

# **FAIRFAX COUNTY WATERSHED COMMUNITY NEEDS ASSESSMENT AND FUNDING OPTIONS REPORT**

## **EXECUTIVE SUMMARY**

The needs and expectations of Fairfax County's citizens with regard to stormwater management have changed dramatically since the mid part of the 20<sup>th</sup> century when suburban development first began to transform the County's landscape. Between 1930 and 2002, as the County grew from a population of about 25,000 to almost 1 million, stormwater management changed from the development of disconnected systems of pipes and ditches to serve the needs of individual communities to a complex infrastructure challenged to address not only routine runoff flows but public safety, public health, environmental protection and pollution prevention.

In 2003, as part of a larger County-led effort, the leadership of the Stormwater Business Area of the Department of Public Works and Environmental Services engaged in a strategic planning exercise as a way to help refocus stormwater management efforts in light of new paradigm shifts, increasing expectations of County citizens, and an increasingly complicated State and federal regulatory framework. The effort included interviews with outside stakeholder groups and a series of facilitated work sessions to identify major issues as well as strengths, opportunities, weaknesses, and threats. Two basic themes emerged from this process – (1) that levels of service for stormwater management should be based on a clear understanding of actual needs, and (2) that the selected level of service must be supported by an adequate and stable source of funding.

To address these issues, and to provide a decision making tool for the Board of Supervisors regarding levels of service and funding mechanisms, the Strategic Plan contained tactics to “develop a funding plan for programs to reflect changing service levels, increased infrastructure inventories, unfunded mandates, and emergency events” and to “develop and implement a funding feasibility study for alternative methods and funding sources.” The Watershed Community Needs Assessment and Funding Options Study, presented in the following pages, addresses the strategies to implement these tactics and represents the first step towards positioning the County to meet its strategic stormwater management goals.

### **STORMWATER PROGRAM ASSESSMENT**

The first step in assessment of the current program was the review of the role of watershed planning in the County Stormwater Program. In conjunction with the recently completed Stream Protection Strategy report and the Strategic Plan prepared for the stormwater management group, the Watershed Plans will provide the critical technical foundation for future capital improvement work. Public participation in these studies provides an opportunity for the County to educate the public about the major stormwater issues in their neighborhoods, while receiving feedback about the types of projects and





initiatives they are willing to support. This combination of technical assessment and community involvement is the key to building a program that meets the central mission of the stormwater program “to develop and maintain a comprehensive watershed and infrastructure program that will protect public health and safety and will enhance the quality of life in Fairfax County.”

The second step in the assessment was the identification of the current types and levels of services provided in Fairfax County. By assigning services to one of eight key functional areas, activities and costs were organized so that the overall levels of service could be determined and evaluated against other similar stormwater programs in the benchmarking process (see Appendix I for the full report on Benchmarking). A cost evaluation of current services found that Fairfax County spends approximately \$11.7 million on stormwater related activities, distributed as shown in the following table.

Administration	\$ 1,072,260
Special Programs	\$ 179,036
Billing and Finance	\$ 131,427
Watershed Management - Planning	\$ 2,164,736
Engineering Design	\$ 1,341,968
Operations and Maintenance	\$ 4,024,665
Plan Review and Erosion Control	\$ 1,045,044
Capital Improvements	\$ 1,792,962
<b>TOTAL</b>	<b>\$ 11,752,097</b>

The third step was to compare Fairfax County to other similar jurisdictions, through a benchmarking survey on other stormwater programs throughout the eastern United States. Eight (8) communities were surveyed through the use of a questionnaire to identify information on stormwater practices, characteristics, levels of service, and funding strategies. Results of this benchmarking exercise showed that the average per capita spending on stormwater for the surveyed communities was \$31.99 and ranged from a low of \$13.88 to a high of \$50.00. For comparison, per capita spending in Fairfax County is \$11.78, which is lower than all communities surveyed.

Finally, as part of the current program assessment, gaps and needs were identified. This work was done in consultation with various Fairfax stormwater staff. The full evaluation of program gaps and needs are listed by function in Chapter III - Section E.

