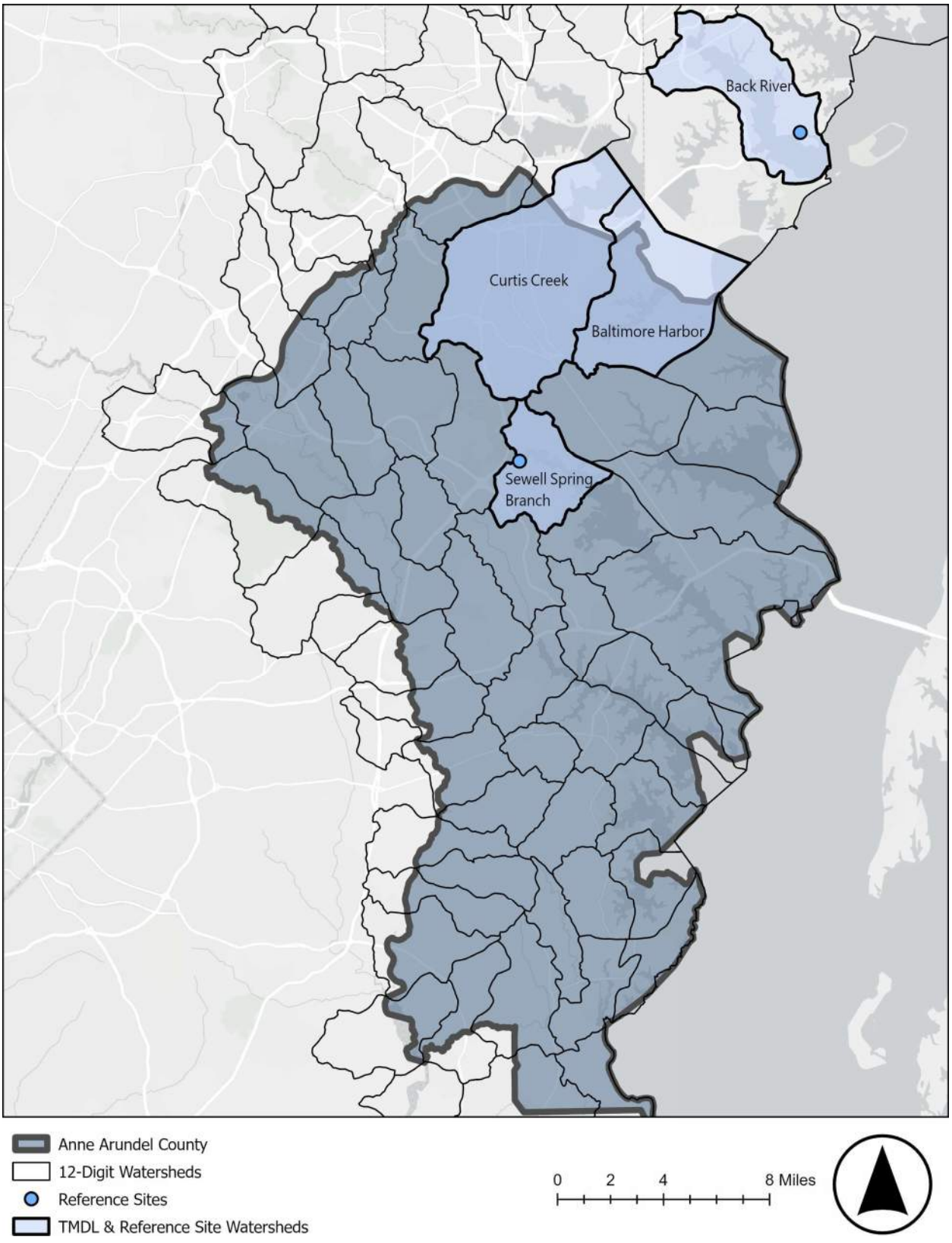

Figure 5. Baltimore Harbor and Curtis Creek Reference Site Locations

3 Data Analysis

The monitoring results from Phase I are intended to inform and shape monitoring of subsequent phases as the County works to narrow down potential specific sources of PCBs. As PCBs are ubiquitous in the environment, identifying the right mechanisms for determining PCB presence at levels of concern is necessary to identify hotspots amongst the noise.

Comparison to the reference threshold (as defined in MDE's PCB TMDL Implementation Guidance document) and appropriate water quality standards (summarized in Table 3) will help to identify sites with elevated levels of PCBs. These values include Maryland's Numerical Criteria for Toxic Substances in Surface Waters including the freshwater chronic criterion of 14 ng/L for protection of life in non-tidal systems and the human health criterion of 0.64 ng/L that addresses the consumption of PCB-contaminated fish. The TMDL endpoint for the Baltimore Harbor and Curtis Creek subwatersheds was established during TMDL development and resulted in a PCB water column threshold concentration and endpoint of 0.27 ng/L (MDE, 2012).

Monitoring sites showing PCB concentrations at or below both the reference threshold and the TMDL water column endpoint will be considered as having no significant PCB sources, and no further source trackdown efforts will be pursued in future monitoring phases.

Monitoring sites with PCB concentrations at or above the TMDL endpoint will be interpreted as indicative of significant PCB sources within those areas, and those subwatersheds will be subject to further source trackdown investigations. It is the County's goal to conduct Phase II investigations for all subwatersheds where water column PCB concentrations exceed the TMDL endpoint, with the possibility of needing to prioritize subwatersheds with the highest concentrations if funding is limited.

For subwatershed sites where PCB concentrations exceed the reference threshold but remain below the TMDL water column endpoint, the County will coordinate with MDE to determine whether these subwatersheds can be excluded from further source trackdown investigations based on existing data and findings from the PCB Source Assessment or if additional sampling will be necessary.

Table 3. Applicable Maryland PCB Water Quality Standards (Source: MDE, 2012)

Type	PCB Water Quality Standard
Human Health	0.64 ng/L (0.00064 ppb)
Freshwater Aquatic Life	14 ng/L (0.014 ppb)
Water Column TMDL Endpoint	0.27 ng/L (0.00027 ppb)

[1]: ppb conversion provided for comparison with EPA method detection limits

4 Quality Control Activities

Analytical samples collected during Phase I sampling will follow all quality assurance/quality control (QA/QC) procedures and standards as outlined below.

4.1 Field Blanks

For each batch of passive samplers deployed, SiREM will prepare one (1) SP3™ sampler per location along with one (1) additional SP3™ sampler for a field blank and three (3) PRC blanks that will be shipped directly to Eurofins Environment Testing America, Knoxville, Tennessee for initial PRC concentration determination.

