

Presentation for:
Stormwater Working Group
Second Meeting

October 30, 2008

Baker

WATERFORD CH2MHILL

Presentation Outline

- **SWG Recap**
 - Report on “homework” assignment
 - Feedback on interactions and Council’s Retreat
- **Stormwater Program Needs and Projections**
 - Operating and Capital
 - Funding gap between needs and budget
 - Regulatory Requirements
- **Funding Options**
- **SWG Meeting Schedule**

SWG Recap from First Meeting

- **Report on “homework” assignment**
 - 3 – 5 organizations or groups you represent
 - Feedback
- **Feedback on interactions**
 - Questions on issues discussed during the first meeting
 - Feedback received from stakeholders on any stormwater issues
- **Point of Contact: Maurice Daly**
703-519-3400 Ext. 123
maurice.daly@alexandriava.gov

FY 2009 Revenue Outlook

- Deteriorated from \$8.0M shortfall to \$10.5M shortfall
- Further slowing of economic activity may reduce revenues
- Other uncertainties
 - Certain fee revenues, particularly those related to the real estate market
 - Intergovernmental revenues
 - State
 - Federal



City of Alexandria

FY 2010 Council Retreat

FY 2009 and FY 2010 Revenues

Millions of Dollars				%Change
	FY 2009 Approved	FY 2009 Projected	FY 2010 Preliminary	09 Approved/ '10 Preliminary
Real Property Taxes (1)	\$293.6	\$285.4	\$270.3	-7.9%
Other taxes (2)	157.0	155.5	150.1	-4.4%
Non-tax revenue	32.0	31.4	32.0	0.0%
Federal & State Revenue	52.8	52.6	51.6	-2.3%
Prior Year Surplus & Transfers	6.6	6.6	2.6	-60.6%
Total	\$542.0	\$531.5	\$506.6	-6.5%

(1) Projects -5.5% CY 2009 tax base decline and a -5.0% CY 2010 tax base decline

(2) Projects -15% CY 2009 personal property tax base decline



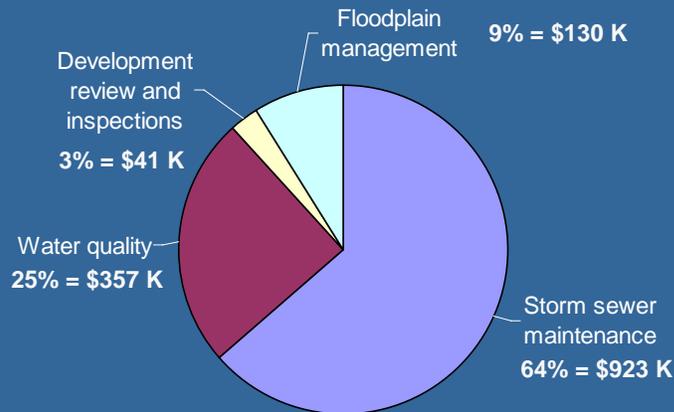
City of Alexandria

FY 2010 Council Retreat

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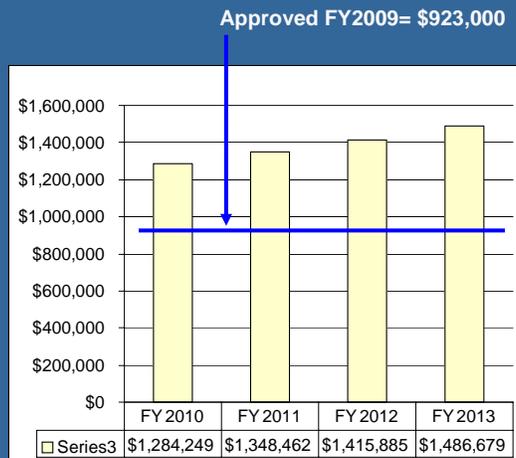
FY 2009 T&ES Stormwater Program Operating Budgets



