

5 MILESTONE SCHEDULE

To promote continual progress, EPA’s accountability framework for restoring the Chesapeake Bay calls on states to identify milestones to be reached in two-year increments. The two-year milestones are also tracked closely by Maryland’s BayStat accountability system. There are two broad categories of milestones:

- Program enhancement actions needed to increase resources and improve the implementation processes to accelerate future restoration.
- Implementation actions are on-the-ground activities that will result in nutrient and sediment load reductions.

In 2011, Baltimore City submitted its Phase II WIP Milestones to MDE describing how they plan to reduce pollution from sources in the urban/developed sectors. These were updated for 2014-2015 and shown as bold text in Table 12.³⁹

Baltimore’s Milestones are programmatic (staffing, policies and guidelines, program enhancement, etc.) and projects (stream restorations, ESDs, etc).

Table 12: WIP Milestones Schedule

Fiscal Year	Description
	Program Milestones
FY14	Complete the Green Pattern Book, a guidance document focusing on green land uses such as stormwater management, community-managed open space, and urban forestry.
	Initiate a pilot design competition to test the Green Pattern Book and initial grant assignment. <i>Develop MOU for large grants (over \$10,000) for NGOs to implement projects as part of competition.</i>
	Increase staff by 8 FTE by hiring or contracting for engineering, monitoring and enforcement.
	Initiate Street Sweeping Enhancement Plan
	Publish water quality (ammonia screening and stream impact sampling) on Cleanwater Baltimore website.
	Develop 311 Service Request to allow citizen complaints regarding Erosion and Sediment Control.
	Continue the Growing Green Initiative as a planning platform to identify vacant properties for potential green land use implementation
	<u>Develop modifications to the demolition specifications regarding re-purposing of deconstruction materials, plus soil amendments.</u>
	Complete first year evaluation of credit applications, reconciled with MS4 and TMDL reporting.

³⁹ http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Documents/Milestones/2014-2015/Local/2014-2015_Baltimore_City_Milestones.pdf

Fiscal Year	Description
FY 2015	Increase staff by 13 FTE by hiring or contracting for engineering, monitoring and enforcement.
	Implement preventative inlet cleaning in targeted neighborhoods of the City. The effort will be in collaboration with inlet screen installation and expanded street sweeping operations.
	Create integrated tracking database for SWM/ESC plans review and inspections, including GIS elements, standard reports, paperless field report / input, and work order assignments.
	Expand Urban Waters interactive mapping tool to include SWM BMPs.
	Begin working with 4 neighborhoods on stormwater planning
	Initiate <i>Stormwater Advisory Committee (SWAC, previously identified as WIP Task Force)</i> to represent various stakeholders.
	Initiate the Technical Work Group.
	Develop a 5-year plan for public education and outreach plan, <i>including initiating the Outreach Work Group.</i>
	Work with the Office of Sustainability and DPW Solid Waste to create a community-based “Baltimore Clean Corps”
FY 2016	Complete street tree survey, in coordination with the US Forest Service.
	Engage local universities for internships, research, and stewardship regarding water quality improvement
	Complete Casino Area Master Plan (Middle Branch) for use of funds from the Baltimore Casino.
	Develop MOU with NPDES Phase II MS4 (state) and NPDES Industrial Permit (state and local) regarding potential off-site mitigation within Baltimore City, focusing on BMP accounting, maintenance, and data sharing.
	<u>Update SWM and ESC Guidelines per state regulation and local policies to facilitate SWM and ESC Guidelines available on website.</u>
	<u>Initiate and provide training courses for developers, NGOs, and community leaders regarding the SWM/ESC plans review process</u>
	<u>Modify review process to facilitate restoration practices, including alternative plan review structure and technical certification requirements.</u>
	Create integrated tracking database for SWM/ESC plans review and inspections, including GIS elements, standard reports, paperless field report / input, and work order assignments
	<u>Approve the City’s revised zoning code with updates to the SWM requirements.</u>
	<u>Approve the City’s Landscape Manual which integrates ESD practices within landscape areas.</u>