4.2 Field Quality Controls

Field personnel will follow the Standard Operating Procedures (SOPs) to ensure the collection of representative and uncontaminated samples. The sampling methods are designed to align with MDE recommendations, ensuring data comparability with other jurisdictions. Key quality control measures during sample collection include:

- Comprehensive training of field personnel in the proper use of sampling equipment and the ability to distinguish between acceptable and unacceptable samples, following the criteria outlined in this Sampling and Analysis Plan (SAP) and associated SOPs.
- Training field personnel to identify and avoid potential contamination sources and ensure proper sample handling and storage practices.
- Use of pre-cleaned, approved sample containers that meet recommended specifications.

4.3 Data Review Procedures

SiREM will provide a sampler report containing the core analytical chemistry data, including the laboratory report from Eurofins Environment Testing America, a summary of the basic methodology, and the calculated Cfree estimates for the samples. Electronic data files will also be provided. The data report should be reviewed to identify any potential outliers. Any flagged values will require confirmation from SiREM and/or Eurofins Environment Testing America before they are included in the final data submission to MDE.

5 Documentation, Forms and Data Management

All field documentation — including the data collection forms described in this SAP and associated field notes — will be reviewed for completeness and accuracy, then scanned and electronically archived on the County's network in accordance with the County's Record Retention Policy, which mandates that records related to NPDES permits be retained for ten years. All laboratory analytical data generated under this SAP will likewise be submitted to the County and securely stored on the County's network.

6 References

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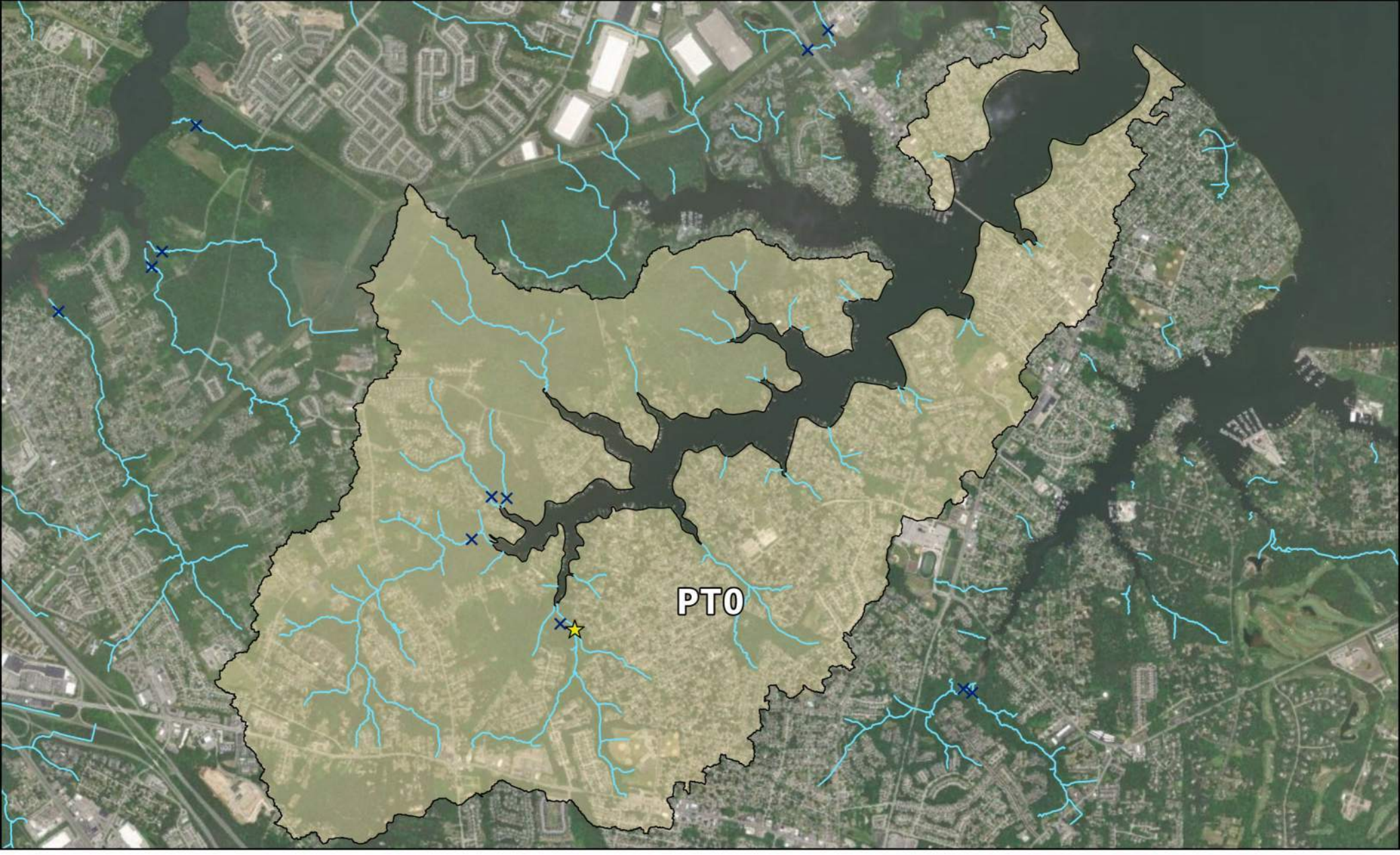
Appendix A: Monitoring Site Maps

