

**Harford County Phase II Watershed Implementation Plan
2012-2013 Two-Year Milestones
DPW Water & Sewer
January 1, 2011 – December 31, 2013**

WASTEWATER TREATMENT PLANTS:

Programmatic Strategies	Status (As of December 31, 2013)
<p>The County obtained legislative approval to implement an ENR. Construction began in February 2012 and is anticipated to be completed by the end of 2014.</p>	<p>Construction at the Joppatowne WWTP (0.95 MGD capacity) is complete as of September 2013. The plant is in its one year operational phase and is treating to ENR levels.</p> <p>Construction at the Sod Run WWTP (20.0 MGD capacity) is 85% complete, with an anticipated ENR startup of the denite filters, filter feed and methanol systems in April 2014. Final completion is scheduled for October 2014. The Contract remains on schedule.</p>
<p>North Harford High School minor wastewater treatment plant – pursue with the Board of Education the reconnection of the outfall to the wetlands for additional treatment of the effluent.</p>	<p>Reconnection of the outfall to the constructed wetlands will not be pursued by the Board of Education; however, upgrades to the wastewater treatment plant resulted in the most recent discharge permit reducing the nitrogen loading to 10 mg/l.</p>

**Harford County Phase II Watershed Implementation Plan 2-Year Milestones
DPW Water & Sewer
July 1, 2011 – June 30, 2013**

WASTEWATER TREATMENT PLANTS (CONT.)

Projects/BMPs	Status (As of June 2013)
Sod Run Wastewater Treatment Plant will be under construction for ENR. Construction began in February 2012 and is anticipated to be completed by March 2015.	Construction at the Sod Run WWTP (20.0 MGD capacity) is 85% complete. The Contract remains on schedule with an anticipation of the ENR denite filters, filer feed and methanol system start-up to begin April of 2014 and final completion of all construction October, 2014.
Joppatowne Wastewater Treatment Plant will be under construction for ENR. Construction began in February 2012 and is anticipated to be completed by the end of 2014.	Construction at the Joppatowne WWTP (0.95 MGD capacity) is complete. The plant's one year operational phase began September 1, 2013.
The Enhanced Nutrient Removal Project at the Aberdeen Advanced Wastewater Treatment Plant will be completed by 2013.	As of June 2013 the ENR project is 98% completed.

Harford County Phase II Watershed Implementation Plan 2-Year Milestones
Health Department
July 1, 2011 –December 31, 2013

SEPTIC SYSTEMS:

Programmatic Strategies	Status (As of December 2013)
<p>Create a detailed database (through GIS parcel-specific query) on the number and location of septic systems in Harford County. This database will be used to report on actual nitrogen loads from septic systems in Harford County and to establish high priority areas to pursue BAT units.</p>	<p>A layer was created in GIS that separates properties serviced by septic systems in the critical area, 1000 within a tributary, and 1000 feet outside of a tributary. The following is the number of properties serviced by septic systems according to Harford County’s GIS system as of Jan. 1, 2012:</p> <p>Critical Area – 205 Within 1,000 feet of a perennial stream – 9,282 Outside 1,000 feet of a perennial stream – 17,045</p>
<p>Establish a tracking system that records new BAT units inside the Critical Area, outside of the Critical Area not within 1,000 feet of a perennial stream, and outside the Critical Area within 1,000 feet of a stream. This tracking system will help assure a more accurate accounting of nitrogen loads and load reductions from septic systems.</p>	<p>A database has been created and is in operation. The database lists all septic systems with BATs and their location based on the attenuation rate.</p>

Harford County Phase II Watershed Implementation Plan 2-Year Milestones
Health Department
July 1, 2011 – June 30, 2013

SEPTIC SYSTEMS (CONT.):

Projects/BMPs	Status (As of June 2013)
Harford Community College Nitrogen reducing septic system upgrade	System has been installed and is now under operation.
Harford Tech/Prospect Mill Elementary/John Archer Schools Nitrogen reducing septic system upgrade	WWTP has been installed. Final Inspections pending.
Fallston High School/Fallston Middle School Nitrogen reducing septic system upgrade	System installed and is now under operation.
Father Martin Ashley Nitrogen reducing septic system upgrade	This project is still under review and is not complete.