Baltimore City MS4 and TMDL Watershed Implementation Plan

Fiscal Year	Description
FY 2016	Develop standardized designs and supporting calculations for ESD practices.
	<u>Complete feasibility studies for private participation incentive programs, such the Adopt the-Green program and STORM Centers (now called GROW Centers).</u>
	<u>Complete feasibility study for the use of recycled materials in BMP construction as a sustainable alternative to material disposal.</u>
	Develop Stormwater BMP maintenance plan for city-owned facilities, including staffing, budget, and funding.
	Increase staff by 6 FTE by hiring or contracting for utility maintenance
	Create a “one-stop shop” for resources and information on reducing stormwater pollutants
	Develop and implement 3 training workshops for community stormwater BMP maintenance.
	Begin working with 10 neighborhoods on stormwater planning
	Create a consistent set of informational sheets, messages, and signage for reducing stormwater pollutants.
FY 2017	Begin working with 3 neighborhoods on stormwater planning
	Increase staff by 2 FTE by hiring or contracting for community outreach
	Complete an analysis of city-owned facilities for possible impervious removal and sw retrofits
	Create an MOU with the Baltimore Office of Promotion and the Arts (BOPA) to incorporate art into stormwater BMP projects,
FY 2018	Complete studies for relationships for IDDE, education, and other non-traditional BMPs with impervious area restoration, nutrient, sediment, and bacteria reduction.
	Implement a pet waste campaign.
Project Milestones (construction initiated)	
FY2014	2,500 trees planted.
FY2015	0.4 miles of stream restoration.
	5,000 trees planted.
FY2016	0.85 miles of stream restoration.
	2.4 acres restored using ESD Practices.
	5,000 trees planted.
FY2017	Complete Watershed Assessment report for Lower North Branch of the Patapsco and Baltimore Harbor.
	1.8 miles of stream restoration

Fiscal Year	Description
	9 acres by regenerative step pool storm conveyance.
	5.8 acres of impervious removal and greening projects.
	5,000 trees planted
FY2018	Update the Watershed Assessment report for the Lower Gwynns Falls and Jones Falls.
	5.9 miles of stream restoration
	475 acres restored using Traditional BMPs
	35 acres restored using ESD Practices
	21.0 acres of impervious removal and greening projects
	5,000 trees planted
FY2019	Update the Watershed Assessment report for the Upper Back River
	1.0 mile of stream restoration
	53 acres restored using Traditional BMPs
	22.5 acres restored using ESD Practices
	12.7 acres of impervious removal and greening projects
	5,000 trees planted

Note: For program milestones, bold text indicates milestones separately submitted to MDE as part of the Chesapeake Bay TMDL. Underline bold text denotes a change from the original schedule. Italicized text denotes a variation in the language / description.

5.1 Tracking Mechanisms

The City will track all BMPs (both planned and constructed) using a Microsoft Access database and GIS tracking tool. All BMPs will be tracked with regard to impervious area restoration and pollutant reduction, regardless of the implementing party or the purpose of the construction, because the quantitative and qualitative control provided by the BMP will be used for future asset management. Table 13 demonstrates how the purpose of the construction will be applicable to the impervious area restoration requirement. The tracked data will coincide with MS4 permit annual reporting requirements for geodatabases. A majority of BMP implementation will be reported through the permitting process for construction activities, assuming the construction activities to install the BMPs will disturb more than 5,000 square feet of the land. Per the milestone schedule, the City will continue to work with partners to facilitate data reporting for restoration projects which disturb less than 5,000 square feet of land.

In addition to the permitting database, the City maintains a database for all stormwater fee credit applications related to private BMP implementation. The credit program includes an incentive for homeowners to report simple, small BMPs, such as rain gardens and tree planting. These activities do not require a technical review for the purpose of permitting. TreeBaltimore also maintains a database of all trees planted by their partners. These two databases will be combined with the permitting database and included in the City's Annual MS4 report.

Table 13: Stormwater Management Accounting Based on Construction Purpose

Purpose	New development	Quasi-redevelopment	Redevelopment	Restoration
Requirement	Treat 1 inch of impervious area.	Treat 0.5 inch of ex. impervious area. Treat 1 inch of new impervious area.	Treat 0.5 inch of ex. impervious area.	No requirement.
Credit	Portion exceeding requirement.	Meets / exceeds requirement for existing impervious area. Portion exceeding requirement for new impervious area.	Meets / exceeds requirement for existing impervious area.	All treatment.
Neutral	Meeting the requirement.	Waiver met by fee-in-lieu for ex. Impervious area. Meeting the requirement for new impervious area.	Waiver met by fee-in-lieu for ex. Impervious area.	N/A
Deficit	Waiver met by fee-in-lieu.	Waiver met by fee-in-lieu for new impervious area.	N/A	N/A

5.2 Staffing

Under this strategy, the pace of implementation is required to significantly increase. Meeting our MS4 and TMDL requirements will require an increase in the design and construction of stormwater capital projects, inspection of facilities, water quality testing and analysis, community outreach, and maintenance. This will require increased staffing and contractual services. New employees include engineers, scientists, inspectors, technicians, community planners, and maintenance staff (Table 14).

The most significant increases will be for plan review and inspections (in order to reduce plan review time and approval and increase the number of site inspections), project implementation (providing dedicated project management and in-house design and engineering), and education and outreach (build community capacity by targeting new partner groups that provide the necessary leadership, oversight, and sustained effort to change behaviors and foster stewardship).