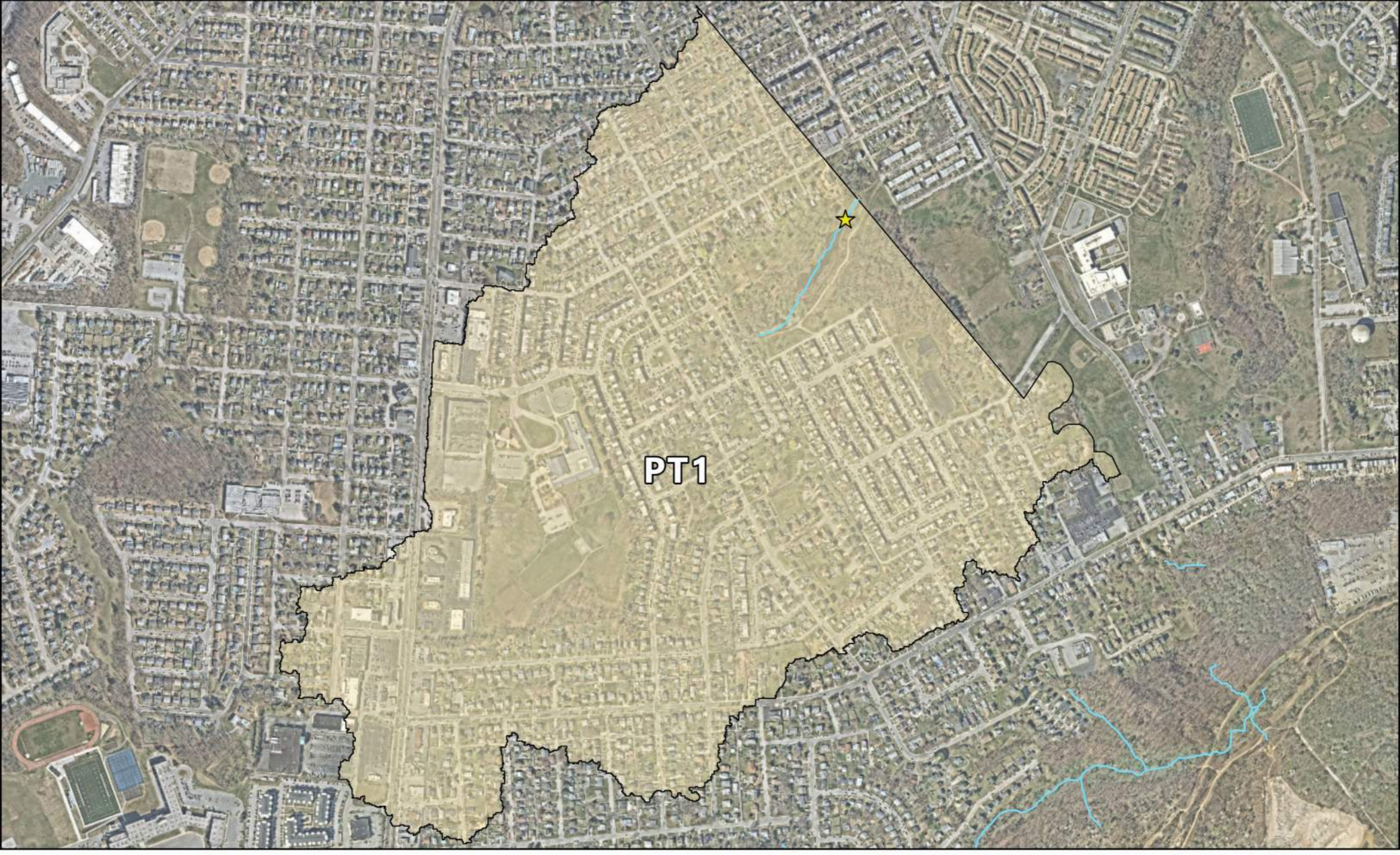


PT0: *Stony Creek*

Hydrology
Tidal Water Limits
Subwatershed Areas
Monitoring Location

N

0 0.26 0.51 1.03 Miles

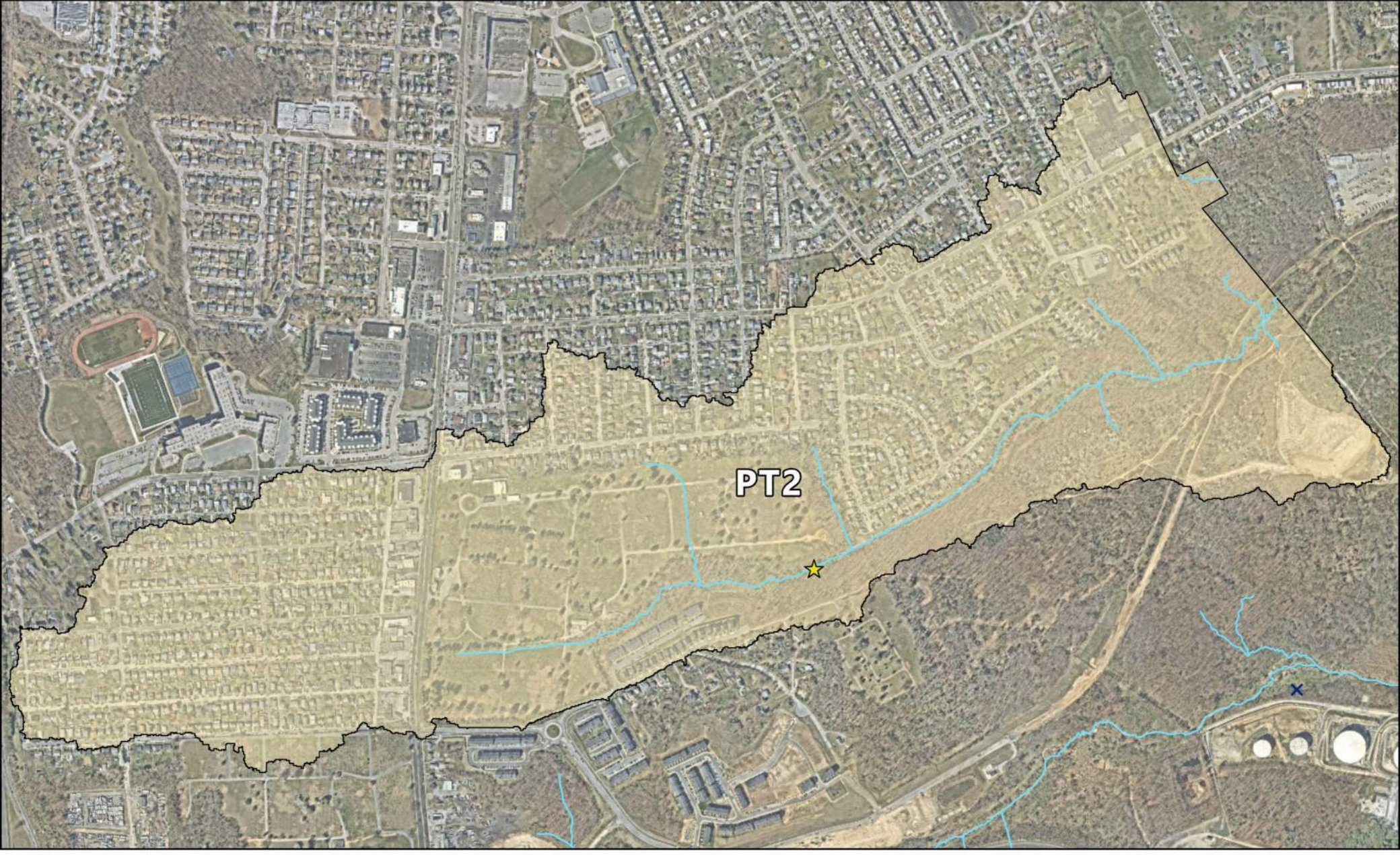


PT1: *Unnamed Tributary*

Hydrology
Tidal Water Limits
Subwatershed Areas
Monitoring Location

N

0 0.08 0.15 0.31 Miles

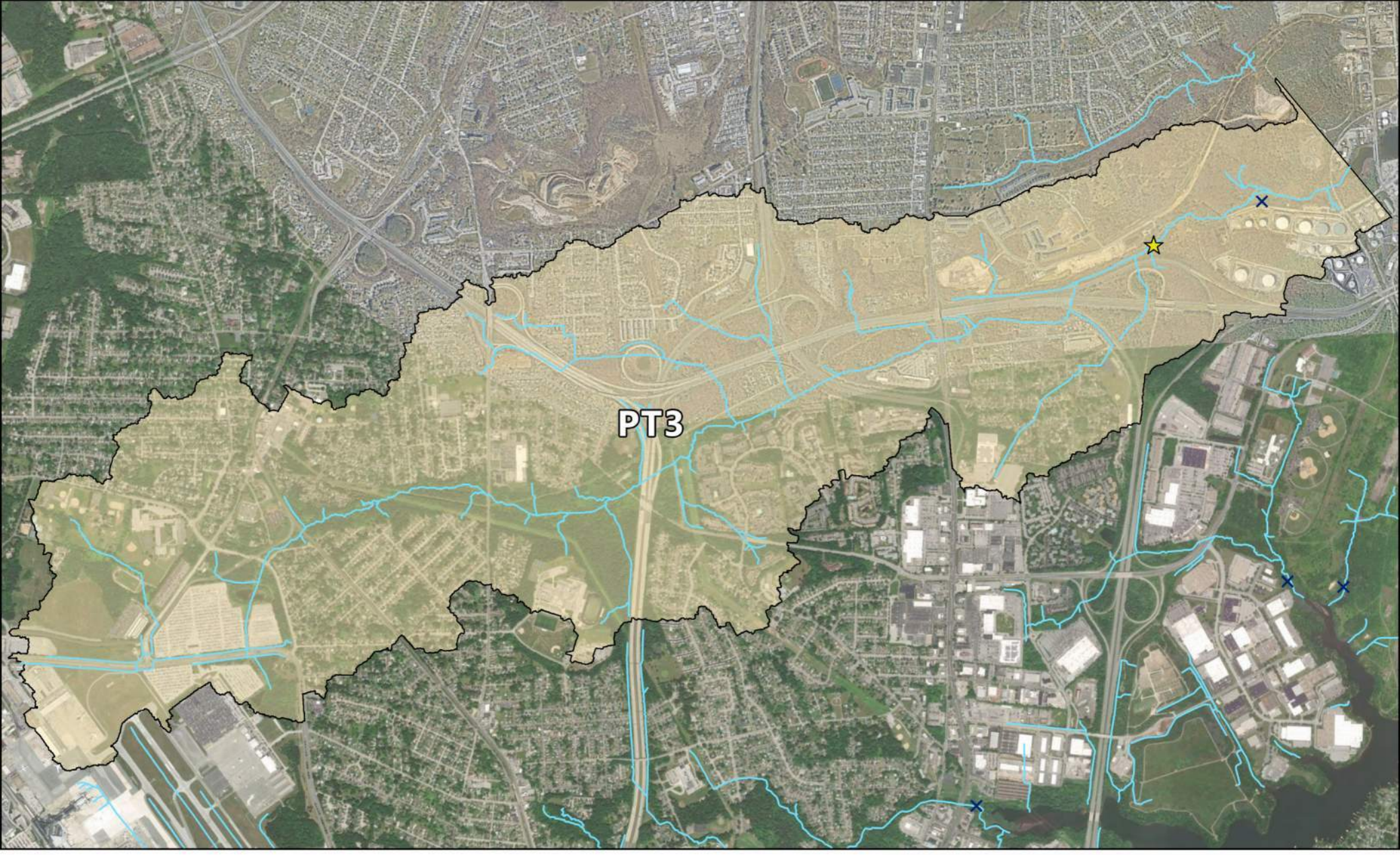


PT2: *Cabin Branch 2*

Hydrology
Subwatershed Areas
Tidal Water Limits
Monitoring Location

N

0 0.08 0.16 0.32 Miles



