

CITY OF TAKOMA PARK

Introduction

The WIP Report presents a description of state and local partners' approach to developing local scale strategies, BMP implementation levels, and programmatic milestones to achieve necessary reductions on a schedule to meet interim and final goals established by the State of Maryland.

Purpose of Phase II WIP report

The Phase II WIP report document is organized to clearly and logically address the specific plans underway by Takoma Park to meet the expectations established by EPA in its Phase II WIP guidance documents.

The City of Takoma Park Strategy

The City of Takoma Park intends to meet the Chesapeake Bay Total Maximum Daily Load (TMDL) through fulfilling the requirements of our current National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) – Phase II Permit.

We are expecting our future NPDES permit to require a **20% retrofit of impervious area** for which runoff is not currently managed, to the maximum extent practicable (MEP). Our plan is to achieve this goal mainly by employing Environmental Site Design (ESD) techniques in future Capital Improvement Projects (CIP) and Stormwater Management (SWM) projects. We also plan to promote other structural and nonstructural BMPs for retrofit projects. Additionally other programmatic means to achieve pollution reduction such as public education and outreach campaigns or through regulatory development will be intensified in the coming years.

Highlights of our WIP strategic plan are presented followed by description of implementation achievements up to conclusion of FY 13. (June 30, 2013). This report aims to illustrate that our interim objectives for Milestone 2013 have been realized and exceeded. A brief description of our schedule to achieve 2017 milestone, and beyond, is also provided.

The following calculations were presented in our Phase II WIP report to develop milestone objectives:

Total City Area: 1,280 Acres

Total Impervious Area: 397 Acres

Roads: 138 Acres

Buildings: 158 Acres

Parking Lots: 85 Acres

Sidewalks: 16 Acres

Total retrofit effort to meet goal of retrofitting 20% of untreated impervious area: 79 Acres

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Background

Since 2006, Takoma Park has planned, designed and installed several ESD Stormwater Best Management Practices (BMPs), mainly as Capital Improvement Projects funded through the Stormwater Management Fund (SWF). The City's strategy to achieve the FY13 Milestone, Interim Target Loads (70% of Final Load by 2017) and Final Target Loads (FY 2025) were defined in two (2) categories of action as follows:

- ✚ **Implementation Actions category** which is defined as designed and installed BMP structural or non structural aimed at reducing pollution entering the waterways.
- ✚ **The Program Development category or "Programmatic Action"** is defined as measures that will increase our capacity and enhance the capability and thereby accelerating implementation actions in the medium-term future actions.

Our 2012 ESD- BMP retrofitting effort for impervious surfaces was 14 acres. These included permitted BMPs installed as part of private development efforts as well as BMPs installed by the City in public space. The details of those specific efforts are described in the Implementation Action section below.

Additionally, programmatic BMPs that were employed by the City for 2012 provided 13 acres of treated equivalent impervious area as follows:

- Total Regenerative Street Sweeping: 40 Acres per Year at 0.13 Impervious Acres Equivalent yields 5 Acres
- Total Stream Restoration/Stabilization: 550 Linear Feet (LF) at 0.01 Impervious Acres Equivalent yields 6 Acres
- Total Tree Planting: 5 Acres on Pervious Urban Land

The sum of Impervious Acres Treated via ESD BMPs (14 Acres) and Alternative Restoration Credit (13 Acres) is 27 treated Acres toward the 79 acre goal, yielding 52 impervious acres yet to be treated by 2025.

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2013 Milestones

Actions taken by the City in FY13, including both implementation actions and programmatic actions have resulted in additional treatment of 12 acres.

For FY13, Takoma Park stormwater utility fee rates increase from \$45 per Single Family residential Unit per year to \$55 per Equivalent Residential Unit (ERU).

Within this period we identified potential grant funding sources for stormwater retrofits projects under various stages of planning. The City successfully applied for a MDE grant for the bio-retention portion of the Ritchie and Oswego Avenue Traffic Calming project. That portion of the project was completed in May 2013 at an approximate cost of nearly \$110,000. The City applied for TAP grant for the Flower Avenue Green Street Project. In addition to transit, safety and traffic calming benefits, this project will provide the opportunity to retrofit a significant area of impervious surfaces.

A: Implementation Actions

1. Columbia and Poplar Avenue

A 200 SF bio retention retrofit was installed on one side of this intersection. Its construction removed existing asphalt road bed. It is designed to treat a ½ inch storm event generated from a contributing drainage area of 1 acre, of which .25 acre is impervious area.

2. Hudson Avenue Bio Retention Retrofit.

Three (3) bio retention ponds were designed to provide treatment for the first inch of run-off. The three facilities total 1,400 SF. Estimated contributing drainage area is 5.2 Acres of which 1 acre is impervious.

3. Prince Georges Ave. and Circle Ave. Bio Retention Project

The facility encompasses 600 square feet in area. The bio-retention facility, as well as the surrounding area was landscaped using a variety of native plants and trees. The facility is designed to meet the water quality pollution removal for the first one-inch of storm runoff from the street and surroundings. This facility was designed with additional storage capacity similar to a dry pond; in FY 14 we plan to route additional run off for quality treatment from an adjacent area up to one acre of Impervious retrofit.