SEPTIC SYSTEMS:

Projects/BMPs	Status (As of June 2013)
Red Pump Elementary Connection to public sewer (Sod Run WWTP)	Red Pump Elementary School has completed the connection to public sewer.
Wright’s Mobile Home Park (60 mobile homes) Connect to public sewer (effluent to be treated at ENR plant)	The connection to public sewer is not complete. Plans have been drawn and are under review.
25 Single Family Dwellings Existing septic systems upgraded with BAT units	Since January 1, 2011 32 existing septic systems have been upgraded with BAT technology. One of the systems is located in the critical area, fourteen are located within 1000 feet of a perennial stream, and eighteen are located outside 1000 feet of a perennial stream.
30 Single Family Dwellings Existing septic systems connected to public sewer	As of June 1, 2013, 27 properties serviced by septic systems were connected to public sewer since January 1, 2011
Freys Road Public Sewer Extension Sewer petition project that will extend public sewer to approximately 8 existing residential properties in the Critical Area	Freys Road Sewer extension is currently under construction, but it is not complete.

**Harford County Phase II Watershed Implementation Plan
2012-2013 Two-Year Milestones
DPW Urban Stormwater
January 1, 2011 – December 31, 2013**

URBAN STORMWATER:

Programmatic Strategies	Status (As of December 2013)
Upgrade Water Resources portion of the County website.	Complete - http://www.harfordcountymd.gov/dpw/engineering/WaterResources/ The website now contains information for homeowners and citizens regarding the installation and maintenance of individual lot stormwater management facilities. Watershed assessment and restoration project reports and statuses are provided along with pollution prevention information and a hot line number for citizens to report stormwater pollution.
Continue to negotiate the conditions of the MS4 permit with MDE.	Ongoing. MS4 permits for Baltimore City, and Prince Georges, Baltimore and Anne Arundel Counties have been finalized. Harford County has provided written comments on 3 of the 4 permits. Comments were developed through a partnership with Frederick and Charles Counties. Harford County anticipates that MDE will issue tentative determination for the remaining 4 counties over the next few months.
Coordinate with MDE for the development of trading guidelines between other urban sectors within the County (non-regulated, municipalities, schools, and State Highway). i.e. If SHA completes a project in Harford County, how is the credit assigned?	No progress
Upon approval of the MS4 permit, develop watershed assessment planning and restoration as required	MS4 permit pending tentative determination

Investigate implementation of Urban Nutrient Management Plans on County-owned and School-owned property.	Complete
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Programmatic	Status (As of December 2013)
Investigate budget needs to meet the requirements and develop strategies for funding gaps.	Ongoing
Per the requirements of HB 987-Stormwater Management-Watershed Protection and Restoration (2102)-develop a stormwater fee by June 30, 2013 to assist the County in meeting the requirements of the Phase I NPDES permit.	An advisory group was established to make recommendations on the fee structure and amount. The group consisted of stakeholders including Citizens (HOA's, Mgt. companies), development sector, commercial industry, and technical experts. A public information meeting was advertised and held at a local high school to inform the citizens of the proposed fee and the necessity and uses for the proposed funds. County Council approved 10% of the requested \$10.5 million and established a task force to review and recommend a fee structure. The Task Force continues to investigate recommendations and anticipates completing their work by February 2014.
Conduct an Urban Tree Canopy Assessment between April 2012 and August 2013 to determine the County's current level of tree canopy coverage and to set goals for increasing the amount of coverage in the years to come.	Urban Tree Canopy Assessment has been completed; goal setting and implementation strategies have been developed.