**Key needs/issues identified in this process include:**

- Limited capital improvements program for water quality and flood mitigation projects.
- Reactive maintenance level of service, with only high risk/high priority needs fully addressed.
- Continuing degradation of streams and the stormwater conveyance system as the system ages.
- Increased complexity in regulatory compliance with mandatory water quality and dam safety requirements.
- Priority need to continue the Watershed Plan initiative to ensure capital improvements focus on needs identified through community input.
- Minimal level of investment in stormwater management on a per capita basis in a dense, urban environment.



## PROPOSED LEVEL OF SERVICE

Three level of service options were considered in the evaluation of the stormwater management program in Fairfax County. These options include maintaining the status quo, implementing a comprehensive program through expanded resources over the next 10 years, and increasing capital improvements construction with minimal increases in maintenance and planning to support the new improvements program. Based on the review of the current services, with input from staff and through comparison of Fairfax County to other communities, it is recommended that Fairfax County initiate the process of developing a comprehensive stormwater program, phased in over time in a logical, building block approach. This will put Fairfax County on a path:

- to achieve regulatory mandates for water quality protection,
- to achieve goals identified in the 2003 Strategic Plan,
- to sustain the viability of the existing investment in infrastructure, and
- to achieve the goals established through the Watershed Plan initiative.

Development of a comprehensive stormwater program includes enhancing levels of service in program management, planning, infrastructure maintenance, enforcement of performance standards, capital construction and regulatory controls. Highlights of Key Level of Service Initiatives include:

- Implement capital improvement projects (backlog estimated between \$340 million to \$800 million) over the next 20 to 40 years. These projects will position the County for regulatory compliance and facilitate restoration of the County's streams, 70% of which are in fair to very poor condition.
- Upgrade, within the next 10 years, all public stormwater management facilities so that they function properly. This includes management of the program for major pond rehabilitation projects.
- Implement an enhanced enforcement capability to ensure private facilities are operating as designed.
- Increase public education activity to meet regulatory compliance and to increase public understanding of the goals and activities within the overall program, as well as engage them in participating in stormwater program activities.
- Update and maintain watershed plans on a regular basis to manage capital improvement prioritization.
- Organize the Watershed Planning process by dividing the planning area into quadrants to improve efficiency and effectiveness in overall planning capability. This will support implementation of each Plan's recommendations and meet the schedule to have all studies complete by 2010.

The cost of change in the level of service was evaluated under two scenarios. The first is to build an **optimal program** as quickly as possible and the second is a more **moderate growth** in new resources, targeting capital improvements and maintenance enhancements. Both program cost models were projected over a five-year planning period. The two cost models can be found in Chapter III, pages III-7 and III-8.





The second scenario, the more moderate growth profile, is recommended as the approach the County should take in expanding the level of service for stormwater. The following table provides a summary of the five-year cost estimate, combining current program costs with projected program enhancements. This enhanced program would increase the level of service from \$11.7 million (in FY' 04) to \$28 million in FY'06.

**Table III-1 Summary of Cost Projection for Recommended Level of Service**

Cost Summary-Moderate	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	Total	Percent
Administration	\$ 1,232,260	\$ 1,266,228	\$ 1,301,215	\$ 1,237,251	\$ 1,274,369	\$ 6,311,322	3.1%
Special Programs	\$ 704,000	\$ 663,470	\$ 674,254	\$ 685,362	\$ 696,803	\$ 3,423,888	1.7%
Billing and Finance	\$ 1,992,000	\$ 1,997,760	\$ 2,003,693	\$ 2,009,804	\$ 2,016,098	\$ 10,019,354	5.0%
Planning and Engineering	\$ 3,830,000	\$ 4,137,250	\$ 4,337,664	\$ 4,631,243	\$ 4,753,381	\$ 21,689,538	10.8%
Operations and Maintenance	\$ 4,805,000	\$ 5,485,700	\$ 6,466,031	\$ 7,239,403	\$ 7,883,136	\$ 31,879,270	15.9%
Retrofits/Conveyance Rehab	\$ 5,400,000	\$ 9,800,000	\$ 9,900,000	\$ 9,900,000	\$ 12,400,000	\$ 47,400,000	23.6%
Plan Review and Erosion Control	\$ 1,105,000	\$ 1,138,150	\$ 1,232,441	\$ 1,269,414	\$ 1,307,496	\$ 6,052,500	3.0%
Capital Improvements	\$ 9,040,000	\$ 12,480,000	\$15,480,000	\$ 15,480,000	\$ 21,740,000	\$ 74,220,000	36.9%
<b>Total Projected Costs</b>	<b>\$ 28,108,260</b>	<b>\$ 36,968,558</b>	<b>\$41,395,297</b>	<b>\$ 42,452,477</b>	<b>\$ 52,071,281</b>	<b>\$200,995,873</b>	<b>100.0%</b>

