Maryland Transportation Authority

IMPERVIOUS AREA RESTORATION WORK PLAN FY 2022

Chesapeake Bay Restoration and Meeting Total Maximum Daily Loads

October 31, 2022 submittal

National Pollutant Discharge Elimination System General Permit for Discharges from State and Federal Municipal Separate Storm Sewer Systems Permit Number 13-SF-5501

SUBMITTED TO:
Maryland Department of the Environment
Water and Science Administration
Program Review
1800 Washington Boulevard
Baltimore, Maryland 21230

SUBMITTED BY:
Maryland Transportation Authority
Office of Engineering and Construction
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IMPERVIOUS AREA RESTORATION WORK PLAN – FY 2022

Chesapeake Bay Restoration and Meeting Total Maximum Daily Loads

October 2022

Maryland Department of the Environment (MDE)
Water and Science Administration (WSA)

National Pollutant Discharge Elimination System (NPDES)
General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4)

This annual reporting form is intended for those agencies covered under General Discharge Permit No. 13-SF-5501. Submitting this report constitutes notice that the entity identified below is making progress to comply with all terms and conditions of the General Permit.

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ACRONYMS AND ABBREVIATIONS

BHT	Baltimore Harbor Tunnel
BMP	best management practice
ESD	environmental site design
ETL	express toll lanes
FMT	Fort McHenry Tunnel
FSK	Francis Scott Key Bridge
FY	fiscal year
GIS	geographic information system
HWN	Harry W. Nice Memorial Bridge
ICC	Intercounty Connector
JFK	John F. Kennedy Memorial Highway
MCM	minimum control measure
MD	Maryland
MDE	Maryland Department of the Environment
MDTA	Maryland Transportation Authority
MEP	maximum extent practicable
MS4	Municipal Separate Storm Sewer System(s)
NPDES	National Pollutant Discharge Elimination System
TJH	Thomas J. Hatem Bridge
TMDL	Total Maximum Daily Load
WO	work order
WPL	William Preston Lane Jr. Memorial (Bay) Bridge

1 Introduction

The Maryland Transportation Authority (MDTA) has maintained coverage of its properties since September 8, 2005 under the *National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems (MS4)* issued by the Maryland Department of the Environment (MDE). The goal of the NPDES MS4 Phase II Permit is to control and improve the quality of stormwater discharged from state and federal properties covered under the General Permit by requiring permittees to comply with the six minimum control measures (MCM). The first-generation permit was administratively extended after its expiration date on November 12, 2009. The NPDES MS4 Phase II Permit was renewed and updated by MDE and became effective on October 31, 2018. This permit incorporates the Chesapeake Bay Total Maximum Daily Load (TMDL) requirements for nutrients and sediment issued by the United States Environmental Protection Agency (EPA). The permit requires treatment of 20 percent of the untreated impervious area as of a permittee-established baseline year using MDE-approved best management practices (BMPs) with implementation by 2025. This report presents MDTA's analysis demonstrating compliance with the Chesapeake Bay TMDL.

Properties covered by MDTA's permit include MDTA toll roadways and their crossings, as well as their related campuses and maintenance facilities. The roadways covered under the permit are: I-95 of John F. Kennedy Memorial Highway (JFK); US 40 at the Thomas J. Hatem Memorial Bridge (TJH); I-95 and I-395 by the Fort McHenry Tunnel (FMT); I-895 at the Baltimore Harbor Tunnel (BHT) Throughway; I-695 at the Francis Scott Key Bridge (FSK); US 50/301 at the William Preston Lane Jr. Memorial (Bay) Bridge (WPL); US 301 at the Harry W. Nice Memorial Bridge (HWN); and the Intercounty Connector (ICC) / MD 200.

Figure 1 shows the location of MDTA toll roadways and crossings, followed by brief descriptions of each.

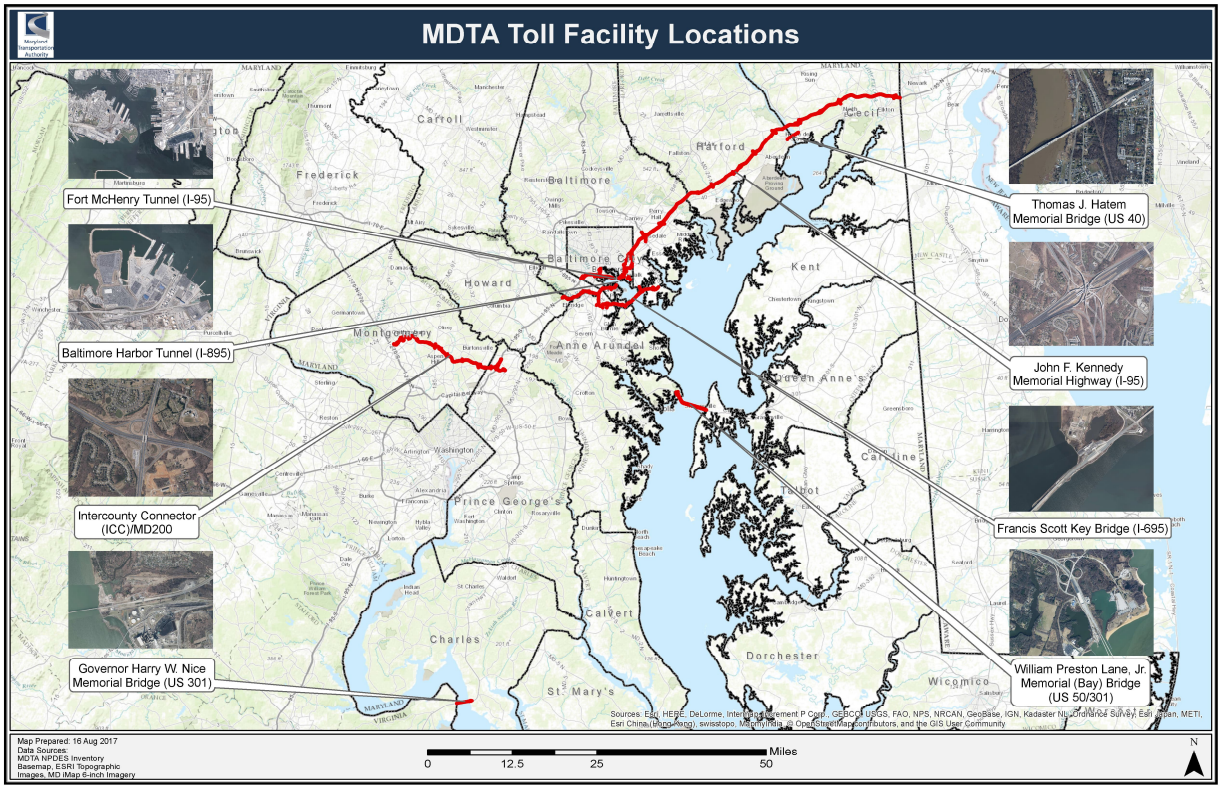

Figure 1: MDTA Toll Roadways

1.A I-95 John F. Kennedy (JFK) Memorial Highway

JFK Highway, which opened in 1963, is a 50-mile section of I-95 extending from the Baltimore city line to the Delaware state line. To the north of the MD 24 interchange, the roadway is six lanes wide with two travel plazas in the median. Tolls are collected electronically only in the northbound direction at the 12-lane electronic toll plaza, located 1 mile north of the Millard E. Tydings Memorial Bridge over the Susquehanna River.

South of the MD 24 interchange, the roadway is eight lanes wide, except for a 9-mile section along the mainline of I-95 from the intersection with I-895 to north of the MD 43 interchange, where the Section 100 Express Toll Lanes (ETL) megaproject added extra lanes. This roadway section and the related I-695 interchange were widened to include the ETL. Tolls for the ETL lanes are collected automatically at highway speeds. There are additional ongoing roadway enhancement design projects. ETL lanes will be extended from north of MD 43 to north of MD 24 and will be open to traffic by 2023. JFK Highway includes two maintenance facilities located in Bel Air, MD, and Elkton, MD.

1.B US 40 at Thomas J. Hatem (TJH) Memorial Bridge

The TJH Bridge spans the Susquehanna River on US 40 and is approximately one mile long. This four-lane bridge, which opened in 1940, includes one mile of roadway approaching either

side of the bridge and an electronic toll plaza in the eastbound direction. The bridge includes one maintenance facility, located in Perryville, MD.

1.C I-95 / I-395 at Fort McHenry Tunnel (FMT)

The FMT is a 1.5-mile section of I-95 below the Patapsco River, immediately south of JFK. Opened in 1985, it is an eight-lane roadway with more than 11 miles of roadway and elevated structures along I-95 and I-395 through Baltimore City. There is also an electronic toll plaza servicing both directions. The FMT includes one maintenance facility in Baltimore, MD.

1.D I-895 Baltimore Harbor Tunnel (BHT) Throughway

BHT is a 1.4-mile section of I-895 below the Patapsco River, opened in 1957. The BHT Throughway is a four-lane-wide roadway with more than 20 miles of roadway and elevated structures, and an electronic toll plaza in both directions. The BHT has one maintenance facility in Baltimore, MD.

1.E I-695 at Francis Scott Key (FSK) Bridge

The FSK Bridge is a 1.8-mile section of I-695 spanning the Patapsco River. Opened in March 1977, FSK is a four-lane-wide roadway with more than 10 miles of roadways, elevated structures, and bridges, and there is an electronic toll plaza servicing both directions. FSK includes one maintenance facility in Baltimore, MD.

1.F US-50 / US-301 at William Preston Lane Jr. (WPL) Memorial Bridge

The WPL Bridge, also known as the Bay Bridge, is a 4.3-mile section of US 50 that spans the Chesapeake Bay. The eastbound bridge opened in 1952 and is two lanes wide; the westbound bridge opened in 1973 and is three lanes wide. The facility includes more than 1 mile of roadway approaching either side of the bridge and an electronic toll plaza that services only the eastbound direction. The WPL includes one maintenance facility in Annapolis, MD.