Stormwater Program Operating Budget: \$1.5 M

Stormwater Program Additional Operating Needs: Storm Sewer Maintenance

- Contractor support for additional proactive maintenance of storm sewers
 - Prevent backups and flooding
 - Improve level of service
- Support maintenance of stormwater component of combined sewers



Operating: storm sewer maintenance



Stormwater Program **Additional Operating Needs: Water Quality**

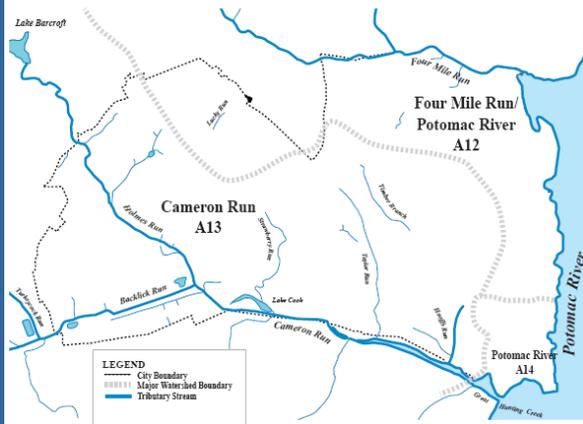
- **Additional water quality BMP inspections and outfall screening**
 - NPDES MS4 requirement
 - One FTE (salary, benefits, equipment)
- **Additional outreach and public education**
 - NPDES MS4 requirement
 - One FTE (salary, benefits, equipment)
- **Other potential needs**
 - Staff support for TMDL, MS4, and CBP pollutant reduction requirements



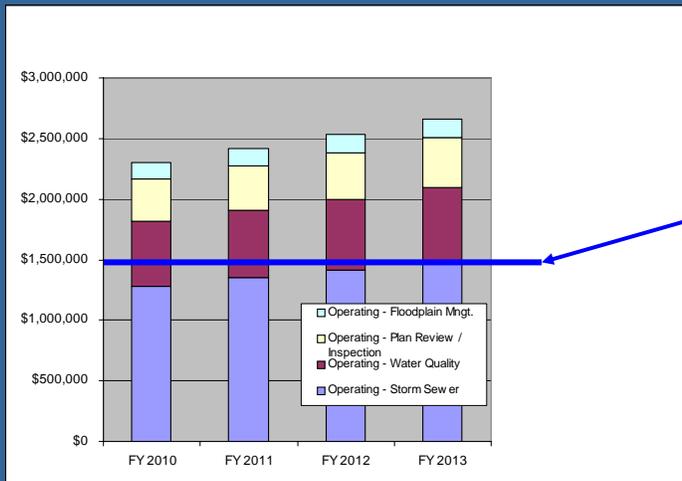
Operating: water quality



Major Streams and Watersheds of Alexandria



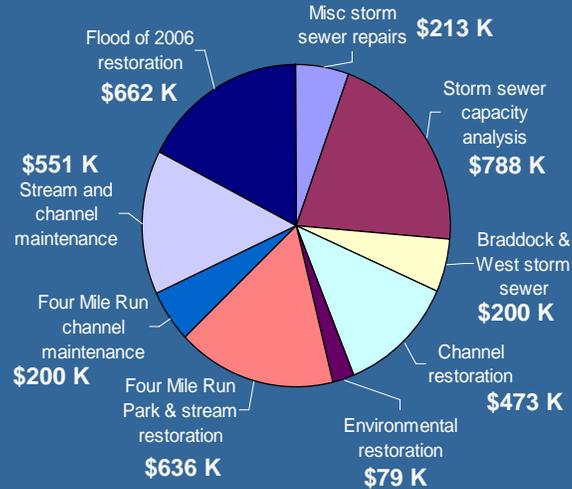
Summary of the Stormwater Program Additional Operating Needs