Harford County Phase II Watershed Implementation Plan 2012-2013 Two-Year Milestones
DPW Urban Stormwater
July 1, 2011 – June 30, 2013

URBAN STORMWATER (CONT.):

Projects/BMPs	Status (As of June 2013)
Complete two (2) watershed restoration plans for 1,800 acres (270 impervious acres).	Completed three (3) watershed restoration plans for 3,466 acres (634 impervious acres) – Foster Branch (1,429 acres / 121 impervious acres), Plumtree Run (1,664 acres / 423 impervious acres) and Sam’s Branch (373 acres / 90 impervious acres). Meetings were held with citizens in the Foster Branch community to provide their input into the various restoration options.
Initiate four (4) watershed restoration plans for 5,200 acres (900 impervious acres).	Initiated three (3) watershed restoration plans for 2,673 acres (338 Impervious acres) – Declaration Run (926 acres / 136 impervious acres), Foster Branch (1,429 acres / 121 impervious acres) , Riverside (318 acres / 81 impervious acres)
Construct six (6) stream restoration projects for 13,000 linear feet (130 impervious acres).	Construction completed for two (2) stream restoration projects – Bynum Ridge (700 lf / 7 impervious acres) and Wheel Creek at Calverts Walk (800 lf / 8 impervious acres).
Construct four (4) stormwater retrofit projects (52 impervious acres).	Construction completed for two (2) stormwater retrofit projects – Friends Pond (3 impervious acres) and Wheel Creek at Gardens of Bel Air (30 impervious acres).
Complete four (4) restoration designs.	Completed four (4) restoration designs - Friends Pond, Wheel Creek at Gardens of Bel Air,

	Wheel Creek at Calverts Walk, Woodbridge Stream
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URBAN STORMWATER (CONT.):

Projects/BMPs	Status (As of June 2013)
Initiate three (3) restoration designs.	Initiated seven (7) restoration designs - Foster Branch at Trimble Road Stream Restoration, Norrisville Elementary School Rain Gardens, Lower Wheel Creek Stream Restoration, Wheel Creek at Festival of Bel Air, Wheel Creek at SHA, Wheel Creek at County Walk 1A, Wheel Creek at County Walk 1B Retrofits.
Continue to coordinate with City of Havre de Grace on the Lilly Run project.	Ongoing. Harford County and City of Havre de Grace developing memorandum of understanding for joint project to complete the design for a stream restoration that will be partially funded by Harford County.
Continue to coordinate with Town of Bel Air for restoration projects in Plumtree Run.	No progress; coordination with MDE on credits / trading with the Town of Bel Air needs to be resolved.
Continue to coordinate with SHA for a stream restoration in Plumtree Run.	Construction initiated summer 2013.

New Strategy:

The County was awarded a Stream Challenge grant from the MD Department of Natural Resources to plant approximately 20 acres of riparian buffer during 2013 and 2014. In the Spring of 2013 a 1.76 acre riparian buffer was planted in the Bynum Run watershed by 120 7th grade students, assisted by Board of Education and County staff. Additional community volunteers assisting with the planting included Harford County

Master Gardeners, the MD Agricultural Education Foundation, the Harford Glen Foundation, MD DNR staff, “Environmentality” members, and employees of Home Depot, who not only provided their talent but tools as well. Additional plantings are scheduled for the Fall of 2013 and in 2014.

TOWN OF BEL AIR – 2012-2013 TWO YEAR MILESTONES (JANUARY 1, 2011 – DECEMBER 31, 2013) :

Programmatic Strategies	Status (As of January 2014)
Investigate budget needs to meet the requirements and develop strategies for funding gaps.	Awaiting legislative clarification and details on MS4 Phase II permittee requirements for SWM fees.