1.G US-301 at Governor Harry W. Nice (HWN) Memorial Bridge

The HWN Memorial Bridge is a 1.7-mile section of US 301 that spans the Potomac River. Opened in 1940, HWN is a two-lane-wide roadway with 2.4 miles of four-lane roadway approaching either side of the bridge, and an electronic toll plaza in the southbound direction. HWN includes one maintenance facility in Newburg, MD.

A new four-lane bridge is currently being constructed to replace the existing two-lane bridge. The new bridge is scheduled to open in early 2023. The bridge will be constructed to meet current MDE stormwater management regulations and all BMPs that will be implemented as a part of this project will be included in the urban BMP database.

1.H MD 200 Intercounty Connector (ICC)

The ICC is an 18.8-mile, east-west highway that links the corridors of I-270 and I-95 / US 1. The six-lane-wide roadway opened in 2011 and was completed in 2015. This state-of-the-art, multimodal highway has an unprecedented integration of stormwater management and environmental restoration projects (e.g., stream restoration, fish passages, wetlands). Tolls for the ICC are collected electronically. The ICC includes two maintenance facilities in Laurel, MD, and Derwood, MD.

1.I Campuses and Maintenance Facilities

The NPDES MS4 Phase II Permit covers campuses affiliated with MDTA operations and the E-ZPass customer service centers. The operations campuses include office buildings for administration, finance, human resources, and engineering-related operations along with their associated parking lots. The MDTA operations campuses are located at FSK and Point Breeze in Baltimore. The E-ZPass customer centers are located adjacent to the BHT, TJH, JFK, WPL, FMT, and HWN roadways.

There are 11 maintenance facilities, which are located along the MDTA roadways where maintenance activities occur (e.g., garages, storage bins, salt barns, vehicle maintenance). These maintenance facilities are regulated under the General Permit for Stormwater Associated with Industrial Activities (Permit 12-SW). The impervious areas at the maintenance facilities and campuses are included as a part of the MS4 impervious area estimates for compliance with the Chesapeake Bay Restoration requirements.

2 MS4 Progress Report Requirements

As required by the NPDES MS4 Phase II Permit, MDTA submits an annual MS4 Progress Report. This annual Progress Report includes updates on impervious area restoration activities since the FY 2021 submission. Within the Progress Report, MDTA presents MDTA's Impervious Area Restoration Work Plan to meet the Chesapeake Bay Restoration TMDL requirements, The Work Plan includes:

- An impervious area baseline assessment identifying:
  - Total impervious area covered under the MS4 Phase II Permit
  - Total impervious area treated by stormwater quality BMPs
  - Total impervious area treated by BMPs providing partial water quality treatment
  - Total impervious area treated by nonstructural practices (e.g., rooftop disconnections, non-rooftop disconnections)
  - Verification that any impervious area draining to BMPs with missing inspection records is not considered treated
  - The required 20 percent treatment goal

    - Activities and milestones performed over the permit term to meet the 20 percent treatment requirements (Restoration Activity Schedule)
- Funding needs for proposed BMPs and the long-term budget.
- Any opportunities identified to develop partnerships with other NPDES permittees

This report has been updated to address comments from MDE on MDTA's third Annual Progress Report submission in October 2021. Point-by-point responses to these comments are provided as a part of the FY 2022 MS4 Progress Report, in **Appendix A**. This analysis was conducted considering the combined requirements of all MDTA facilities as they are covered under the same NPDES permit per the Notice of Intent filed by MDTA in October 2018.

3 Impervious Area Restoration Work Plan

3.A Impervious Baseline Assessment

To meet the Chesapeake Bay Restoration requirements, the baseline year for the impervious area assessment, according to MDE guidance, is recommended to be 2002 because that is the year the MDE *Stormwater Management Design Manual* was fully implemented. BMPs implemented after 2002 are typically designed according to the current MDE regulations. However, MDTA's analysis was conducted using 2018 as the baseline year of assessment because that is the year of the best available aerial imagery and land use data for all MDTA facilities, to establish the baseline impervious cover.

Based on the 2018 data, MDTA's (roadways, campuses, and maintenance facilities) impervious area is estimated to be **2,329.7 acres**.

3.B Stormwater Management

As a part of the impervious baseline assessment, stormwater management provided by BMPs implemented prior to the baseline year was determined. MDTA has 627 active BMPs, such as stormwater ponds, sand filters, grass swales, infiltration trenches, open channels, and bioretention facilities. Environmental site design (ESD) practices include micro-bioretention facilities, rain gardens, modified bioswales, and permeable pavement. Some of these BMPs were implemented prior to 2002 and therefore only provide partial water quality treatment. Certain BMP types implemented prior to 2002, such as dry pond and dry extended detention structures, provide no water quality treatment per MDE guidelines. BMPs constructed after 2002 follow current MDE stormwater management guidelines and provide water quality treatment to the maximum extent practicable. Disconnections of rooftop and non-rooftop runoff were not evaluated for MDTA facilities, and therefore are not included in the baseline assessment calculations.

3.B.1 Analysis of Existing Documentation

The structural BMPs and ESD practices at MDTA facilities are part of MDTA's stormwater asset management program, which organizes records such as design plans, stormwater management reports, and stormwater as-builts. MDTA tracks year of implementation, degree of water quality treatment, and the associated impervious area treatment provided for each practice.

BMPs were analyzed using available records, such as design plans, stormwater management reports, and as-built drawings to determine the year of implementation, water quality treatment volume, and associated impervious area treatment provided. The treated impervious area credits assigned to each BMP depend on the type of BMP and the extent of water quality treatment provided. The year of construction was also used as a reference to evaluate the water quality treatment that should be provided by the BMP. For example, MDE required water quality BMPs built between 1985 and 2002 to treat the stormwater runoff from 0.5 inch of rainfall, which is half the current stormwater management standard of 1 inch.

The BMP records were also used to determine if the BMP was originally built to meet MDE's stormwater management requirements for new development/redevelopment or if the BMP was retrofitted to provide additional water quality treatment. Per the guidelines in the General Permit, impervious area treated by BMPs retrofitted or implemented for redevelopment projects after January 1, 2006, until the permit effective date can be counted toward Chesapeake Bay Restoration goals. Therefore, MDTA used the documented BMP type combined with the year of implementation and the construction purpose to determine if the impervious area treatment credits should be included in the baseline assessment or toward meeting the Chesapeake Bay Restoration treatment goals.

Detailed information on existing structural BMPs, including BMP ID, type, treatment area, rainfall treatment depth, and impervious area treatment credits, is contained in the existing Urban BMP Database. The database, which was developed according to MDE requirements and submitted along with the annual MS4 Progress Report for MDE review, is provided in **Appendix B**.

Structural BMPs and ESD practices implemented until the baseline year, treat a total of 531.78 acres of impervious area. This includes treatment credits from BMPs providing full and partial water quality volume treatment. **Table 1** is a summary of the drainage area and equivalent impervious area treated by structural BMPs and ESD practices included in the baseline assessment.

Table 1: Credits from BMPs at MDTA Properties Included in the Baseline

Property	Structural or ESD	Drainage Area (acres)	Equivalent Treated Impervious Area (acres)
John F. Kennedy Memorial Highway	Structural Practices	224.35	43.58
	ESD	-	-
Thomas J. Hatem Memorial Bridge	Structural Practices	0.15	0.04
	ESD	-	-

Property	Structural or ESD	Drainage Area (acres)	Equivalent Treated Impervious Area (acres)
Fort McHenry Tunnel	Structural Practices	-	-
	ESD	-	-
Baltimore Harbor Tunnel	Structural Practices	-	-
	ESD	-	-
Francis Scott Key Bridge	Structural Practices	23.82	4.58
	ESD	0.86	0.68
William Preston Lane Jr. Memorial Bridge	Structural Practices	7.21	2.86
	ESD	1.02	.57
Harry W. Nice Memorial Bridge	Structural Practices	-	-
	ESD	-	-
Point Breeze Campus	Structural Practices	0.7	0.47
	ESD	-	-
Intercounty Connector	Structural Practices	977.7	303.5
	ESD	-	-
Express Toll Lanes (ETL)	Structural Practices	391.4	175.5
	ESD	-	-
	Total	1,627.21	531.78

3.B.2 As-Built Approval Letters

MDTA currently has 65 as-built acceptance letters for 41 projects (499 BMPs). Additionally, there are 16 projects (71 BMPs) for which MDTA is awaiting replacement copies of previous as-built acceptance letters from MDE.

MDTA will continue to coordinate with MDE to obtain as-built acceptance letters for the BMPS with as-built plans submitted. For projects with unsubmitted as-built plans, MDTA will work to submit complete data packages to MDE. As new projects are completed to various stages, MDTA will submit data to MDE as they become available.

If MDTA determines that they will be unable to obtain as-built data for credited BMPs by the end of the permit term, MDTA will evaluate options for verifying the water quality treatment provided by BMPs, including conducting a thorough water quality and impervious area verification inspection per MDE's guidelines, which are described in the *Stormwater Best Management Practices (BMPs) and Completion Dates for MS4 Permitting Purposes Memorandum,* on each BMP that is missing records. Credits from BMPs determined not to provide water quality treatment will be eliminated.

3.B.3 Inspections and Maintenance

MDE guidelines state that only BMPs that are functioning as designed earn treatment credit. MDTA has a robust inspection and remediation program that follows the MDTA *Stormwater*

Best Management Practices Field Inspection Manual (January 2017) as the standard operating procedure. Each feature of a BMP is inspected and scored, and an overall rating is assigned to the BMP.

- Ratings of A and B indicate that the BMP is functioning as designed.
- Ratings of C and D indicate that the BMP is operational but is a potential candidate for minor or major repair.
- A rating of E indicates that the BMP is not functional and may have significant problems. MDTA does not currently have any BMPs with an E rating.