FY 2009 = \$1.5 M

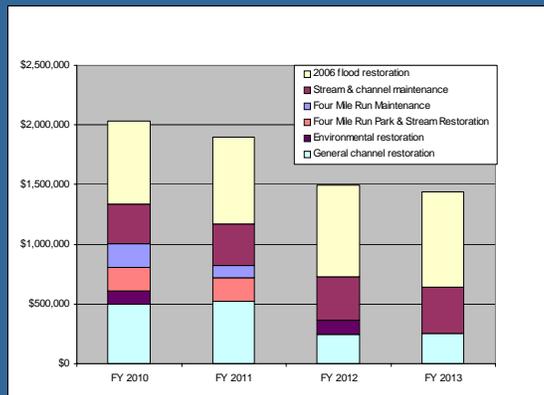
Projection include yearly escalation = 5%

Approved FY 2009 CIP Stormwater Project Budgets: \$3.8M



Approved Stormwater Program Capital Projects: Stream / Channel Maintenance (in FY09 CIP)

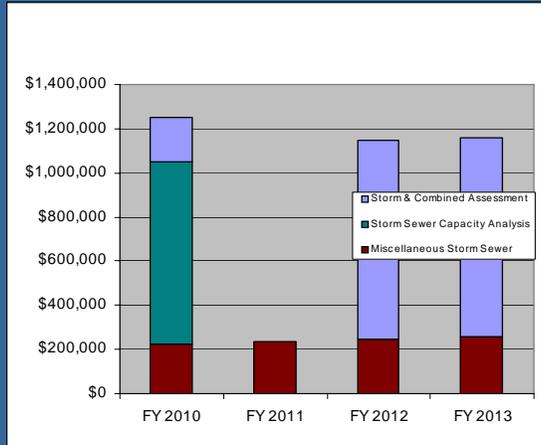
- 2006 flood restoration
- Stream & channel maintenance
- Four Mile Run Maintenance
- Four Mile Run Park & Stream Resto.
- Environmental restoration
- General channel restoration



Data from approved FY09 CIP

Approved Stormwater Program Capital Projects: Sewer Capital Projects (in FY09 CIP)

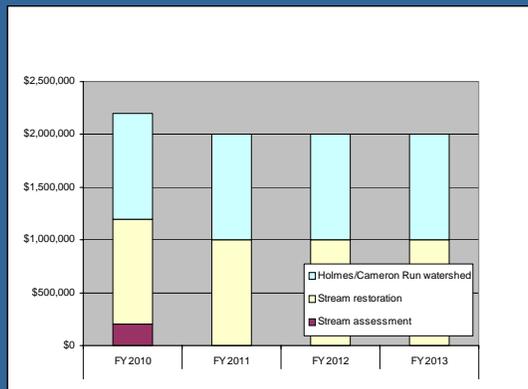
- Condition assessment & rehab storm sewers and combined sewers
- Storm sewer capacity analysis
- Misc. storm sewer repairs



Data from approved FY09 CIP

Stormwater Program Additional Capital Needs: Stream / Channel Maintenance

- Holmes Run / Cameron Run watershed restoration
- Stream restoration
- Stream assessment
 - Establish baseline conditions



Capital Projects: stream / channel maintenance examples



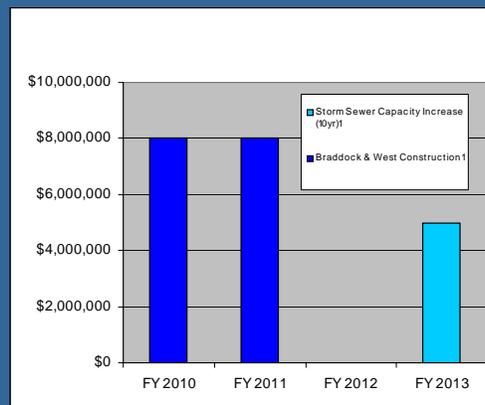
Cameron Run Dredging



Dredging on upstream face of CSX 7 Culvert Bridge

Stormwater Program **Additional Capital Needs: Sewer Capital Projects**

- Braddock & West Study
- Storm sewer capacity increase
- On-going Sewer Capacity Analysis will help identify and quantify future needs