PT3: *Cabin Branch*

Hydrology

Subwatershed Areas

Tidal Water Limits

Monitoring Location

N

0 0.21 0.42 0.85 Miles

PT4: *Swan Creek*

Hydrology

Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.11 0.22 0.44 Miles

PT5: *Furnace Creek*

Hydrology
Tidal Water Limits
Subwatershed Areas
Monitoring Location

N

0 0.22 0.44 0.89 Miles

PT6: *Curtis Creek*

Hydrology

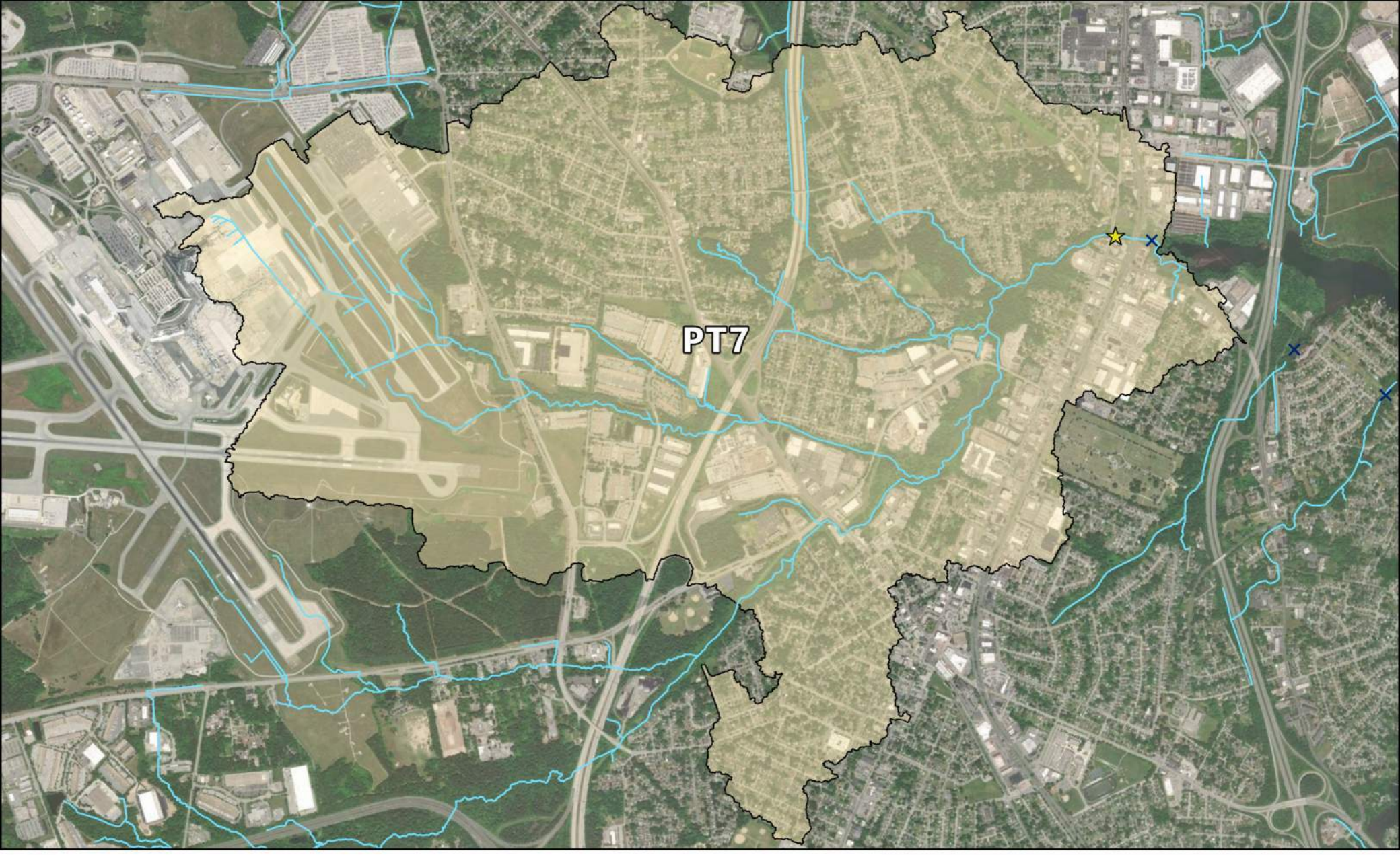
Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.15 0.3 0.61 Miles