Projects/BMPs	Status (As of January 2014)
Forest Conservation/Tree City USA Continue street tree plantings with no net loss policy. Initiate in-street stormwater bio-retention projects as part of pedestrian walkway improvement projects.	Street Tree initiative will be addressed through Tree City USA – Urban Tree Canopy initiative. The Town’s Tree Committee will review canopy coverage and the establishment of a coverage minimum for future tree stand development. Investigating GIS assistance from other jurisdictions. Walkway project for Thomas Street scheduled for 2014.
Plumtree Run Daylighting Project Remove existing piped section of Plumtree Run through Plumtree Park as part of an aquatic restoration/stormwater management project.	Plumtree Run Daylighting project was completed in Spring of 2013. Two community-driven planting projects augmented the buffer along the day-lighted Plumtree Run in the park: 1) on September 26, 2013 forty participants from Bel Air United Methodist Church planted 45 trees and shrubs along the stream as well as trash pick-up and general clean-up as part of a Day-To-Serve; 2) on November 10, 2013, as part of an Eagle Scout project, 30 participants planted over 150 mostly herbaceous plants along Plumtree Run in the park.

Projects/BMPs	Status (As of January 2014)
Complete FEMA approved flood mitigation plan.	Town Flood Mitigation Plan completed and approved by FEMA and adopted by the Town Commissioners.
Partner with Harford County to plan and construct several watershed restoration projects on Plumtree Run.	These projects are deferred to 2015 due to budgetary limitations.
Town capital improvement projects to require pervious paving and reduction in overall paving wherever possible.	Downtown Garden, Shamrock Park, Plumtree Park and Armory Park utilizing pervious paver walks and hardscape areas have been completed.
Complete a comprehensive Stormwater Management Plan for the Town	Anticipated for 2015.
April through October-monthly (weekly in downtown district) street sweeping.	On-going program each year.
October through December – weekly loose leaf pickup. Year-round bagged yard waste pickup.	On-going program each year.

**Harford County Phase II Watershed Implementation Plan
2012-2013 Two-Year Milestones
City of Havre de Grace
January 1, 2011 – December 31, 2013**

Programmatic Strategies	Status (As of December 2013)
Develop a complete database of BMPs within the City.	40% complete. Remaining 60% in progress. Expect completion in 2014-2015 milestones.
Begin the budget process to convert the database to a GIS.	GIS needs assessment complete. Awaiting final report. Will be integrated into City's new administration wide software program.
Search for grants to complete retrofits and implement BMPs identified.	Continuous. See Capital Programs.
Rectify with MDE inaccurate MAST data on the City's acreage and stormwater management facilities.	In progress as City database and GIS mapping efforts continue to achieve accurate data to compare with MDE's.

**Harford County Phase II Watershed Implementation Plan
2012-2013 Two-Year Milestones
City of Havre de Grace
July 1, 2011 – June 30, 2013**

Projects/BMPs	Status (As of Jan 2014)
<p>The Community Legacy project that was recently passed by Council Resolution, which includes landscaping and environmental enhancements along tributaries at the north end of Juniata St. Portions of project are within the Chesapeake Bay Critical Area and will provide water quality benefits as well as beautification, signage to downtown, and improved pedestrian access. If funded through the State Community Legacy grant process, the project would proceed in FY13.</p>	<p>Complete.</p>
<p>The engineering design for Citizens Care Park (pending City Council approval). This has the potential to be a significant water quality retrofit project in old town Havre de Grace.</p>	<p>Tentative approval from Critical Area Commission to use \$62,052 from Critical Area Tax fund to partially offset engineering design costs. Includes water quality improvement calculations. Exercise station equipment purchased. Majority of construction, including bio-retention/rain gardens, to be done in house by DPW staff.</p>
<p>Continued buffer enhancements in David Craig Park, ongoing at this time (may need to get a base-line on this site to get credit for current and near-future improvements; tree planting and 15-foot Critical Area Buffer as per City's Critical Area Program).</p>	<p>Completed.</p>
<p>Continued work for Lilly Run project, to include application for grant through Chesapeake Bay Trust for \$35,000 (Watershed</p>	<p>Initial engineering designs received.</p>