Capital Projects: stormwater sewer improvement projects

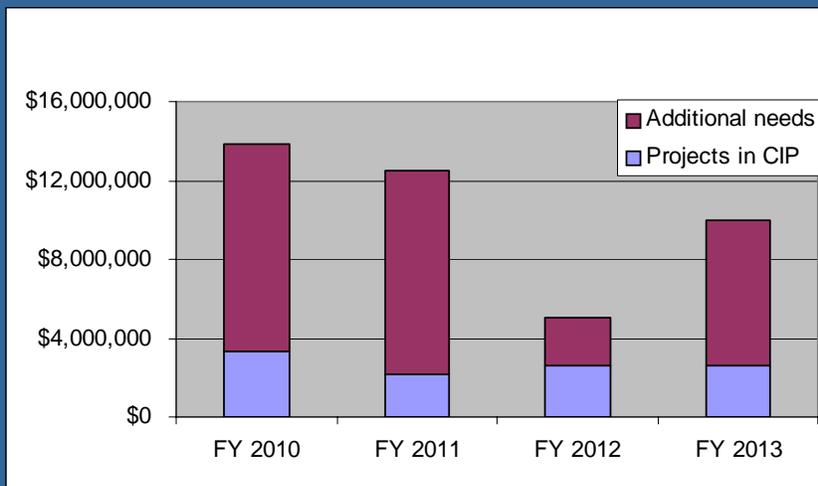
Stormwater infrastructure improvements



Capacity improvements and repairs to aging infrastructure (August 2004 storm)



Summary of the Stormwater Program Additional Capital Needs



Stormwater Regulatory Requirements and Environmental Stewardship Drive Program Needs

- **State & Federal government requirements:**
 - Virginia Stormwater Management Act and Regulations
 - Erosion & Sediment Control Law and Regulations
 - Chesapeake Bay Preservation Act and Regulations
 - Virginia Pollutant Discharge Elimination System stormwater (MS4) permit
 - Combined sewer requirements and permit
 - Total Maximum Daily Loads requirements
 - Virginia and Federal wetlands laws and regulations
 - National Flood Insurance Program requirements
- **Health and safety requirements**

Chesapeake Bay Program



- Revised City Environmental Management Ordinance 2004 and 2006
- Stream Assessment Ph I and Ph II for Stream Classification
- Establishes hierarchy of required protection by establishing:
 - RPA (Resource Protection Areas)
 - RMA (Resource Management Areas)

Implementing the Chesapeake Bay Program in the City

- Requires the “First Flush” of storm water from all impervious areas be treated through BMPs before discharging to our streams
- Protects perennial streams with a 100’ buffer and natural intermittent streams with a 50’ buffer
- Provides for “Tool Box” approach to address Alexandria’s needs
- All development and redevelopment projects typically required to install structural BMPs

BMP Retrofits Park Center Pond Retrofit

Before

After

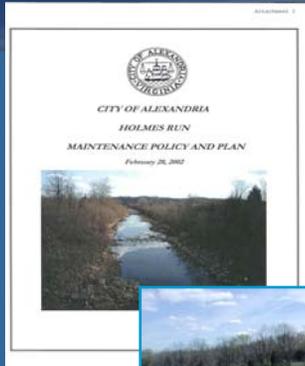




Phase II Stream Assessment Study

- **Inventories stream characteristics and evaluates for severity of impact**
- **Characterizes transition phase of stream**
- **Infrastructure inventory**
- **Photos of stream components for visual comparisons**

Floodway / Stream Maintenance



Development of Environmentally Sensitive Stream Maintenance Plan after extensive Public Outreach