PT7: *Sawmill Creek 1*

Hydrology

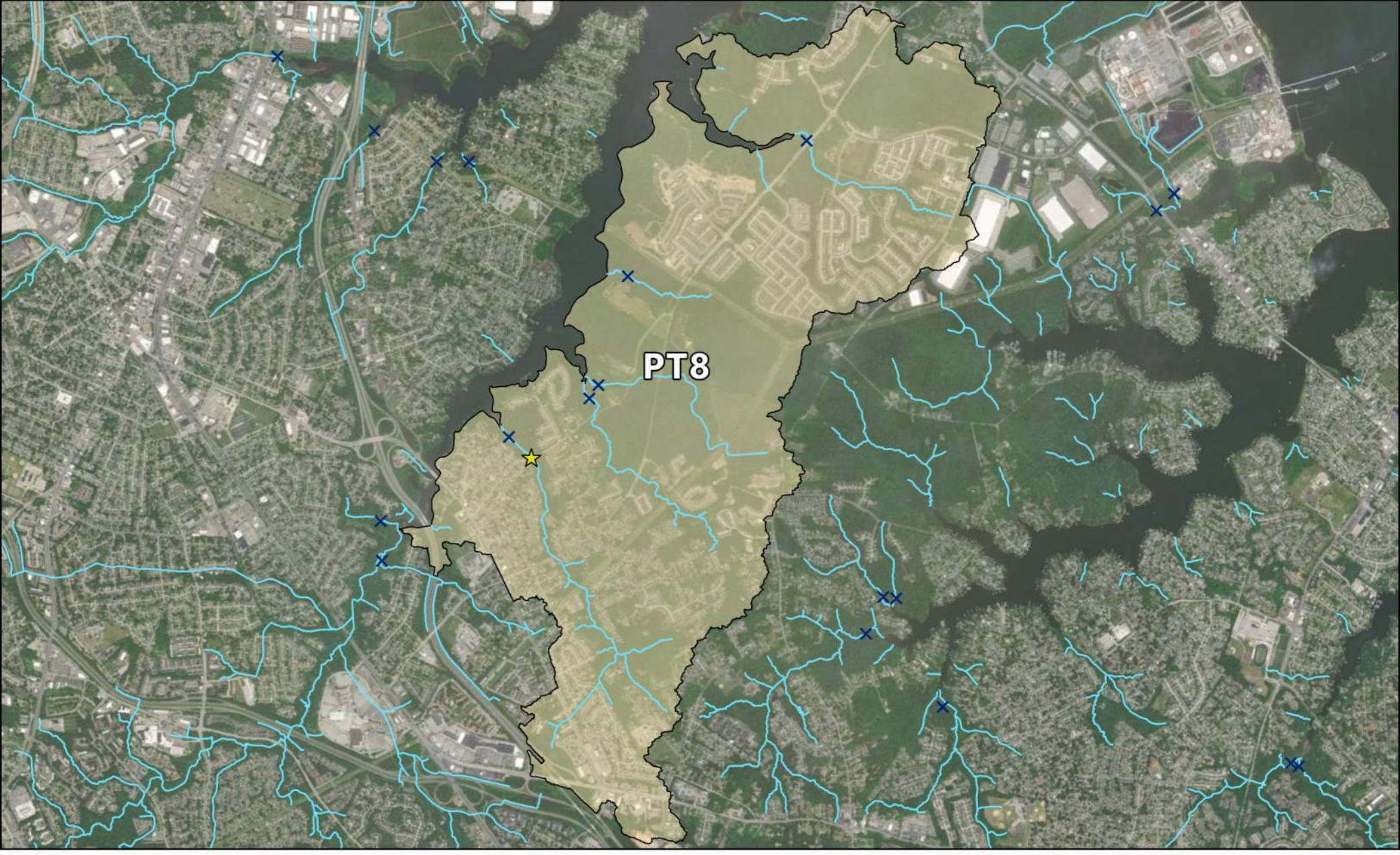
Subwatershed Areas

Tidal Water Limits

Monitoring Location

N

0 0.2 0.4 0.81 Miles



PT8: *Marley Creek 1*

Hydrology

Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.3 0.59 1.19 Miles

PT9: *Cox Creek*

Hydrology

Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

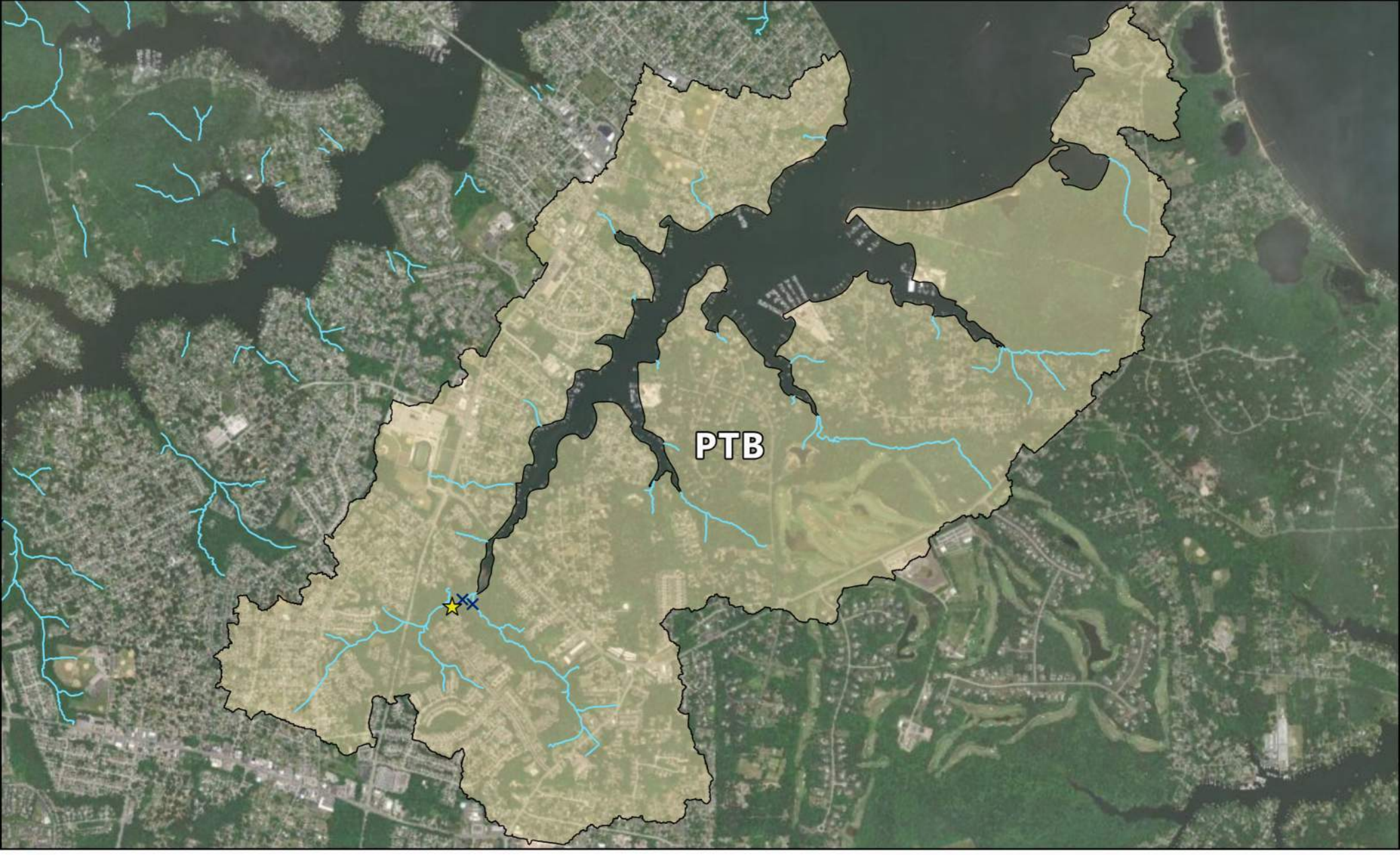