BMPs that receive a grade other than A or B are assigned for repair under either a work order (WO) for MDTA maintenance crews or a task order (TO) for Maryland Environmental Services. The inspection date and the rating are tracked to ensure that the WO / TO is implemented within the 3-year inspection cycle. If a BMP were to remain in failing condition past the next reporting cycle, MDTA would remove the impervious area treatment credit of that BMP from the database until the BMP is brought into working order. Inspections and maintenance dates have been updated in the Urban BMP Database to reflect any work conducted in FY 2022. Some triennial inspections and maintenance have been delayed due to the ongoing COVID-19 pandemic, though operations are still expected to occur within the required time frame.

BMP inspections and maintenance are factored into MDTA's annual operating budget to ensure that BMPs are never in poor condition such that their functionality is compromised. MDTA's BMP Inspections Manual ensures that inspections are conducted methodically and effectively, such that long-term BMP maintenance costs are not excessive. Long-term costs are based upon estimated staff-hours and hourly rates required to maintain and restore different categories of BMPs, projected across a 10-year maintenance cycle and accounting for inflation.

4 Chesapeake Bay Restoration Goal

The Chesapeake Bay Restoration requirements mandate restoration of 20% of untreated impervious areas identified in the baseline assessment. As described in Section 3.A, the baseline impervious cover at all MDTA facilities is 2,329.65 acres. Approximately 531.78 acres of baseline impervious area are treated by BMPs providing full and partial water quality treatment, as shown in **Table 1** above. **Table 2** below shows the impervious restoration target, calculated as 20 percent of the untreated baseline impervious area. The calculations in **Table 2** do not include the impervious area treatment provided by BMPs implemented for redevelopment and restoration projects between January 1, 2006, and the present because these credits will be applied toward the Chesapeake Bay Restoration goal.

Table 2: Chesapeake Bay Restoration Goal

	Description	Impervious Area (acres)
A	Baseline Impervious Cover	2,329.65

	Description	Impervious Area (acres)
B	Total impervious area treated by BMPs providing full water quality treatment at baseline year	501.25
C	Total impervious area treated by BMPs providing partial water quality treatment at baseline year	30.53
D = B + C	Treated impervious area	531.78
F = A – D	Existing untreated impervious area	1797.87
G = 20%*F	**20% GOAL (acres)**	**359.57**

BMPs = best management practices

5 Chesapeake Bay Restoration Credits

Although not required by the previous NPDES MS4 Phase II General Permit and the Industrial General permit, since 2010 MDTA has progressively developed an approach to meet the Chesapeake Bay TMDL requirements. Prior to the inclusion of TMDL objectives, MDTA refined the stormwater program to account for a rapid expansion of stormwater management due to the megaprojects of ICC and the I-95 Section 100 ETL, as well as other development projects. Since the issuance of the Chesapeake Bay TMDL, MDTA's stormwater program has been enhanced to address Chesapeake Bay TMDL requirements. A key update was the implementation of a MDTA-wide tracking system for impervious area treatment on a watershed basis for tributaries of the Chesapeake Bay.

Key MDTA activities to meet the TMDL requirements include:

- Continuously evaluating water quality retrofit opportunities, which includes developing assessment protocols.
- Constructing stormwater retrofits such as bioswales and biofiltration BMPs within grassed roadway medians and shoulders.
- Calculating alternative retrofits such as the impervious area treatment equivalents for street-sweeping activities and pavement removal.
- Considering innovative options such as stream restoration, reforestation, outfall stabilization, and shoreline stabilization.
- Promoting partnerships with adjacent MS4 permit holders on cooperative TMDL projects.

The types of projects that MDTA is currently undertaking to meet its Chesapeake Bay Restoration requirements are described below.

5.A Redevelopment Projects

MDTA has implemented several redevelopment projects since January 1, 2006, and the impervious area treated by BMPs implemented for these projects can be applied toward MDTA's Chesapeake Bay Restoration goal of 359.57 acres. Based on review of as-built plans and stormwater management plans for redevelopment projects, redevelopment BMPs provide approximately 209.3 acres of treatment credits toward the Chesapeake Bay Restoration requirements. Several new redevelopment projects with eight water quality BMPs were completed in FYs 2021 and 2022.

5.B Stormwater Retrofit Projects

MDTA is also developing a water quality strategy to provide a framework for identifying viable and cost-effective stormwater retrofits that address TMDL requirements along MDTA roadways and facilities. Since January 1, 2006, several retrofit projects were implemented along JFK, BHT, and FSK, including biofiltration practices and modified bioswales. These practices treat 4.0 acres of impervious area and can be counted toward the Chesapeake Bay Restoration requirements.

5.C Alternative Urban BMPs

In addition to structural BMPs and ESD practices, MDE-approved alternative urban BMPs are important tools for achieving the impervious area treatment requirements. Alternative urban strategies include practices such as street sweeping, catch basin cleaning, reforestation of pervious areas, and conversion of impervious areas to pervious or forest areas. These strategies are approved by MDE and are included in the MDE guidance document *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated (August 2014)*. MDTA has adopted several alternative urban BMPs, including street sweeping, reforestation, and conversion of impervious urban cover to pervious area.

MDTA currently conducts street sweeping and inlet cleaning throughout its right-of-way as a good housekeeping measure. According to MDE's guidance document, *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated (August 2014)*, street sweeping removes sediment and pollutants from paved areas and can therefore be converted into impervious area treatment credit toward the TMDL goals, provided that sweeping activities meet specific criteria. These criteria include sweeping at least twice per month. Although every MDTA facility performs street sweeping, not all facilities sweep at least twice per month. The summary below only counts treatment credit for the facilities that meet the required criteria. **Table 3** includes the street-sweeping credits for FY 2019 through FY 2022 for facilities that meet MDE's street-sweeping criteria. MDTA's street-sweeping program has assisted MDTA in meeting the 20 percent treatment requirement ahead of schedule.

Table 3: TMDL Credit for Street Sweeping for Fiscal Years 2019 through 2022

Facility	Schedule	Weight of Material Collected (tons)	Equivalent Impervious Area Credits (acres)
FY 2019			
JFK1	2X/Month	303.5	80.8
BHT	2X/Month	493.6	138.2
ICC	Every Day	125.9	35.3
Total		**923.0**	**254.3**
FY 2020			
JFK1	2X/Month	290.3	81.3
FMT	3-4X/Month	223.1	62.5
Total		**513.4**	**143.8**
FY 2021			
JFK1	3-4X/Month	76.3	21.4
FMT	3X/Month	309.8	86.8
ICC	3X/Month	200.7	56.2
Total		**586.8**	**164.3**
JFK1	3-4X/Month	212.8	59.6
FMT	3X/Month	317.2	88.8
ICC	3X/Month	118.2	33.1
Total		**648.1**	**181.5**
Average for Reporting Period		**667.8**	**186.0**

Because this alternative urban BMP is credited at the end of the permit term as an average of credit earned over 5 years, the credit reported is 186 acres.

In addition to street sweeping, MDTA has removed approximately 31.05 acres of impervious area since 2006, providing 23.3 acres of impervious restoration credits that can be applied toward the NPDES requirements.

5.D Total Chesapeake Bay Restoration Credits

As noted above, MDTA must treat 359.6 acres of impervious area to meet the Chesapeake Bay Restoration requirements of the NPDES MS4 Phase II Permit. Based on the analysis presented above, MDTA has exceeded the treatment requirements through credits obtained from redevelopment and BMP retrofit projects implemented since January 1, 2006, and alternative urban BMPs. **Table 4** is a summary of MDTA's compliance with the permit's Chesapeake Bay restoration requirements.

Table 4: Chesapeake Bay Restoration Requirements Compliance Summary

	Description	Impervious Area (acres)
A	Credits needed	359.6

	Description	Impervious Area (acres)
B	Credits from redevelopment projects	209.3
C	Credits from BMP retrofit projects	4.0
D	Credits from street sweeping activities	186.0
E	Credits from impervious area removal	23.3
F = A-(B+C+D+E)	**Credits Needed**	**-63.0**

6 Chesapeake Bay Restoration Activity Schedule

The NPDES MS4 Phase II Permit requires a Restoration Activity Schedule that includes BMPs implemented and planned to meet the Chesapeake Bay Restoration requirements. This schedule also includes additional water quality projects planned by MDTA if additional treatment needs are identified based on future revisions to the Chesapeake Bay Restoration treatment goals calculations. The Restoration Activity Schedule is provided in **Appendix C**. MDTA has already met its 2025 TMDL requirement, although opportunities to further improve water quality continue to be identified. BMPs installed prior to 2002 were evaluated to determine their equivalent P_E treatment and impervious area treated, and those BMPs that could potentially be enhanced for improved water quality were identified during these evaluations.

7 Conclusion

MDTA has met the 2025 Chesapeake Bay Restoration goals and continues to be proactive by planning for future stormwater management and alternative BMP designs. Ongoing stormwater program activities provide additional support for permit compliance.

In addition to conducting internal compliance activities, MDTA will continue to pursue new partnerships and expand existing partnerships with entities such as adjacent MS4 permit holders and other Transportation Business Units to improve implementation of TMDL methods and opportunities. Through coordination, MDTA will share information on latest technologies, grant opportunities, and educational/engagement tactics. By strengthening partnerships, MDTA can continue to enhance the water quality of the Chesapeake Bay while managing long-term costs and efforts.