- Cameron Run (2002)
- Holmes Run (2003/4/6)
- Four Mile Run Plan



MS4 – VPDES Permit

- State issued NPDES permit that regulates discharges from ~ 450 stormwater outfalls
- State and Federal regulations govern the requirements and non-compliance is not an option
- Recently issued permits became effective July 2008, City negotiating its work plan for the permit

MS4 – VPDES Permit

- **Substantive new requirements with respect to Outfall and BMP Inspections, Chemical Monitoring, Outreach and reporting. Other key elements includes:**
 - Public education & outreach on SW impacts
 - Public involvement / participation
 - Illicit discharge detection & elimination
 - Construction site SW runoff control
 - Post construction SW management in new & redevelopment
 - Pollution prevention and best management practices for municipal operations

Public Outreach



Earth Day 1998 - 2006



Public Outreach & Participation



Watershed Cleanups

- Annual Potomac Watershed Cleanup
- International Coastal Cleanup
- Cameron Run Cleanup
- Holmes Run Cleanup
- Four Mile Run Cleanup
- Over 250 volunteers in 2006
- Est. 10-12 tons of trash removed from Alexandria streams

Alexandria's Combined Sewer System

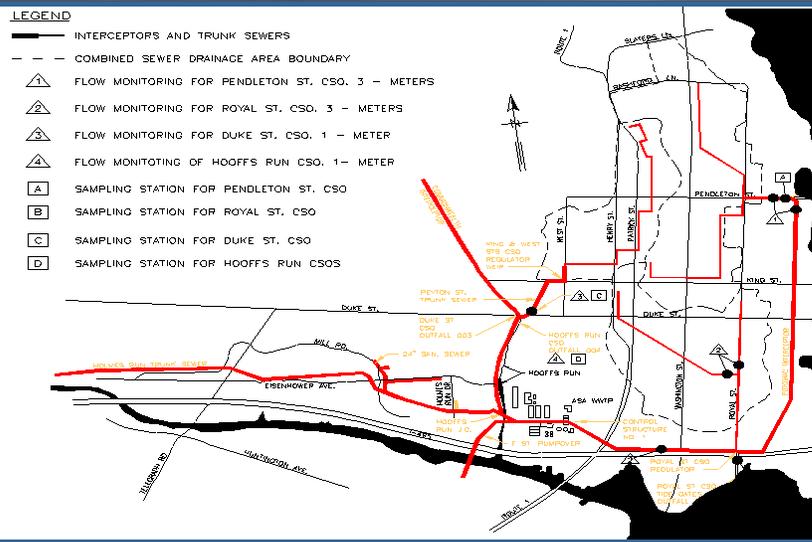
FACTS

- Four Outfalls
- Three CSS Areas: King/West Sts (green), Pendleton St (blue), Royal St (red)
- Total Area = 542 Acres, 21 miles of pipes
- CSS Regulated Under VPDES Permit (2006)
- No Dry Weather Overflows

Monitoring and Sampling Program

- Overflow sampling at outfall locations during rainfall events
- Sampling along Hunting Creek during dry weather and following overflow events
- Samples analyzed for bacteria and other water quality parameters