The initial contributing total drainage area is 0.95 Acres of which 0.15 acre is impervious.

4. Wabash Ave. Bio retention and Erosion Control Project

This project includes two bio retention facilities on both sides of the Wabash Avenue and Roanoke Avenue intersection, as well as a facility at the bottom of a paved path through sloping woods. The two bio retention facilities are 630 SF and 400 SF in area. The lower facility is a 60 SF micro filter around an existing inlet. Downstream from these facilities a total of 160 Lf of rip rap lined swale was constructed. Rip rap lining was also provided along a path leading from the intersection to Sligo Creek Parkway as an

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erosion protection measure. The facilities are designed to treat the first 1 inch of run-off from a contributing drainage area estimated to be 2.3 Acres, of which 0.9 acre is impervious.

5. Circle Woods Stream Restoration and Stabilization Project

This project was undertaken to stabilize the stream bed where a 4ft by 4ft stormwater culvert daylighted in the stream channel. The stream restoration program included stream bank and bed stabilization by rip rap placement and cross vane construction, as well as bioengineering and vegetation plantings. Approximately 400 LF of stream restoration was implemented. A permit was obtained through MDE and project implemented prior to June 15, 2013. Equivalent impervious area reduction (EIR), assumed at the rate of 1 acre per 100 LF of stream restored, is 4 Acre.

6. Ritchie Avenue & Oswego Avenue Bio-Retention

This project was made possible through a grant from the Maryland Department of the Environment. It consists of 5 micro bio-retention areas, created by curb extension around a newly installed traffic circle. In addition to water quality improvements, this project also provide for traffic calming. The bio retention facilities collectively provide treatment for 0.39 acre of impervious area, treating 0.5 to 1.25 inch of runoff. However, the project added a net 0.17 acres of new sidewalk; therefore the net retrofitted impervious area acreage is 0.22 Acres.

In addition, the City is currently working on two major projects Identified as providing a potential for providing additional treatment for existing impervious area. Progress made in FY2013 on these projects is presented below:

Flower Avenue Green Street - A one (1) mile long section of existing roadway. The project is at the 30% design level. Initial design identified 16 potential ESD locations. Analyses of possible impervious area retrofit will be done in FY14. Implementation is anticipated in 2015.

Ward Six Wildwood New Sidewalk Project - The concept development design for this project identified 17 potential bio retention locations. To date eight (8) BMPs including six (6) bio retention facilities and two (2) Filtera™ systems have been design and six Bio retention are constructed. Final calculations on the square footage of the facilities, the drainage area, and the percentage of impervious drainage area are being determined.

WATER SHED IMPLEMENTATION PLAN PHASE II WIP FY 13 STATUS

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Public Works Retrofit ESD BMP Project FY 13

Name	BMP TYPE	No./AREA/Length	Est. Drainage Contributing Acres	Retrofitted Impervious area
Flower Avenue Green Street	16 BMP ESD	Preliminary Design	Not Determined	Not Determined
Ward 6-Wildwood	6 Bio & 2 Filtera	In process	Not Determined	Not Determined
Wabash Ave. 2 Bio/ Filter	1,070 SF Bio & Filter	160 LF swale	2.3	0.9
Hudson Avenue	1,400 SF Bio	3 bio –retention Interconnected	5.2	0.75
Columbia & Poplar	bio retention	1 Facility 200 SF	1	0.15
Circle Woods Park	Stream Bed Stabilization	400 LF	1 Acre per 100 LF	4 Acres
Ritchie & Oswego	5 bio retention	928 SF	0.56 Acre	0.22*
TOTAL				6 Acres

- ✚ Equivalent Impervious Area Reduction Rates for various BMPs are estimate
- ✚ Drainage area are approximations based on GIS and 2- ft topography

B. Programmatic Actions

Total Regenerative Street Sweeping estimated at 40 acres per Year at 0.13 Equivalent Impervious Acres yields 5 Acres.

Takoma Park’s Urban Forest Division is planning to continue tree planting of 120+ public trees per year. Additionally, Takoma Park citizens have installed 50-100 trees per year on private property through a spring and fall program offered by the City. The equivalent impervious area reduction of 1 acre per hundred trees planted yields 1 Acre

The additional impact from work completed in FY13 added 6 additional acres receiving treatment and the equivalent of 6 acres treated from street sweeping and tree planting efforts bringing the total treated acres to 39, leaving 40 acres to be treated by 2025.

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2017 MILE STONES:

- ***Strategy: to achieve the Final Target Loads (2025) and Interim Target Loads (70% of Final by 2017), through continued Implementation and Programmatic Actions***
- The centerpiece of our strategy is to retrofit 20% of the impervious urban area with no stormwater treatment. Initial target of 79 untreated impervious acres was reduced to 40 acres, through installation of ESD treatment, by the end of FY13.
- Based on additional treatment area needed, the City will have to maintain a pace of installing treatment for 3 to 4 acres per year to meet the target impervious area reduction at the milestone 2017.
- We anticipate increased SW utility fees, supplemented by grant sources, will provide the required level of funding to achieve our target
- The City Council is finalizing legislative action to prohibit the use of cosmetic pesticides on lawns. The first phase will restrict commercial applicators and the second phase will restrict private property owners. The law is anticipated to be in full effect by 2015.