Appendix A: Responses to MDE Comments on FY 2021 Progress Report

Maryland Transportation Authority

Maryland Transportation Authority (MDTA)

October 31, 2022 Submittal

Response to Maryland Department of Environment (MDE) Comments on Fiscal Year 2021 Progress Report
for
National Pollutant Discharge Elimination System (NPDES) General Permit 13-SF-5501 for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems (MS4)

SUBMITTED TO:
Maryland Department of the Environment
Water and Science Administration
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1 Introduction

The National Pollutant Discharge (NPDES) General Permit for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems (MS4), Permit No.13-SF-5501 (General Permit), was reissued to the Maryland Transportation Authority (MDTA) on October 31, 2018. MDTA properties covered under this permit are the Baltimore Harbor Tunnel, Fort McHenry Tunnel, Francis Scott Key Bridge, Intercounty Connector, John F. Kennedy Memorial Highway, William Preston Lane Jr. Memorial (Bay) Bridge, Harry W. Nice Memorial Bridge, and Thomas J. Hatem Memorial Bridge facilities. MDTA submitted its report for fiscal year (FY) 2021, the third year of the permit term, to the Maryland Department of the Environment (MDE) in October 2021. This submission included the Impervious Area Restoration Form and Work Plan, which discussed MDTA's plans to meet the Chesapeake Bay Restoration and Total Maximum Daily Load (TMDL) requirements set forth by the permit through new stormwater management projects. MDE provided comments to MDTA on February 23, 2022, regarding their third annual report submission. MDE comments were organized by topic area and are provided below. MDTA's responses are shown in italics following the MDE comments.

2 Reporting

MDE Comment 1:

Maryland Department of Transportation - Maryland Transportation Authority (MDTA) submitted a complete Progress Report Form, responses to the prior year's review, a signature for the appropriate responsible personnel, and contact information. This information is required to be updated annually.

MDTA Response:
MDTA acknowledges MDE's comment.

MDE Comment 2:

The next Progress Report is due October 31, 2022 and must include Sections I and II of the Progress Report, updates to the impervious area restoration program, and responses to all comments outlined below. Reporting on the minimum control measures (MCMs) in Section II must cover program activities for both years 3 and 4.

MDTA Response:
MDTA's FY 2022 MS4 Progress Report includes updates to the impervious area restoration progress section and MCM requirements last reported in Year 2. This submission also includes the reporting forms and attachments, which provide details on impervious area reporting and MCMs.

MDE Comment 3:

Resources related to MS4 program development and guidance for compliance with permit requirements are available on the Department's website at: mde.maryland.gov/programs/Water/StormwaterManagementProgram/Pages/NPDES_MS4_New.aspx

MDTA Response:
MDTA acknowledges MDE's comment.

3 Section I: Impervious Area Restoration Reporting

MDE Comment 4:

MDTA's restoration target is 360 acres. MDTA implemented projects to restore 230 acres between 2006 and 2018 and 190 acres during the permit term.

MDTA Response:
MDTA acknowledges MDE's comment.

MDE Comment 5:

MDTA provided an updated Work Plan that included strategies for developing as-built plans and best management practice (BMP) verification, as well as long term implementation and funding for maintenance and inspection for BMPs. An updated Work Plan must be submitted annually.

MDTA Response:
MDTA acknowledges MDE's comment and has included an updated Work Plan with the FY 2022 Progress Report submission.

MDE Comment 6:

MDTA provided an updated Restoration Activity Schedule (RAS). The RAS indicated that there are completed projects treating 420 impervious acres and projects under construction which may treat an additional 18 impervious acres. The Department commends MDTA for implementing projects to achieve the restoration requirement.

a. MDTA provided data and calculations used to determine the street sweeping credit reported in the database. The Department approved this credit calculation. The Department requests that MDTA continue to provide updated data annually.
b. MDTA updated the BMP type for MDTA19BMP0337 to FSND to clarify that this is an acceptable water quality BMP.
c. Costs are required for BMPs completed during the permit term.
d. The Department requests that MDTA continue to provide BMP IDs in the RAS for completed BMPs.

MDTA Response:

a. *MDTA has included updated street sweeping information in the FY 2022 Progress Report submission.*

b. *MDTA acknowledges MDE's comment.*

c. *MDTA has included costs in the RAS for BMPs completed during the permit term.*

d. *MDTA will continue to populate BMP ID in the RAS for new BMPs added.*

MDE Comment 7:

MDTA provided an updated urban BMP database. The Department provides the following comments:

a. The database included inspection dates from 2019 or later for 612 of 620 BMPs. MDTA reported that BMPs are inspected on a three-year schedule. Inspections were conducted on 184 BMPs and maintenance implemented on 166 BMPs within the FY 2021 reporting period. The Department advises that BMPs must be inspected and maintained in accordance with the annual and seasonal maintenance scheduled provided on the approved stormwater management plans. Triennial inspections do not meet these requirements. The Department requests that MDTA develop a plan to enhance this program to meet inspection and maintenance requirements. The most up to date maintenance schedules can be found at: https://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Documents/Technical%20Memorandum%20No.%209%20-%20Maintenance%20Schedules.pdf

b. All inspected BMPs had passing inspections except for two BMPs that had the status reported as "NR." The BMP status should be reported as pass or fail. MDTA can provide additional comments in the General Comments field if necessary.

c. MDTA reported in the narrative that the P_E values reported for non-water quality BMPs (i.e. BMP types XDED, XDPD, XOTH) were updated in the database to zero. However, 9 BMPs of the type XOTH have P_E values equal to 1 inch. MDTA must verify that all non-water quality BMPs are reported in the database with the P_E value equal to zero.

d. LOCAL_BMP_ID is an optional field. If populated, it must be the SF number associated with the project submitted to the Department's Plan Review Division.

MDTA Response:

a. *MDTA has updated the database to include the date of most recent maintenance. Where this information is not available, the latest inspection date was populated since maintenance occurs during inspections if needed.*

b. *These BMPs were not rated due to accessibility issues. Since the submission of the Year 3 database, the accessibility issues have been resolved and the BMPs have been inspected and assigned a P/F rating.*

c. *The P_e field of the BMP database has been updated such that only water quality BMPs in functional condition have non-zero P_e values. The other BMPs, such as non-water quality BMPs that do not qualify for credit, have P_e values of zero. For many of the BMPs categorized as "XOTH," it was determined that the BMPs were miscategorized. These BMPs have since been recategorized after it was determined they meet the requirements of other water quality BMP types and therefore can have a P_e value.*

d. *Local_BMP_ID has been updated in the BMP database with the grading permit "SF" number where available.*

4 Financial information

MDE Comment 8:

MDTA reported the estimated cost of the impervious area restoration program as $3.3 million during the reporting term.

MDTA Response:

MDTA acknowledges MDE's comment.

MDE Comment 9:

The Department requests that MDTA continue to track expenses associated with all permit requirements and provide an estimate for the full 5-year permit term in the year 4 Progress Report.

MDTA Response:

This FY 2022 submission includes an updated five-year cost for the impervious area restoration and MCM programs.

Appendix B: Urban BMP Database
(Digital Submission in MS Excel Format)

Appendix C: Restoration Activity Schedule
(Digital Submission in MS Excel Format)

Phase II MS4 Restoration Activity Schedule

Total Acreage (2329.65); Impervious Acre Baseline (1797.87); 20% Restoration Target (359.57 acres)

Type of Restoration Project	BMP Code[1]	BMP ID (Optional)	Cost ($K)[2]	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status[3]	Year Complete or Projected Implementation Year (by 2025)	MD Grid Coordinates (Northing/Easting)	
					359.574				
MDTA FT0500S01 Wet pond	PWET	MDTA19BMP0001		6.47	353.104	C	2010	582839.8228	1406163.053
MDTA FT0572S01 Pocket pond	PPKT	MDTA19BMP0004		2.34	350.764	C	2007	587257.8029	1439158.236
MDTA FT0586S01 Bioretention	FBIO	MDTA19BMP0005		1.68	349.084	C	2009	591295.6066	1444333.639
MDTA FT0606N01 Wet extended detention pond	PWED	MDTA19BMP0006		0.23	348.854	C	2013	601063.3355	1444418.613
MDTA HT0002A01 Modified Bio-Swale	MSWB	MDTA19BMP0008		0.86	347.994	C	2014	559514.4444	1420729.674
MDTA HT0002A02 Modified Bio-Swale	MSWB	MDTA19BMP0009		0.33	347.664	C	2014	561055.6579	1418193.477
MDTA HT0002A03 Modified Bio-Swale	MSWB	MDTA19BMP0010		0.67	346.994	C	2014	560576.0999	1417394.705
MDTA HT0003A03 Modified Bio-Swale	MSWB	MDTA19BMP0011		0.69	346.304	C	2014	559615.1002	1420117.951
MDTA HT0004A01 Modified Bio-Swale	MSWB	MDTA19BMP0012		0.46	345.844	C	2014	560245.8225	1419178.703
MDTA HT0009A01 Modified Bio-Swale	MSWB	MDTA19BMP0015		0.76	345.084	C	2014	562713.7994	1418632.041
MDTA HT0011A01 Modified Bio-Swale	MSWB	MDTA19BMP0016		0.42	344.664	C	2014	563365.1543	1418579.143
MDTA HT0012A01 Modified Bio-Swale	MSWB	MDTA19BMP0017		0.4	344.264	C	2014	563831.1378	1418541.981
MDTA HT0015A01 Surface sand filter	FSND	MDTA19BMP0019		0.52	343.744	C	2006	565861.1792	1418560.813
MDTA HT0016A01 Modified Bio-Swale	MSWB	MDTA19BMP0021		0.57	343.174	C	2014	566196.3668	1418581.757
MDTA HT0016M01 Modified Bio-Swale	MSWB	MDTA19BMP0022		0.62	342.554	C	2013	565711.7369	1398002.199
MDTA HT0018A01 Modified Bio-Swale	MSWB	MDTA19BMP0024		0.73	341.824	C	2014	566832.5522	1418615.303
MDTA HT0020A01 Modified Bio-Swale	MSWB	MDTA19BMP0025		0.34	341.484	C	2014	567918.2842	1418669.364
MDTA HT0021A01 Modified Bio-Swale	MSWB	MDTA19BMP0026		0.38	341.104	C	2014	568584.6849	1418699.013
MDTA HT0026M01 Modified Bio-Swale	MSWB	MDTA19BMP0029		0.56	340.544	C	2013	567756.1474	1402695.245

[1] See Appendix B, Tables B.1.a,b, and c, Urban BMP Database. BMP codes are identified under "MDE BMP Classification"
[2] Provide cost at project completion
[3] Project Status: Enter P for planning and design, UC for under construction, and C for complete