<p>Assistance Grant) to continue engineering for Joint Permit through MDE/Army Corps of Engineers. Also working through the Center for Watershed Protection to include the Lilly Run project in a piece through the (cont'd.)</p>	
<p>Projects/BMPs</p>	<p>Status (As of Jan 2014)</p>
<p>Local Government Advisory Council to increase water quality benefits for proposed flood relief improvements for the Lilly Run stream system. This is a large multifaceted project which will require a substantial amount of time to design, fund, and complete (a two-year milestone approach will be good to keep this project moving forward due to its complexity).</p>	<p>See previous project comment.</p>
<p>Environmental Site Design (ESD) additions for the Old Bay Lane renovation and resurfacing project.</p>	<p>Road construction and repaving complete. Tree and vegetation planting delayed due to transfer of deeded property to City. Deed transfer now complete. Identifying and purchasing appropriate tree and vegetation in progress.</p>
<p>Stormwater retrofit project on Jerry Foster Way.</p>	<p>Completed using Critical Area Tax Fund monies.</p>
<p>Rain Gardens planned for a parking lot at the foot of Franklin Street where it meets the Susquehanna River.</p>	<p>Awaiting funding. Project work planned to be done in house.</p>

ABERDEEN WIP TWO-YEAR MILESTONES

2011-2013 (Updated 1-22-14)

- The City submits to the MDE annually under the MS4 general permit and has an extensive educational awareness program aimed at school-aged students.
- The City is using the new 2009 Stormwater Management regulations for all new projects within its jurisdiction and has adopted the MDE Model ordinance.
- The City inspects BMPs to ensure they are maintained by the property owners.
- The City has finished one retrofit project. Stormwater management facilities are being reviewed, inspected, and oversaw the restoration of those facilities.
- The City sweeps all streets biannually.
- The City maintains erosion and sediment control through MDE delegation authority; in as much, the City maintains a rigorous standard of compliance through regular on-site inspections of active construction sites.
- We have an extensive program for remediation of stormdrain inlets, pipes, and outfalls and also have a dedicated funding source.
- We have an extensive Inflow and Infiltration Program aimed at removing stormwater from our collection system which will allow our Advanced Wastewater Treatment Plant to operate more efficiently.

- The City maintains a complete data base of BMPs within the City and updates them frequently.
- Searching for grants to complete retrofits and implement BMP's that will reduce nitrogen and phosphorus sediment loadings. A City Grants Coordinator will be dedicated to this research.
- Completed conceptual design for stormwater management (water quality) in the City well field for the reduction of nitrogen, phosphorus, and total suspended solids. Concept will be used for grant applications to seek design and construction assistance.
- Connected 2 residents to our sewer system whom were previously served by private septic systems. Currently entertaining an annexation petition for the same purpose.

2 Yr Milestone Projects - Updated

- The Enhanced Nutrient Removal Project upgrade at the Aberdeen Advanced Wastewater Treatment Plant was substantially completed on August 1, 2013 and we are working on punch list items and one minor modification.
- Reviewing our current Road Code for reductions in impervious surface and the use of open section roadways where applicable. We have a draft Subdivision Regulations that will modify our current road width standards to comply with the Harford County Road Code.
- The City will be working on a policy to offer stormwater credits on impervious area reductions throughout the City.
- Upgrade of the Swan Meadows residential development (200 homes) infrastructure to include: roads, water, sewer, and storm drain (seeking funding source).
- Identify various water quality initiatives throughout the City that can be utilized by developers to offset stormwater management requirements and this will be managed on a case by case basis.
- Forest management in the City's 64.08 acre well field to allow for increased infiltration and enhanced forest regeneration which will net reductions in nutrients.
- We currently have a conceptual design for a storm water quality project in our well field designed by a Science and Math Academy student. The next phase of this project is seeking a Chesapeake Trust grant for engineering.