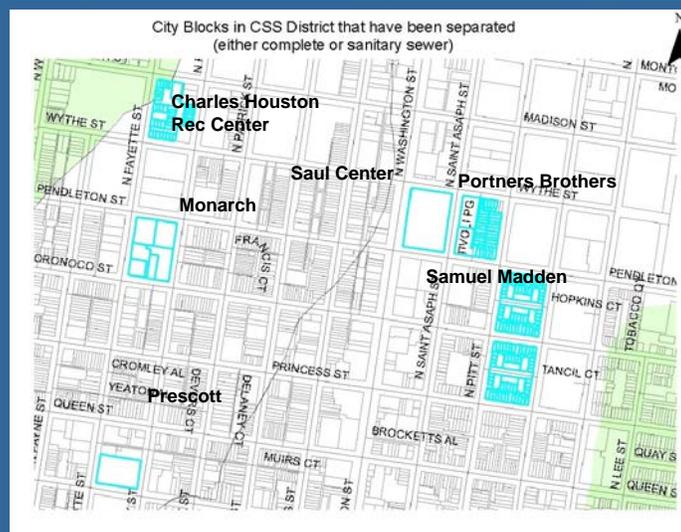
CSO Monitoring and Sampling



Computer Modeling of CSS

- Enhanced computer models of CSS and Hunting Creek embayment are ongoing
- Models to be calibrated using data from sampling and monitoring program
- New computer models will provide more accurate estimate of impacts of CSO's
- Continuous documentation and annual reporting requirements

Combined Sewer System Area Reduction Plan



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How Does the City Fund the Stormwater Program?

- **Current**
 - General fund
 - Permit and plan review fees
 - Pro rata share
 - Bonds
 - Grants
- **Possible future options**
 - Direct taxation
 - Watershed improvement districts
 - Storm water utilities

Considerations in Selecting Funding Options

- Identify reliable funding sources
- Consider at least one long-term mechanism, given size of program and nature of projects
- Include utility fee structure (set up an enterprise fund), in light of equity and reliability considerations
- Allow flexibility within some categories

Funding Option: Ad Valorem Tax (Real Estate)

- Direct tax on real estate property values, such as \$0.01 per \$100 of assessed property value
- Benefits
 - Simple to setup and administer (e.g., billing - line item to tax bill)
 - Tax deductible from State and Federal taxes
- Concerns
 - Lack of equity (poor relationship to stormwater impact)
 - No incentive for education (limited incentive for property owner to reduce stormwater impact)
 - Revenue fluctuates with property value, not a long-term option
 - Taxes private property only. Taxes are politically unpopular.
- Applicability
 - A dedicated portion of General Fund
- Implementation issues
 - Requires City Council Vote as part of budget process
 - Public outreach needed

Funding Option: Ad Valorem Tax (Real Estate)

- Local municipalities using this funding option
 - Fairfax County
 - Arlington County

Real Estate Taxes

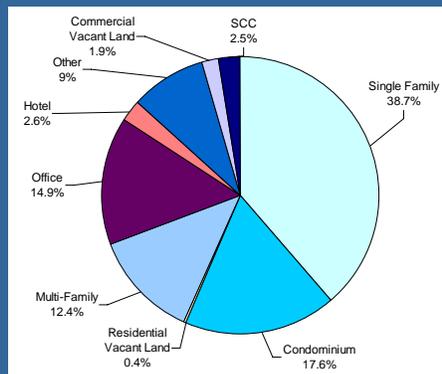
- Real estate taxes are calculated by multiplying the property's assessed value by the real estate tax rate.
- On May 5, 2008, the City Council set the real estate tax rate at \$0.845 per \$100 for the tax year beginning January 1, 2008.
- For example, in tax year 2008, the real estate tax on a residence assessed at \$200,000 is \$1,690 ($\$200,000 \times 2008$ tax rate of \$0.845 per \$100).
- Assessed values for residential properties have decreased slightly from 2007 to 2008, while assessed values for commercial properties have increased.

Source: City of Alexandria, FY 2009 Approved Budget Overview. <http://alexandriava.gov/uploadedfiles/budget/info/budget2009/budget09app_overview.pdf>
<http://www.alexandriava.gov/finance/info/default.aspx?id=1920>