Enter Impervious Acreage Baseline	1797.87
20% Impervious Acre Target Calulated	359.574

MDTA HT0028M01 Modified Bio-Swale	MSWB	MDTA19BMP0031		0.97	339.574	C	2013	568260.9131	1403429.875
MDTA HT0028M03 Modified Bio-Swale	MSWB	MDTA19BMP0032		0.98	338.594	C	2013	568666.3735	1404017.502
MDTA HT0030M01 Modified Bio-Swale	MSWB	MDTA19BMP0033		0.95	337.644	C	2013	569382.0367	1404810.68
MDTA HT0032M01 Modified Bio-Swale	MSWB	MDTA19BMP0034		0.3	337.344	C	2013	569841.6231	1405284.681
MDTA HT0034M01 Modified Bio-Swale	MSWB	MDTA19BMP0035		0.42	336.924	C	2013	570490.0481	1406203.26
MDTA HT0039M01 Modified Bio-Swale	MSWB	MDTA19BMP0036		0.74	336.184	C	2013	570943.0584	1408759.205
MDTA HT0041M01 Modified Bio-Swale	MSWB	MDTA19BMP0037		0.78	335.404	C	2013	570790.9696	1409520.238
MDTA HT0042M01 Modified Bio-Swale	MSWB	MDTA19BMP0038		0.51	334.894	C	2013	570654.028	1410114.512
MDTA HT0043M01 Modified Bio-Swale	MSWB	MDTA19BMP0039		0.53	334.364	C	2013	570543.4066	1410593.223
MDTA HT0044M01 Modified Bio-Swale	MSWB	MDTA19BMP0040		0.4	333.964	C	2013	570443.2111	1411018.947
MDTA HT0044M02 Modified Bio-Swale	MSWB	MDTA19BMP0041		0.21	333.754	C	2013	570382.4642	1411272.904
MDTA HT0045M01 Modified Bio-Swale	MSWB	MDTA19BMP0042		0.65	333.104	C	2013	570211.1808	1412015.198
MDTA HT0046M01 Modified Bio-Swale	MSWB	MDTA19BMP0044		1.03	332.074	C	2013	570095.867	1412513.766
MDTA HT0139N01 Micropool extended detention pond	PMED	MDTA19BMP0047		2.71	329.364	C	2013	598577.7572	1442207.493
MDTA HT0140S01 Micropool extended detention pond	PMED	MDTA19BMP0048		3.79	325.574	C	2013	599317.4605	1442068.371
MDTA HT0147S01 Wet extended detention pond	PWED	MDTA19BMP0049		2.46	323.114	C	2013	602399.9295	1444168.488
MDTA HT0B11N01 Modified Bio-Swale	MSWB	MDTA19BMP0050		0.14	322.974	C	2016	563148.6831	1418685.541
MDTA HT0B11S01 Modified Bio-Swale	MSWB	MDTA19BMP0051		0.15	322.824	C	2016	563152.3787	1418521.935
MDTA KB0004M01 Modified Bio-Swale	MSWB	MDTA19BMP0297		0.47	322.354	C	2014	561030.6481	1428852.561
MDTA KB0005M01 Modified Bio-Swale	MSWB	MDTA19BMP0298		0.66	321.694	C	2014	560935.8122	1428211.476

MDTA KB0010M01 Modified Bio-Swale	MSWB	MDTA19BMP0299		0.42	321.274	C	2014	561071.2059	1425884.413
MDTA KB0012M01 Modified Bio-Swale	MSWB	MDTA19BMP0300		0.48	320.794	C	2014	561120.4571	1425041.535
MDTA KB0465F01 Biofiltration	FBIO	MDTA19BMP0305		0.15	320.644	C	2014	570543.6329	1452399.157
MDTA KB0468E01 Biofiltration	FBIO	MDTA19BMP0307		0.44	320.204	C	2014	569519.9201	1451018.97
MDTA KB0469A01 Modified Bio-Swale	MSWB	MDTA19BMP0308		0.43	319.774	C	2013	569230.2806	1450276.195
MDTA KB0470A01 Modified Bio-Swale	MSWB	MDTA19BMP0309		0.32	319.454	C	2013	569010.7243	1450040.062
MDTA KB0472A01 Modified Bio-Swale	MSWB	MDTA19BMP0311		0.59	318.864	C	2013	568397.0472	1449326.683
MDTA KB0472A02 Modified Bio-Swale	MSWB	MDTA19BMP0312		0.46	318.404	C	2013	568212.925	1449299.406
MDTA KB0475A01 Bioretention	FBIO	MDTA19BMP0313		0.12	318.284	C	2006	567224.1329	1448322.196
MDTA KB0493M01 Modified Bio-Swale	MSWB	MDTA19BMP0314		1.5	316.784	C	2014	561044.3903	1440839.73
MDTA KB0501E01 Wet pond	PWET	MDTA19BMP0316		10.73	306.054	C	2011	560084.6013	1437267.357
MDTA KB0503W01 Modified Bio-Swale	MSWB	MDTA19BMP0318		0.18	305.874	C	2014	560643.0744	1436192.32
MDTA KB0503W02 Modified Bio-Swale	MSWB	MDTA19BMP0319		0.12	305.754	C	2014	560635.5016	1436387.512
MDTA KB0505M01 Modified Bio-Swale	MSWB	MDTA19BMP0320		0.88	304.874	C	2014	560633.6985	1434968.265
MDTA KH0620S01 Wet extended detention pond	PWED	MDTA19BMP0321		7.48	297.394	C	2013	607608.7685	1448261.412
MDTA KH0626N01 Wet extended detention pond	PWED	MDTA19BMP0322		8.06	289.334	C	2013	609869.3953	1449991.333
MDTA KH0629S01 Micropool extended detention pond	PMED	MDTA19BMP0323		0.12	289.214	C	2011	611611.5858	1450611.486
MDTA KH0630S01 Micropool extended detention pond	PMED	MDTA19BMP0324		3.15	286.064	C	2011	611833.1519	1450919.047
MDTA KH0639N01 Micropool extended detention pond	PMED	MDTA19BMP0330		0.01	286.054	C	2011	613694.3331	1455380.687
MDTA KH0649S01 Wet extended detention pond	PWED	MDTA19BMP0333		9.18	276.874	C	2013	617419.6143	1459525.859
MDTA KH0652S01 Wet extended detention pond	PWED	MDTA19BMP0334		5.61	271.264	C	2013	618272.0104	1460611.963

MDTA KH0655N01 Micropool extended detention pond	PMED	MDTA19BMP0335		5.88	265.384	C	2013	618756.2774	1462274.259
MDTA KH0663N01 Sand Storage Pond	FSND	MDTA19BMP0337		3.97	261.414	C	2013	611611.59	1450611.49
MDTA KH0667N01 Micropool extended detention pond	PMED	MDTA19BMP0338		1.77	259.644	C	2016	622478.0945	1467142.316
MDTA KH0669N01 Extended detention shallow wetland	PWED	MDTA19BMP0340		1.63	258.014	C	2016	623706.6657	1468099.862
MDTA KH0671N01 Extended detention shallow wetland	PWED	MDTA19BMP0341		1.63	256.384	C	2017	624298.671	1468902.697
MDTA KH0677N01 Micropool extended detention pond	PMED	MDTA19BMP0343		10.93	245.454	C	2018	627032.1995	1470751.662
MDTA KH0682N01 Wet extended detention pond	PWED	MDTA19BMP0344		3.6	241.854	C	2018	629101.0516	1472407.243
MDTA KH0684S01 Wet extended detention pond	PWED	MDTA19BMP0345		3.6	238.254	C	2018	629978.7619	1472394.049
MDTA KH0696S01U Modified Bio-swale	MSWB	MDTA19BMP0350		0.85	237.404	C	2016	634678.848	1476802.643
MDTA KH0705M01U Modified Bio-swale	MSWB	MDTA19BMP0352		0.41	236.994	C	2016	638606.896	1479827.331
MDTA KH0706M01U Modified Bio-swale	MSWB	MDTA19BMP0353		0.96	236.034	C	2016	638914.674	1480185.598
MDTA KH0709S01U Modified Bio-swale	MSWB	MDTA19BMP0355		0.46	235.574	C	2016	639744.728	1481440.914
MDTA KH0713M01U Modified Bio-swale	MSWB	MDTA19BMP0356		0.46	235.114	C	2016	640958.938	1483704.773
MDTA KH0718S01U Modified Bio-swale	MSWB	MDTA19BMP0361		0.87	234.244	C	2016	642527.887	1485377.930
MDTA KH0740O01 Surface sand filter	FSND	MDTA19BMP0367		1.2	233.044	C	2008	646998.7815	1495480.749
MDTA KH0763S01 Wet extended detention pond	PWED	MDTA19BMP0375		0.88	232.164	C	2007	653418.2805	1506614.897
MDTA KH0800N01 Modified Grass Swale	MSWG	MDTA19BMP0386		1.46	230.704	C	2015	662107.6873	1523131.458
MDTA KH0803S01 Modified Bio-Swale	MSWB	MDTA19BMP0387		0.9	229.804	C	2015	663287.5612	1523931.614
MDTA KH0815F01 Rain Garden	MRNG	MDTA19BMP0388		0.08	229.724	C	2013	667267.7674	1528408.378
MDTA KH0816F01 Micro Bioretention	MMBR	MDTA19BMP0389		0.25	229.474	C	2013	667106.9344	1528725.486
MDTA KH0816F02 Micro Bioretention	MMBR	MDTA19BMP0390		0.17	229.304	C	2013	667215.2371	1528510.843
MDTA KH0816F03 Micro Bioretention	MMBR	MDTA19BMP0391		0.29	229.014	C	2013	667130.0414	1528595.226
MDTA KH0816F04 Micro Bioretention	MMBR	MDTA19BMP0392		0.15	228.864	C	2013	667342.6427	1528452.274
MDTA KH0816F05 Micro Bioretention	MMBR	MDTA19BMP0393		0.17	228.694	C	2013	667530.4822	1528625.514

