Stormwater Management Inventory and Watershed Improvement Plan
Summary for September 17, 2015 City Council Work Session
Department of Neighborhood & Environmental Programs

Project description:

Inventory existing stormwater management, SWM, improvements
Digitize plans and maintenance agreements in GIS, PDF accessible format
Identify potential new and retrofit opportunities for SWM projects
Prioritize projects
Develop 30% design for top 20 projects
CIP budget project cost

Regulatory drivers:

National Pollution Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4) Permit
Chesapeake Bay Total Maximum Daily Loads (TMDLs)
Clean Water Act

Municipal Separate Storm Sewer System (MS4) Permit requirements:

Annapolis is a Phase II, smaller jurisdiction, MS4 community.
Phase I communities are counties and larger cities.
Current MS4 permit expired on April 14, 2003
New MS4 permit will dictate how NPDES Minimum Control Measures will be met:

1. Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction of SWM Runoff Control
5. Post-Construction SWM
6. Pollution Prevention and Good Housekeeping

Chesapeake Bay Total Maximum Daily Loads (TMDLs)

A Total Maximum Daily Load is a regulatory term in the Clean Water Act, describing a value of the maximum amount of a pollutant (in pounds) that a body of water can receive while still meeting water quality standards.

TMDL will require treatment of 20% of untreated impervious area
Target reductions for 2025:
25% less Nitrogen
24% less Phosphorous
20% less Sediment
Target reductions for 2017: 60% of 2025 targets
City of Annapolis 2010 baseline loads:
Area (acres): 4,533
Total Nitrogen (lbs/yr): 43,390
Total Phosphorous: (lbs/yr): 5,440

City of Annapolis Watershed:

12 Sub-watersheds
15 miles of natural streams
38.5% impervious surface

Summary of SWM inventory:

Total number of Best Management Practices (BMPs): 741
Total number of properties with SWM in place: 584
Total number of design plans scanned: 351
Total number of pages scanned: 1,725
Total acres in the city limits: 4,533
Total drainage acres currently treated by SWM: 880
    Treated to prior standard in place since 2002: 660
    Treated to standard in place before 2002: 220
Total impervious acres: 330

Opportunities for retrofit projects:

Conversion of old design BMPs to newer standards
Expansion of old BMPs to handle larger capacity
Total sites identified for possible SWM facility installation: 52
    Sites identified for retrofit: 20
    Sites identified where new BMPs could be located: 32

Projects will be ranked based on:

Impervious surface drainage area
Site ownership
Site access
Utility conflicts
Environmental impacts
Regulatory approval
Flooding concerns
Anticipated costs
Public visibility
Maintenance burden

Next steps:

1. After projects have been ranked, consultant will provide 30% (budget level) design for top 20 projects.
2. Must also consider alternative urban BMPs (ex: street sweeping, pet waste management, tree box filters, step pool conveyance systems)
3. Funding