Dedicate \$0.01/\$100 Assessed Value for Stormwater

Assessment Year Estimated Revenue for Dedicated \$0.01 per \$100 Assessed Value

2008 \$ 3,502,609



Real Estate Tax Base

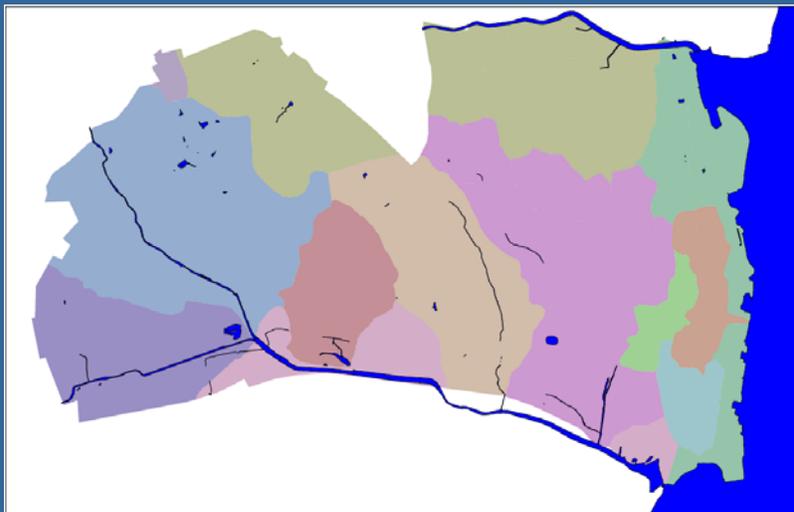
Funding Option: Watershed Improvement Districts

- Special tax district that develops a charter, requirements and supporting fee for the construction of drainage, erosion, and stormwater-related improvements
- Benefits
 - Each district can set own stormwater program/fee
- Concerns
 - Each district could have different fees/requirements
 - No local government oversight under current regulations
 - Potentially several districts across City
- Most likely applicability
 - Managing a regional pond/lake (e.g., Lake Barcroft) or HOA or City watershed

Funding Option: Watershed Improvement Districts

- **Revenue potential**
 - Up to governing board of newly created WID
- **Implementation issues**
 - Requires referendum vote by 2/3 in proposed district
 - Can be established with a soil and water conservation district by Code of Virginia Title 10.1-614 - 635
- **Local example – Lake Barcroft WID**
 - The Lake Barcroft Watershed Improvement District (WID) is a Virginia government agency (Political Subdivision of the Commonwealth of Virginia) founded in 1973. The primary responsibilities are the conservation of Lake Barcroft and its inherent environmental qualities, as well as, the operation and maintenance of the Lake Barcroft dam.
 - Operates on a levy of \$0.103 (FY 08) per \$100 assessed value on the residential property located in the district (FY 03 was \$0.13)

City Watersheds



Funding Option: Stormwater Utility

- **Stormwater Utility**
 - A method of providing a dedicated funding source for a municipality's stormwater/watershed management program
 - Typically set up as an enterprise fund
- **New potential source for the City**
 - Currently defining the program requirements and studying the feasibility of implementing a stormwater utility
 - Enabling legislation: Code of Virginia Title 15.2, Chapter 21, Article 2, Section 2114

Funding Option: Stormwater Utility

- **Benefits**
 - Equity – fees are determined based on amount of impervious area of all properties (e.g., your benefit or contribution to the problem)
 - Provides a link between benefit and cost
 - Billing could be included in the property tax bill
 - Reduces reliance on general fund
 - Stable and predictable source of revenue
- **Concerns**
 - Typically needs other funding sources to meet funding requirements
 - All properties pay since it is considered a fee (similar to water and sewer bills)
 - Use of funds is limited to stormwater-related services
 - More complicated to set up initially
- **Implementation issues**
 - Requires ordinance adoption
 - Public outreach needed
- **Applicability**
 - All stormwater-related services

Virginia localities can create stormwater utilities for funding:

- Planning, design, land acquisition, construction of stormwater facilities
- Administration of stormwater programs
- Engineering, construction, and debt retirement costs of stormwater facilities
- Facility operation and maintenance
- Pollution control and abatement
- Monitoring of stormwater control devices

Title 15.2, Chapter 21, Article 2, Section 2114, of the Code of Virginia

Stormwater management can be considered a utility operation because:

- Developed property generates additional runoff
- A measurable service is provided
 - Storm sewer and flood protection capital projects
 - Drainage and infrastructure improvements
 - Maintenance activities:
 - Storm sewers
 - Streams and channels
 - Stormwater management and combined sewer permit compliance
 - Water quality protection and reduction of pollution
 - Erosion and sediment control
 - Protection of habitat and living resources

Typical steps to establish a SWU

- **Evaluate funding options**
 - Identify program requirements and needs
 - Develop public involvement / outreach plan
 - Develop an implementation strategy
- **Implement public involvement / outreach plan**
- **Develop a feasibility study**
- **Adopt an ordinance**
- **Develop a rate structure**
- **Implement billing procedures**
- **Provide services**

How are fees determined?

- **The stormwater management fee is based on:**
 - The extent to which each property contributes to stormwater runoff
 - For example, the amount of impervious area of each property
 - The cost of implementing the program (LOS)
 - Policy decisions

The selected rate structure should be fair and simple



Residential



Flat Fee



Nonresidential



Actual Impervious Area



Undeveloped

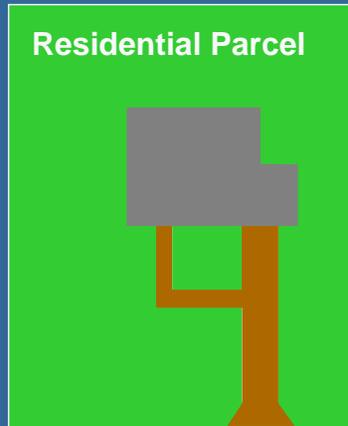


No Fee

The typical residence defines the base unit

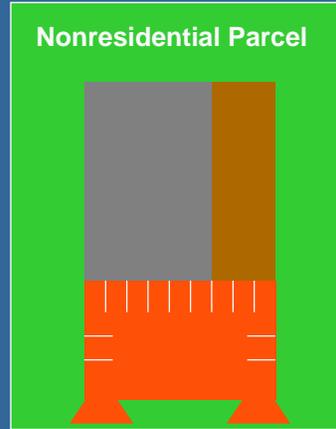
House Area	1,550 ft ²
Other Impervious Area	420 ft ²
Total	1,970 ft ²

Residential Parcel



Businesses are billed as multiples of the base unit

Building Area	6,000 ft ²
Parking	10,000 ft ²
Other Impervious Area	3,700 ft ²
Total	19,700 ft²



Stormwater Utility Jurisdictions Comparison — Virginia and Metro Washington

Jurisdiction	Land Area (Sq. Miles)	Approximate Population	Rate (\$/Yr/Unit)
Norfolk	66	241,727	94.17
Virginia Beach	310	439,467	66.07
Portsmouth	30	99,617	66.00
Newport News	69	181,647	58.20
Hampton	55	146,878	55.20
Chesapeake	353	210,834	53.40
Takoma Park		17,299	28.68
Prince William Co.	345	357,503	26.36
Montgomery Co.	496	932,131	25.23
Gaithersburg	10	57,365	25.23

Stormwater utility - typical ranges

- **Stormwater Utility**
 - Range of fees – VA & MD: \$26 - \$94 / yr / unit
 - Range of fees – Nationwide: \$9 - \$202 / yr / unit

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SWG Meeting Topics

- Mtg. 1**
 - SWG framework and meeting schedule
 - Stormwater program overview
 - Current funding

- Mtg. 2**
 - Stormwater program needs and projections
 - Funding gap between needs and budget
 - Initial discussion of funding options

- Mtgs. 3 - 5**
 - SWG tour of stormwater projects and infrastructure – November 15, 8:30 AM
 - Discussion of funding options (continued)
 - Prioritization process
 - Discuss plan for community meetings
 - Findings & recommendations

SWG Future Meetings

- **Schedule**
 - October 16 and 30 
 - November 13
 - December 11
 - January 8 (Tentative)
 - Additional SWG and community meetings (TBD)
- **Future meeting time and location**