MDTA KH0816F06 Micro Bioretention	MMBR	MDTA19BMP0394		0.27	228.424	C	2013	667581.3083	1528622.352
MDTA KH0816F07 Micro Bioretention	MMBR	MDTA19BMP0395		0.24	228.184	C	2013	667521.789	1528805.082
MDTA KH0817F01 Rain Garden	MRNG	MDTA19BMP0396		0.12	228.064	C	2013	667328.4707	1529080.859
MDTA KH0817F02 Micro Bioretention	MMBR	MDTA19BMP0397		0.22	227.844	C	2013	667458.3863	1529143.954
MDTA KH0817F03 Micro Bioretention	MMBR	MDTA19BMP0398		0.4	227.444	C	2013	667524.714	1529464.602
MDTA KH0817F04 Micro Bioretention	MMBR	MDTA19BMP0399		0.18	227.264	C	2013	667538.171	1529444.13
MDTA KH0817F05 Micro Bioretention	MMBR	MDTA19BMP0400		0.24	227.024	C	2013	667852.0825	1529030.471
MDTA KH0817F06 Rain Garden	MRNG	MDTA19BMP0401		0.13	226.894	C	2013	668035.7074	1528950.314
MDTA KH0817S01 Surface sand filter	FSND	MDTA19BMP0402		0.54	226.354	C	2007	668243.7703	1528887.662
MDTA KH0818F01 Micro Bioretention	MMBR	MDTA19BMP0403		0.24	226.114	C	2013	668110.7014	1529178.238
MDTA KH0818F02 Micro Bioretention	MMBR	MDTA19BMP0404		0.33	225.784	C	2013	668163.3351	1529244.112
MDTA KH0818F03 Micro Bioretention	MMBR	MDTA19BMP0405		0.27	225.514	C	2013	668235.9228	1529549.444
MDTA KH0818F04 Micro Bioretention	MMBR	MDTA19BMP0406		0.4	225.114	C	2013	668136.0911	1529652.258
MDTA KH0818F05 Micro Bioretention	MMBR	MDTA19BMP0407		0.24	224.874	C	2013	668070.9082	1529675.289
MDTA KH0819F01 Rain Garden	MRNG	MDTA19BMP0409		0.1	224.774	C	2013	668142.0902	1529886.638
MDTA KH0843M01 Modified Bio-Swale	MSWB	MDTA19BMP0414		0.82	223.954	C	2016	677489.8952	1539402.08
MDTA KH0849M01 Modified Bio-Swale	MSWB	MDTA19BMP0417		0.95	223.004	C	2017	678961.7835	1541384.605
MDTA KH0850M01 Modified Bio-Swale	MSWB	MDTA19BMP0418		1.22	221.784	C	2016	679371.7494	1542129.207
MDTA KH0853M01 Modified Bio-Swale	MSWB	MDTA19BMP0419		0.54	221.244	C	2016	679732.5025	1542786.664
MDTA KH0853N01 Modified Bio-Swale	MSWB	MDTA19BMP0420		0.23	221.014	C	2017	679882.7772	1543252.28
MDTA KH0854M01 Modified Bio-Swale	MSWB	MDTA19BMP0421		0.22	220.794	C	2017	680326.9209	1543721.187
MDTA KH0854M02 Modified Bio-Swale	MSWB	MDTA19BMP0422		0.63	220.164	C	2016	680681.0709	1544129.552
MDTA KH0854M03 Modified Bio-Swale	MSWB	MDTA19BMP0423		0.13	220.034	C	2017	680186.362	1543530.569
MDTA KH0855M01 Modified Bio-Swale	MSWB	MDTA19BMP0424		0.56	219.474	C	2016	681005.2007	1544452.205
MDTA KH0857M01 Modified Bio-Swale	MSWB	MDTA19BMP0425		0.92	218.554	C	2018	681903.072	1545113.651
MDTA KH0858M01 Modified Bio-Swale	MSWB	MDTA19BMP0426		0.95	217.604	C	2017	682565.9657	1545461.746

MDTA KH0860M01 Modified Bio-Swale	MSWB	MDTA19BMP0427		0.91	216.694	C	2017	683427.8024	1545861.008
MDTA KH0862M01 Modified Bio-Swale	MSWB	MDTA19BMP0428		0.77	215.924	C	2016	684133.8134	1546191.666
MDTA KH0870M01 Modified Bio-Swale	MSWB	MDTA19BMP0430		0.53	215.394	C	2015	687413.269	1548832.968
MDTA KH0872M01 Modified Bio-Swale	MSWB	MDTA19BMP0431		1.12	214.274	C	2015	688353.3776	1549697.389
MDTA KH0874M01 Modified Bio-Swale	MSWB	MDTA19BMP0432		1.17	213.104	C	2015	688895.6789	1550234.075
MDTA KH0875M01 Modified Bio-Swale	MSWB	MDTA19BMP0433		0.84	212.264	C	2015	689614.7532	1551000.883
MDTA KH0877M01 Modified Bio-Swale	MSWB	MDTA19BMP0434		0.92	211.344	C	2015	690147.4641	1551572.688
MDTA KH0879M01 Modified Bio-Swale	MSWB	MDTA19BMP0435		0.51	210.834	C	2015	690660.9524	1552123.833
MDTA KH0882M01 Modified Bio-Swale	MSWB	MDTA19BMP0436		0.55	210.284	C	2015	691962.0607	1553469.909
MDTA KH0883M01 Modified Bio-Swale	MSWB	MDTA19BMP0437		0.44	209.844	C	2015	692303.3492	1553745.599
MDTA KH0886M01 Modified Bio-Swale	MSWB	MDTA19BMP0438		0.99	208.854	C	2016	693547.1001	1554573.315
MDTA KH0888M01 Modified Bio-Swale	MSWB	MDTA19BMP0439		0.6	208.254	C	2015	694411.915	1555141.698
MDTA KH0890M01 Modified Bio-Swale	MSWB	MDTA19BMP0440		0.64	207.614	C	2015	695271.3865	1555781.18
MDTA KH0891M01 Modified Bio-Swale	MSWB	MDTA19BMP0441		0.56	207.054	C	2015	695680.516	1556208.882
MDTA KH0891S01 Modified Bio-Swale	MSWB	MDTA19BMP0442		0.16	206.894	C	2015	695959.1556	1556410.652
MDTA KH0893M01 Modified Bio-Swale	MSWB	MDTA19BMP0443		0.44	206.454	C	2015	695944.4915	1556556.927
MDTA KH0893M02 Modified Bio-Swale	MSWB	MDTA19BMP0444		0.65	205.804	C	2016	696246.2069	1557063.48
MDTA KH0895M01 Modified Bio-Swale	MSWB	MDTA19BMP0445		0.58	205.224	C	2016	696624.2496	1558093.189
MDTA KH0916M01 Modified Bio-Swale	MSWB	MDTA19BMP0446		0.58	204.644	C	2015	700165.2891	1568980.782
MDTA KH0919M01 Modified Bio-Swale	MSWB	MDTA19BMP0447		0.77	203.874	C	2015	700160.8235	1569991.842
MDTA KH0933M01 Modified Bio-Swale	MSWB	MDTA19BMP0456		0.3	203.574	C	2014	703743.2579	1576338.913

MDTA KH0934M01 Modified Bio-Swale	MSWB	MDTA19BMP0457		0.71	202.864	C	2014	703900.972	1576665.729
MDTA KH0936M01 Modified Bio-Swale	MSWB	MDTA19BMP0459		0.32	202.544	C	2014	704283.8273	1577773.708
MDTA KH0936M02 Modified Bio-Swale	MSWB	MDTA19BMP0460		0.33	202.214	C	2014	704347.6188	1577964.892
MDTA KH0936M03 Modified Bio-Swale	MSWB	MDTA19BMP0461		0.42	201.794	C	2014	704502.9391	1578419.928
MDTA KH0939M01 Modified Bio-Swale	MSWB	MDTA19BMP0462		0.33	201.464	C	2014	704852.5335	1579446.259
MDTA KH0939M02 Modified Bio-Swale	MSWB	MDTA19BMP0463		0.37	201.094	C	2014	704980.3424	1579834.779
MDTA KH0941M01 Modified Bio-Swale	MSWB	MDTA19BMP0464		0.3	200.794	C	2014	705091.7715	1580154.304
MDTA KH0945M01 Modified Bio-Swale	MSWB	MDTA19BMP0465		0.34	200.454	C	2014	705997.9365	1582046.76
MDTA KH0947M01 Modified Bio-Swale	MSWB	MDTA19BMP0466		0.54	199.914	C	2014	706192.1548	1582333.085
MDTA KH0947M02 Modified Bio-Swale	MSWB	MDTA19BMP0467		0.6	199.314	C	2014	706469.3568	1582742.811
MDTA KH0950M01 Modified Bio-Swale	MSWB	MDTA19BMP0468		0.24	199.074	C	2014	707090.4489	1583718.797
MDTA KH0950M02 Modified Bio-Swale	MSWB	MDTA19BMP0469		0.38	198.694	C	2014	707435.2334	1584467.936
MDTA KH0964F01 Rain Garden	MRNG	MDTA19BMP0470		0.17	198.524	C	2013	709686.9117	1590699.389
MDTA KH0964F02 Rain Garden	MRNG	MDTA19BMP0471		0.14	198.384	C	2013	709625.5118	1590810.764
MDTA KH0964F03 Rain Garden	MRNG	MDTA19BMP0472		0.18	198.204	C	2013	709579.8173	1590803.014
MDTA KH0964F04 Rain Garden	MRNG	MDTA19BMP0473		0.19	198.014	C	2013	709394.387	1590801.31
MDTA KH0964F05 Rain Garden	MRNG	MDTA19BMP0474		0.18	197.834	C	2013	709383.5131	1590832.189
MDTA KH0964F06 Rain Garden	MRNG	MDTA19BMP0475		0.14	197.694	C	2013	709836.0054	1590948.407
MDTA KH0964F07 Rain Garden	MRNG	MDTA19BMP0476		0.15	197.544	C	2013	709873.2834	1590995.958
MDTA KH0964F08 Rain Garden	MRNG	MDTA19BMP0477		0.15	197.394	C	2013	709907.1343	1591002.665
MDTA KH0964F09 Rain Garden	MRNG	MDTA19BMP0478		0.12	197.274	C	2013	709369.1066	1591118.425
MDTA KH0964F10 Micro Bioretention	MMBR	MDTA19BMP0479		0.23	197.044	C	2013	709396.8068	1591210.576
MDTA KH0965F01 Rain Garden	MRNG	MDTA19BMP0480		0.09	196.954	C	2013	709509.3843	1591338.469
MDTA KH0965F02 Rain Garden	MRNG	MDTA19BMP0481		0.15	196.804	C	2013	709574.3204	1591403.076
MDTA KH0965F03 Rain Garden	MRNG	MDTA19BMP0482		0.18	196.624	C	2013	709589.7182	1591464.269
MDTA KH0965F04 Rain Garden	MRNG	MDTA19BMP0483		0.18	196.444	C	2013	709614.8196	1591517.779