0 0.09 0.17 0.35 Miles

PTA: *Patapsco Tidal*

Hydrology
Subwatershed Areas
Tidal Water Limits
Monitoring Location

N

0 0.05 0.1 0.21 Miles



PTB: *Rock Creek*

Hydrology

Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.22 0.45 0.89 Miles

PTC: *Back Creek*

Hydrology

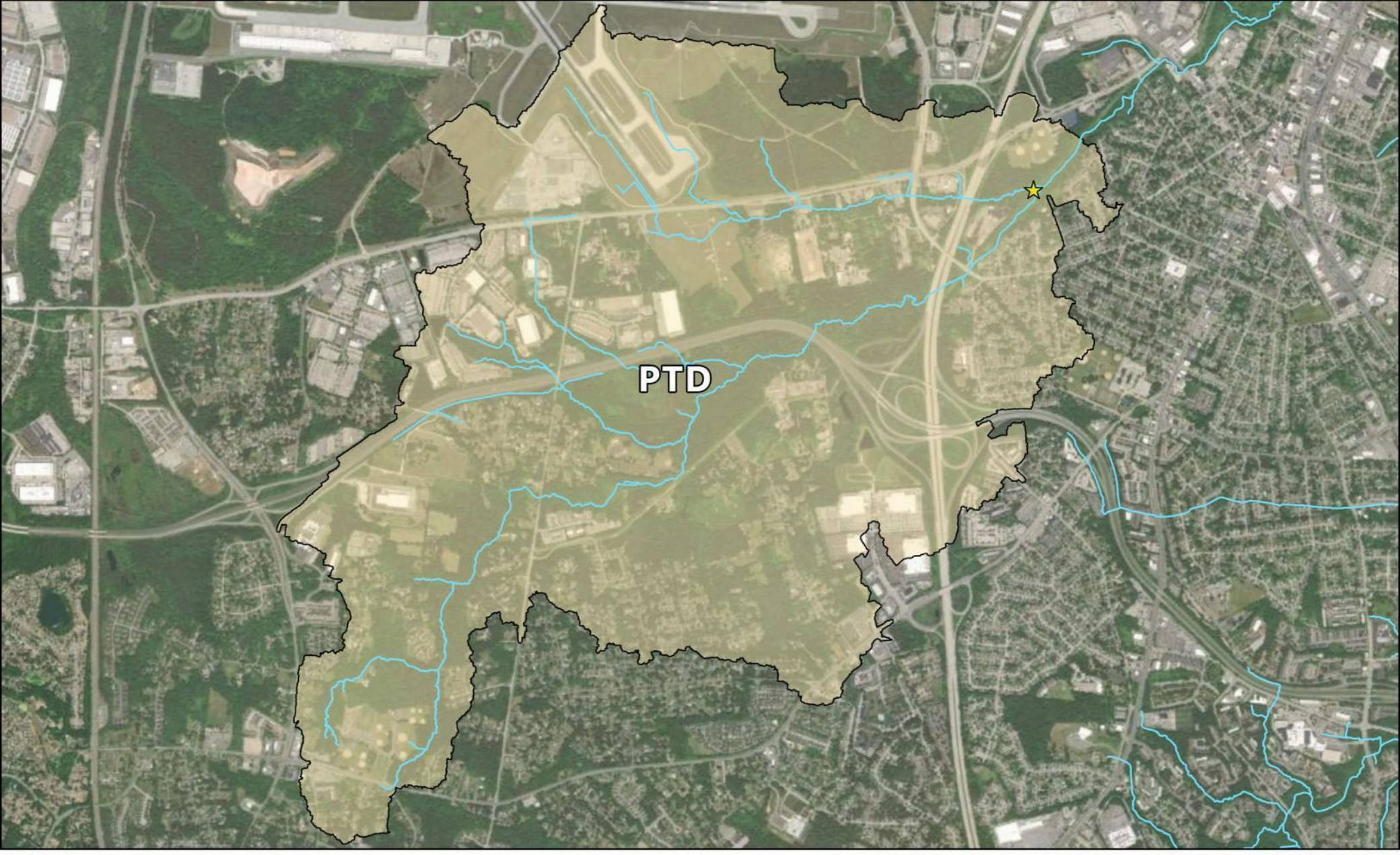
Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.11 0.22 0.43 Miles