MDTA KH0965F05 Rain Garden	MRNG	MDTA19BMP0484		0.15	196.294	C	2013	709647.6395	1591575.903
MDTA KH0965F06 Micro Bioretention	MMBR	MDTA19BMP0485		0.29	196.004	C	2013	709960.7189	1591178.031
MDTA KH0965F07 Rain Garden	MRNG	MDTA19BMP0486		0.14	195.864	C	2013	710049.7801	1591209.543
MDTA KH0965F08 Rain Garden	MRNG	MDTA19BMP0487		0.16	195.704	C	2013	710087.2104	1591278.837
MDTA KH0966F01 Micro Bioretention	MMBR	MDTA19BMP0488		0.31	195.394	C	2013	709672.6029	1591811.34
MDTA KH0966F02 Rain Garden	MRNG	MDTA19BMP0489		0.09	195.304	C	2013	710289.5598	1591647.3
MDTA KH0967F01 Rain Garden	MRNG	MDTA19BMP0490		0.19	195.114	C	2013	709961.2995	1592255.553
MDTA KH0967F02 Rain Garden	MRNG	MDTA19BMP0491		0.12	194.994	C	2013	710003.0853	1592262.492
MDTA KH0967F03 Micro Bioretention	MMBR	MDTA19BMP0492		0.31	194.684	C	2013	710072.6529	1592292.738
MDTA KH0967F04 Micro Bioretention	MMBR	MDTA19BMP0493		0.09	194.594	C	2013	710077.1245	1592485.132
MDTA KH0967F05 Micro Bioretention	MMBR	MDTA19BMP0494		0.35	194.244	C	2013	710340.5068	1592076.764
MDTA KH0967F06 Micro Bioretention	MMBR	MDTA19BMP0495		0.24	194.004	C	2013	710473.8704	1592076.73
MDTA KH0973M01 Modified Bio-Swale	MSWB	MDTA19BMP0497		0.32	193.684	C	2015	712367.7699	1595109.892
MDTA KH0973M02 Modified Bio-Swale	MSWB	MDTA19BMP0498		0.33	193.354	C	2015	712329.9227	1595140.363
MDTA KH0973M03 Modified Bio-Swale	MSWB	MDTA19BMP0499		0.27	193.084	C	2015	712566.3185	1595321.047
MDTA KH0975M01 Modified Bio-Swale	MSWB	MDTA19BMP0500		0.42	192.664	C	2015	712779.1503	1595550.704
MDTA KH0975M02 Modified Bio-Swale	MSWB	MDTA19BMP0501		0.31	192.354	C	2015	712987.7898	1595771.024
MDTA KH0976M01 Modified Bio-Swale	MSWB	MDTA19BMP0502		0.35	192.004	C	2015	713451.2101	1596270.006
MDTA KH0976M02 Modified Bio-Swale	MSWB	MDTA19BMP0503		0.41	191.594	C	2015	713645.261	1596479.341
MDTA KH0979M01 Modified Bio-Swale	MSWB	MDTA19BMP0504		0.16	191.434	C	2015	714070.3802	1597051.19
MDTA KH0979M02 Modified Bio-Swale	MSWB	MDTA19BMP0505		0.49	190.944	C	2015	714350.4658	1597347.466
MDTA KH0980M01 Modified Bio-Swale	MSWB	MDTA19BMP0506		0.37	190.574	C	2015	714482.4029	1597565.89
MDTA KH0982M01 Modified Bio-Swale	MSWB	MDTA19BMP0507		0.28	190.294	C	2015	714849.9809	1598423.246
MDTA KH0986M01 Modified Bio-Swale	MSWB	MDTA19BMP0509		0.43	189.864	C	2014	715349.607	1600437.375
MDTA KH0986M02 Modified Bio-Swale	MSWB	MDTA19BMP0510		0.27	189.594	C	2014	715375.4121	1600732.266

MDTA KH0986M03 Modified Bio-Swale	MSWB	MDTA19BMP0511		0.14	189.454	C	2014	715395.8621	1600912.208
MDTA KH0986M04 Modified Bio-Swale	MSWB	MDTA19BMP0512		0.18	189.274	C	2014	715428.074	1601233.865
MDTA KH0986M05 Modified Bio-Swale	MSWB	MDTA19BMP0513		0.33	188.944	C	2014	715439.7541	1601433.719
MDTA KH0987M01 Modified Bio-Swale	MSWB	MDTA19BMP0514		0.44	188.504	C	2014	715484.8372	1601766.93
MDTA KH0987M02 Modified Bio-Swale	MSWB	MDTA19BMP0515		0.4	188.104	C	2014	715525.0782	1602031.995
MDTA KH0987M03 Modified Bio-Swale	MSWB	MDTA19BMP0516		0.39	187.714	C	2014	715563.0283	1602295.508
MDTA KH0987M04 Modified Bio-Swale	MSWB	MDTA19BMP0517		0.33	187.384	C	2014	715611.906	1602602.93
MDTA KH0989M01 Modified Bio-Swale	MSWB	MDTA19BMP0518		0.4	186.984	C	2014	715677.0671	1602923.981
MDTA KH0989M02 Modified Bio-Swale	MSWB	MDTA19BMP0519		0.25	186.734	C	2015	715765.888	1603257.008
MDTA KH0991M01 Modified Bio-Swale	MSWB	MDTA19BMP0520		0.58	186.154	C	2014	716194.6364	1604300.743
MDTA KH0994M01 Modified Bio-Swale	MSWB	MDTA19BMP0522		0.27	185.884	C	2014	716664.7032	1605061.813
MDTA KH0998M02 Modified Bio-Swale	MSWB	MDTA19BMP0523		0.52	185.364	C	2015	717795.1265	1606666.609
MDTA KH1000M01 Modified Bio-Swale	MSWB	MDTA19BMP0526		0.71	184.654	C	2015	718083.6654	1607074.804
MDTA KH1002M01 Modified Bio-Swale	MSWB	MDTA19BMP0527		0.54	184.114	C	2015	718782.4239	1608046.6
MDTA KH1004M01 Modified Bio-Swale	MSWB	MDTA19BMP0528		0.41	183.704	C	2015	719838.1926	1609529.795
MDTA KH1004M02 Modified Bio-Swale	MSWB	MDTA19BMP0529		0.51	183.194	C	2015	720039.8197	1609816.194
MDTA KH1005M01 Modified Bio-Swale	MSWB	MDTA19BMP0530		0.62	182.574	C	2015	720289.1261	1610184.395
MDTA KH1005M02 Modified Bio-Swale	MSWB	MDTA19BMP0531		0.86	181.714	C	2015	720525.2012	1610560.888
MDTA KH1013M01 Modified Bio-Swale	MSWB	MDTA19BMP0534		0.4	181.314	C	2015	722111.6362	1613893.335
MDTA KH1013M02 Modified Bio-Swale	MSWB	MDTA19BMP0535		0.39	180.924	C	2015	722208.5805	1614170.107
MDTA KH1014M01 Modified Bio-Swale	MSWB	MDTA19BMP0536		0.42	180.504	C	2015	722511.6875	1615183.684

MDTA KH1019M01 Modified Bio-Swale	MSWB	MDTA19BMP0537		0.37	180.134	C	2015	722381.0144	1616576.178
MDTA KH1020M01 Modified Bio-Swale	MSWB	MDTA19BMP0538		0.4	179.734	C	2015	722225.3886	1616951.285
MDTA KH1027M01 Modified Bio-Swale	MSWB	MDTA19BMP0540		0.54	179.194	C	2015	720963.9904	1620377.5
MDTA KH1028M01 Modified Bio-Swale	MSWB	MDTA19BMP0541		0.41	178.784	C	2015	720995.3757	1620796.616
MDTA KH1028M02 Modified Bio-Swale	MSWB	MDTA19BMP0542		0.38	178.404	C	2015	721058.4761	1621104.179
MDTA KH1036M01 Modified Bio-Swale	MSWB	MDTA19BMP0543		0.73	177.674	C	2015	721941.5231	1624686.085
MDTA KH1036M02 Modified Bio-Swale	MSWB	MDTA19BMP0544		0.36	177.314	C	2015	722024.7324	1625014.017
MDTA KH1038M01 Modified Bio-Swale	MSWB	MDTA19BMP0545		1.06	176.254	C	2015	722199.2058	1626338.021
MDTA KH1039M01 Modified Bio-Swale	MSWB	MDTA19BMP0546		0.45	175.804	C	2015	722184.3778	1626807.102
MDTA KH1039M02 Modified Bio-Swale	MSWB	MDTA19BMP0547		0.69	175.114	C	2015	722141.6827	1627215.209
MDTA KH1039M03 Modified Bio-Swale	MSWB	MDTA19BMP0548		0.38	174.734	C	2015	722001.8455	1627920.816
MDTA KH1044M01 Modified Bio-Swale	MSWB	MDTA19BMP0549		0.4	174.334	C	2015	721718.0655	1628732.994
MDTA KH1044M02 Modified Bio-Swale	MSWB	MDTA19BMP0550		0.47	173.864	C	2015	721619.1836	1628991.341
MDTA KH1048M01 Modified Bio-Swale	MSWB	MDTA19BMP0551		0.72	173.144	C	2015	721281.4046	1631026.721
MDTA KH1050M01 Modified Bio-Swale	MSWB	MDTA19BMP0552		0.84	172.304	C	2015	721478.5855	1632425.772
MDTA KH1050M02 Modified Bio-Swale	MSWB	MDTA19BMP0553		0.62	171.684	C	2015	721844.2842	1633523.549
MDTA KH1053M01 Modified Bio-Swale	MSWB	MDTA19BMP0554		0.58	171.104	C	2015	722022.6202	1634039.094
MDTA KH1053M02 Modified Bio-Swale	MSWB	MDTA19BMP0555		0.69	170.414	C	2015	722199.0564	1634550.649
MDTA KH1055M01 Modified Bio-Swale	MSWB	MDTA19BMP0556		0.42	169.994	C	2015	722363.2082	1635027.473
MDTA KH1055M02 Modified Bio-Swale	MSWB	MDTA19BMP0557		0.34	169.654	C	2015	722493.8561	1635407.197
MDTA KH1059M01 Modified Bio-Swale	MSWB	MDTA19BMP0558		0.6	169.054	C	2014	722934.2053	1636724.644

MDTA KH1060M01 Modified Bio-Swale	MSWB	MDTA19BMP0559		0.28	168.774	C	2014	723007.8922	1637055.752
MDTA KH1061M01 Modified Bio-Swale	MSWB	MDTA19BMP0560		0.65	168.124	C	2014	723096.5428	1637661.749
MDTA KH1061M02 Modified Bio-Swale	MSWB	MDTA19BMP0561		0.69	167.434	C	2014	723114.7305	1638002.263
MDTA KH1063M01 Modified Bio-Swale	MSWB	MDTA19BMP0562		0.55	166.884	C	2014	723105.5304	1638568.636
MDTA KH1063M02 Modified Bio-Swale	MSWB	MDTA19BMP0563		0.41	166.474	C	2014	723078.6985	1638848.818
MDTA KH1064M01 Modified Bio-Swale	MSWB	MDTA19BMP0564		0.38	166.094	C	2014	723028.3882	1639180.009
MDTA KH1064M02 Modified Bio-Swale	MSWB	MDTA19BMP0565		0.48	165.614	C	2014	722974.5266	1639446.169
MDTA KH1065M01 Modified Bio-Swale	MSWB	MDTA19BMP0566		0.67	164.944	C	2014	722881.7531	1639796.985
MDTA KH1065M02 Modified Bio-Swale	MSWB	MDTA19BMP0567		0.56	164.384	C	2014	722751.8508	1640184.851
MDTA KH1066M01 Modified Bio-Swale	MSWB	MDTA19BMP0568		0.38	164.004	C	2014	722629.7328	1640511.483
MDTA KH1067M01 Modified Bio-Swale	MSWB	MDTA19BMP0569		0.4	163.604	C	2014	722519.6893	1640804.446
MDTA KH1070M01 Modified Bio-Swale	MSWB	MDTA19BMP0570		0.41	163.194	C	2014	722320.2543	1641338.602
MDTA KH1070M02 Modified Bio-Swale	MSWB	MDTA19BMP0571		0.42	162.774	C	2014	722162.7713	1641754.84
MDTA KH1070M03 Modified Bio-Swale	MSWB	MDTA19BMP0572		0.75	162.024	C	2014	722014.6985	1642225.389
MDTA KH1072M01 Modified Bio-Swale	MSWB	MDTA19BMP0573		0.47	161.554	C	2014	721911.6489	1642670.018
MDTA KH1072M02 Modified Bio-Swale	MSWB	MDTA19BMP0574		0.45	161.104	C	2014	721861.8587	1642994.383
MDTA KH1072M03 Modified Bio-Swale	MSWB	MDTA19BMP0575		0.82	160.284	C	2014	721823.7198	1643532.91
MDTA KH1074M01 Modified Bio-Swale	MSWB	MDTA19BMP0576		0.8	159.484	C	2014	721799.7625	1644297.823
MDTA KH1074M02 Modified Bio-Swale	MSWB	MDTA19BMP0577		0.6	158.884	C	2014	721780.2789	1645021.918
MDTA KH1074M03 Modified Bio-Swale	MSWB	MDTA19BMP0578		0.74	158.144	C	2014	721761.2881	1645673.789
MDTA KH1076M01 Modified Bio-Swale	MSWB	MDTA19BMP0579		0.68	157.464	C	2014	721746.5596	1646209.216

MDTA KH1076M02 Modified Bio-Swale	MSWB	MDTA19BMP0580		0.47	156.994	C	2014	721735.6127	1646678.315
MDTA KH1078M01 Modified Bio-Swale	MSWB	MDTA19BMP0582		0.43	156.564	C	2014	721697.1699	1647291.716
MDTA KH1078M02 Modified Bio-Swale	MSWB	MDTA19BMP0583		0.71	155.854	C	2014	721657.7404	1647643.023
MDTA KH1080M01 Modified Bio-Swale	MSWB	MDTA19BMP0585		0.73	155.124	C	2014	721572.1765	1648216.503
MDTA KH1080M02 Modified Bio-Swale	MSWB	MDTA19BMP0586		0.68	154.444	C	2014	721490.4432	1648647.124
MDTA KH1082M01 Modified Bio-Swale	MSWB	MDTA19BMP0587		0.9	153.544	C	2014	721362.5117	1649245.293
MDTA NB0021F01 Porous pavers	APRP	MDTA19BMP0610		0.03	153.514	C	2011	254346.921	1319029.806
MDTA NB0021S01 Surface sand filter	FSND	MDTA19BMP0611		0.92	152.594	C	2009	254062.1143	1318662.911
Street Sweeping (Average of FY19, FY20, FY21 and FY22)	VSS	MDTA19BMP0615		186	-33.406	C			
Impervious Area Removal	IMPP	MDTA19BMP0618		23.28	-56.686	C			
MDTA FT0501S01 Surface Sand Filter	FSND	MDTA19BMP0622		2.2	-58.886	C	2020	582511.758	1405986.921
MDTA HT0118S01 Dry Swale	ODSW	MDTA19BMP0623		0.74	-59.626	C	2021	588531.3577	1438978.797
MDTA KB0467E01 Modified Grass Swale	MSWG	MDTA19BMP0624		0.35	-59.976	C	2021	569960.877	1451489.823
MDTA KB0467E02 Modified Grass Swale	MSWG	MDTA19BMP0625		0.26	-60.236	C	2021	569840.527	1451377.714
MDTA KB0467E03 Modified Grass Swale	MSWG	MDTA19BMP0626		0.82	-61.056	C	2021	569688.592	1451220.381
MDTA KB0469E01 Modified Grass Swale	MSWG	MDTA19BMP0627		0.69	-61.746	C	2021	569363.819	1450789.261
MDTA KB0469A02 Micro Bioretention	MMBR	MDTA19BMP0628		0.25	-61.996	C	2021	569404.687	1450512.691
MDTA KB0469A03 Micro Bioretention	MMBR	MDTA19BMP0629		0.36	-62.356	C	2021	569330.867	1450445.138
MDTA KH0688S01 Modified Grass Swale	MSWG	MDTA19BMP0630		0.16	-62.516	C	2020	631462.632	1473552.144
MDTA KH0691S01 Modified Grass Swale	MSWG	MDTA19BMP0631		0.5	-63.016	C	2020	632737.280	1474781.861
MDTA HT0014W01 Modified Bio-Swale	MSWB			0.33	-63.346	UC	2021		
MDTA HT0014W02 Modified Bio-Swale	MSWB			0.22	-63.566	UC	2021		
MDTA HT0022W01 Modified Bio-Swale	MSWB			0.1	-63.666	UC	2021		

MDTA HT0022W02 Modified Bio-Swale	MSWB			0.06	-63.726	UC	2021		
MDTA HT0022W03 Modified Bio-Swale	MSWB			0.09	-63.816	UC	2021		
MDTA HT0022W04 Modified Bio-Swale	MSWB			0.08	-63.896	UC	2021		
MDTA HT0028E01 Modified Bio-Swale	MSWB			0.29	-64.186	UC	2021		
MDTA HT0028W01 Modified Bio-Swale	MSWB			0.36	-64.546	UC	2021		
MDTA HT0028W02 Modified Bio-Swale	MSWB			0.17	-64.716	UC	2021		
MDTA HT0B07N01 Modified Bio-Swale	MSWB			0.43	-65.146	UC	2021		
MDTA HT0B07N02 Modified Bio-Swale	MSWB			0.14	-65.286	UC	2021		
MDTA HT0B07N03 Modified Bio-Swale	MSWB			0.15	-65.436	UC	2021		
MDTA HT0B12S01 Modified Bio-Swale	MSWB			0.2	-65.636	UC	2021		
MDTA HT0B12S02 Modified Bio-Swale	MSWB			0.21	-65.846	UC	2021		
MDTA HT0B12S03 Modified Bio-Swale	MSWB			0.11	-65.956	UC	2021		
MDTA FT0560F01U Wet Pond	PWET			3.39	-69.346	UC	2021		
MDTA KB0464N01U Wet Pond	PWET			2.71	-72.056	UC	2021		
MDTA LB0319F01U Wet Pond	PWET			1.66	-73.716	UC	2021		
MDTA LB0319F03U Submerged Gravel Wetland	MSGW			0.82	-74.536	UC	2021		
MDTA KB0455S01U Wet Pond	PWET			5.45	-79.986	UC	2022		
MDTA HT0125S01 Tree Planting	FPU			0.75	-80.736	UC	2022		
MDTA HT0126N01 Tree Planting	FPU			0.12	-80.856	UC	2022		
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