PTD: *Sawmill Creek 2*

Hydrology
Subwatershed Areas
Tidal Water Limits
Monitoring Location

N

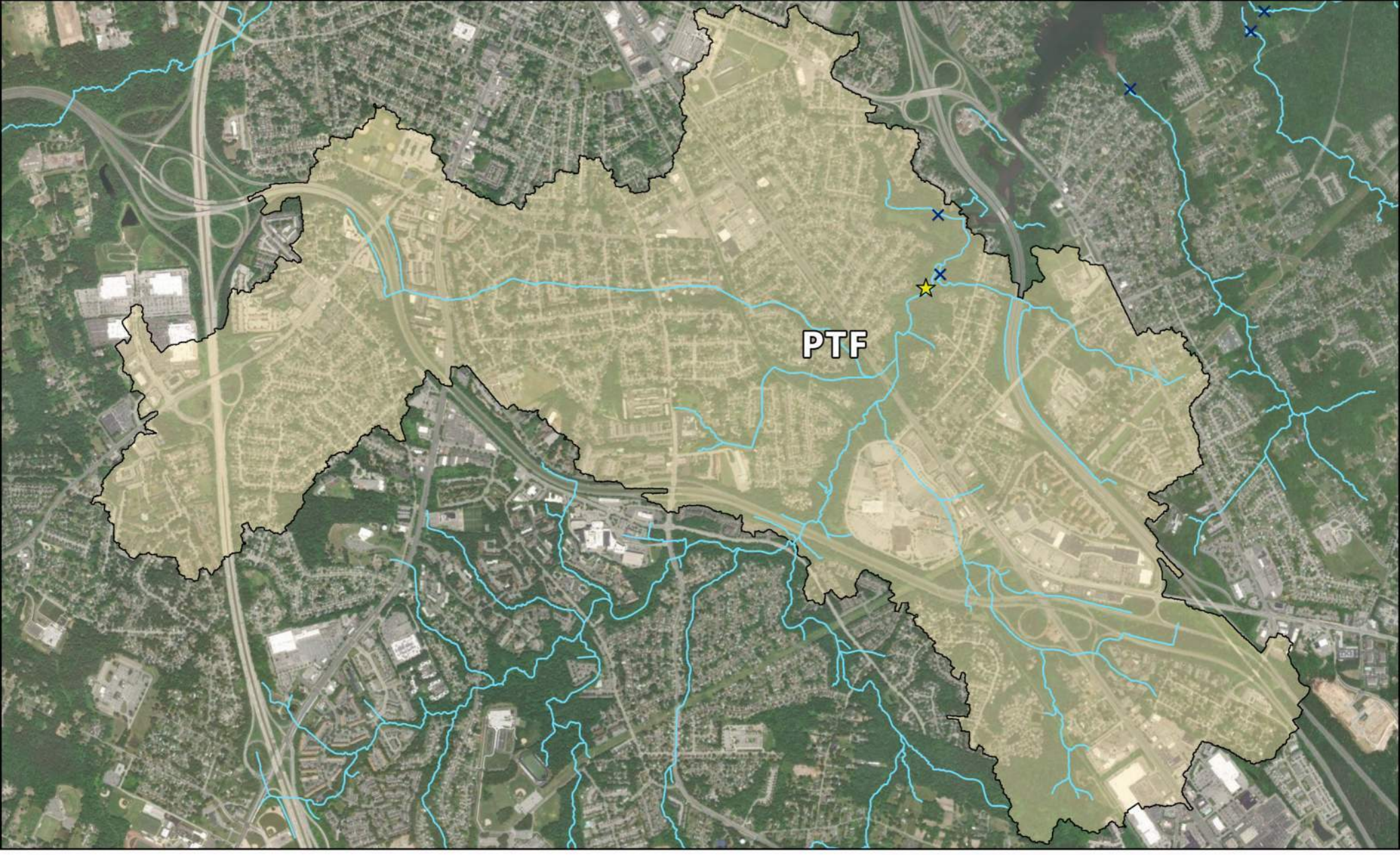
0 0.21 0.43 0.86 Miles

PTE: *Marley Creek 2*

Hydrology
Tidal Water Limits
Subwatershed Areas
Monitoring Location

N

0 0.18 0.36 0.72 Miles



PTF: *Marley Creek 3*

Hydrology

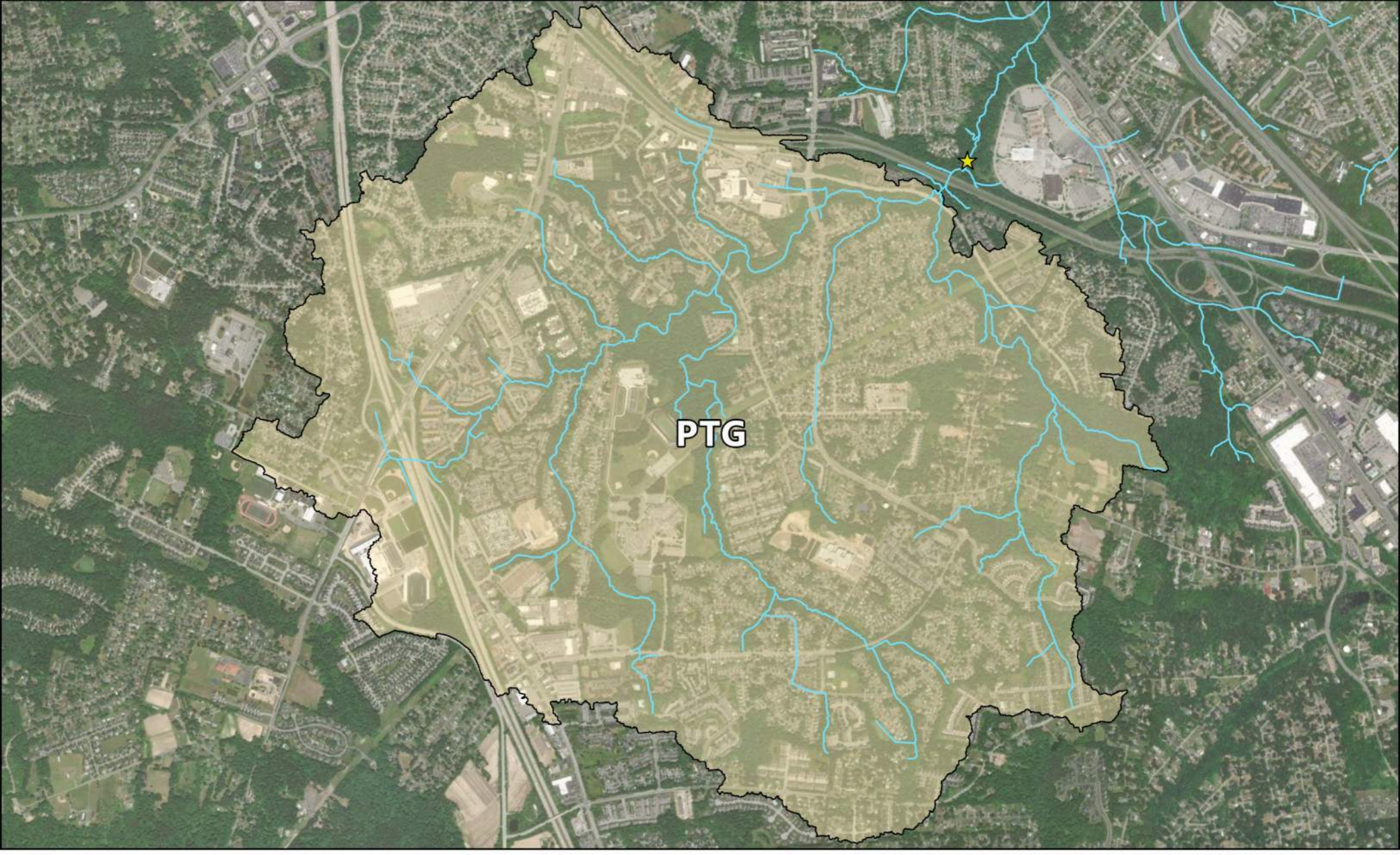
Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.2 0.4 0.79 Miles

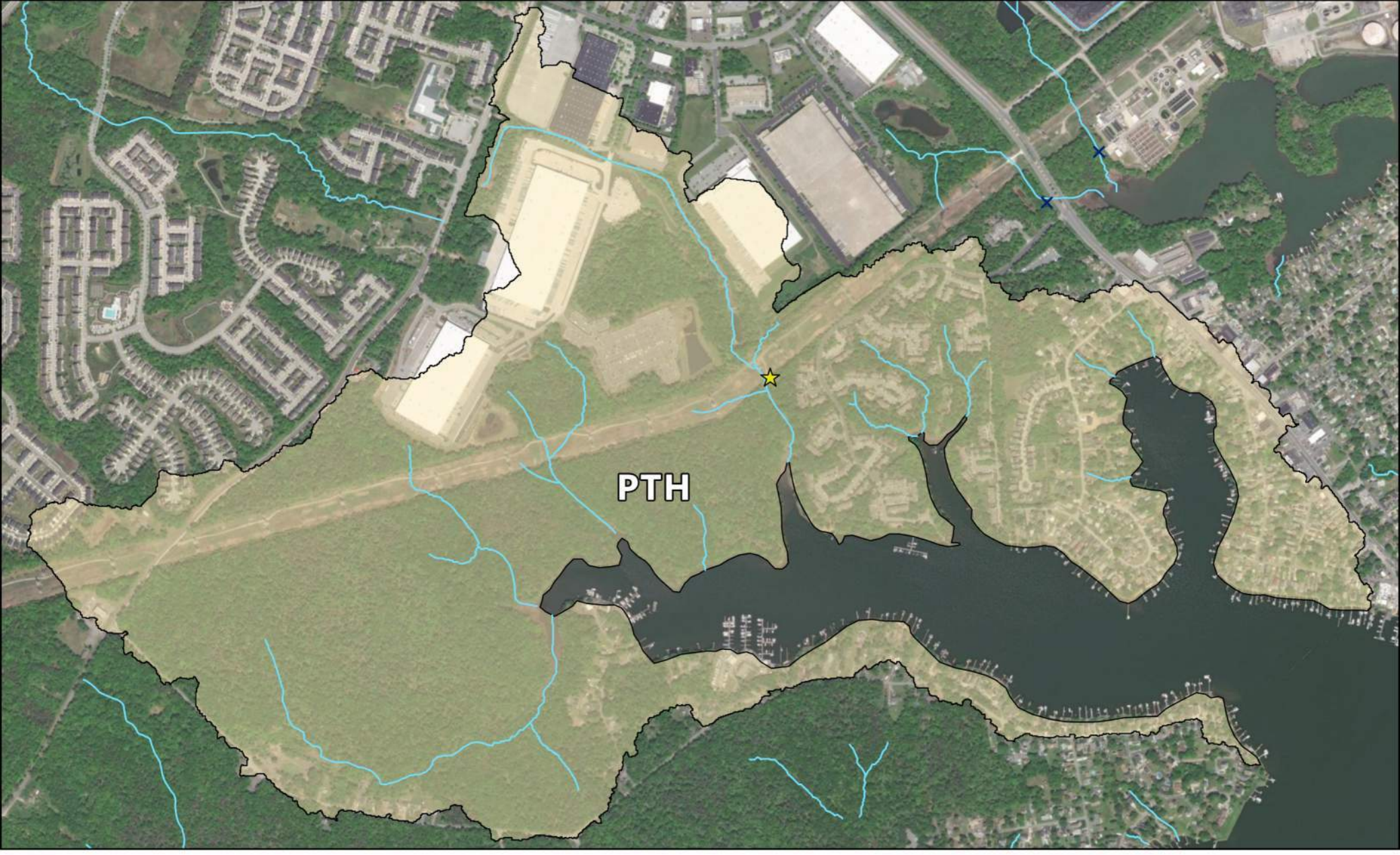


PTG: *Marley Creek 4*

Hydrology
Subwatershed Areas
Tidal Water Limits
Monitoring Location

N

0 0.19 0.38 0.75 Miles



PTH: *Nabbs Creek*

Hydrology

Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.1 0.2 0.4 Miles

PTI: *Patapsco Tidal*

Hydrology
Subwatershed Areas
Tidal Water Limits
Monitoring Location

N

0 0.08 0.16 0.32 Miles

PTJ: *Patapsco Tidal*

Hydrology

Tidal Water Limits

Subwatershed Areas

Monitoring Location

N

0 0.06 0.12 0.25 Miles

PTK: *Patapsco Tidal*

Hydrology
Tidal Water Limits
Subwatershed Areas
Monitoring Location

N

0 0.04 0.08 0.15 Miles