## FUNDING OPTIONS

A thorough review of funding strategies available to Fairfax County was evaluated and is presented in Chapter IV. The discussion helps to highlight issues of funding equity (linking revenue sources with those who place a demand on the County for the service) and funding adequacy (the ability of a potential source to produce sufficient and stable revenue). In addition, revenue tools were divided into those with the capacity to fund an entire program (primary sources), and those with the capacity to fund specific program elements (secondary sources).

Primary Funding Methods	Secondary Funding Methods
<ul style="list-style-type: none"> <li>• General Fund Appropriations</li> <li>• Stormwater Service Fees (Stormwater Utility)</li> </ul>	<ul style="list-style-type: none"> <li>• Other Service Fees</li> <li>• Special Assessments</li> <li>• Pro Rata Shares – Capital Projects Only</li> <li>• Watershed Improvement Districts</li> <li>• Federal and State Funding/Grants/Loans</li> <li>• In-Lieu-Of-Construction Fees</li> <li>• General Obligation and Revenue Bonding – Capital Projects Only</li> </ul>

While the potential secondary sources of revenue identified above can support specific program elements within the County's stormwater program, there are only two commonly recognized primary funding mechanisms that can create sufficient revenues to support stormwater management in Fairfax. These are the General Fund, supported primarily through the real property tax, and a stormwater utility fee.





Evaluation of the funding tools identifies four funding strategies that are viable to address the primary program of services. As a result, after considering how secondary sources can fund specific program elements, the County's major options for stormwater funding include the following:

- Maintain the status quo, utilizing a mix of general funds and Pro Rata Share.
- Reallocate General Funds from other County services and programs to stormwater management to address an increase in the level of service recommended in Chapter III.
- Raise real property taxes and dedicate a portion to stormwater management to increase the level of service recommended in Chapter III.
- Implement a dedicated stormwater utility fee, relieving the General Fund, increasing the level of service as recommended in Chapter III.

**It is recommended that the County adopt a funding strategy that utilizes a stormwater management user-fee as the primary funding tool, including secondary funding mechanisms of Pro Rata Share, Federal and State grants (when available for special projects), and special direct fees (i.e., plan review and inspection fees).** This recommendation is based on the need for a stable revenue to sustain a comprehensive program, for equity in the allocation of costs to those who place the highest demand on the County for service, for adequacy in funding all elements of the program strategies, and for flexibility to reward those who invest in building or maintaining components of the system.

## **STORMWATER USER FEES AND FUNDING OPTIONS**

Upon completion of the funding options analysis, an evaluation of rate structure options was completed, addressing rate methodology (i.e., how to assign the cost of services to individual rate payers); and rate modifiers (i.e., credits, tiered residential rates). The rate structure recommendation is based on an evaluation of the methodologies available today that can create a legally defensible allocation of costs to the community. It is critical that a rational nexus between the services provided and the cost of those services to any individual property be established to ensure that the fee structure is legally sound. The options were evaluated using the following criteria:

- Revenue stability and sensitivity to change
- Flexibility of methodology to address level of service
- Consistency with other County financing policies
- Compatibility of cost allocation tool with existing data processing systems
- Data requirements to support allocation of costs to each property
- Cost of implementation and upkeep of the billing database
- Equity in the apportionment of costs

The methodologies reviewed included *imperviousness*, *imperviousness and percent imperviousness*, *imperviousness and gross parcel area*, and *gross area with modifying factors*. Each methodology was evaluated against the criteria listed above and a summary is provided below. A more detailed discussion is included in Chapter V.





**Preliminary Recommendation for Rate Methodology:** The primary methodology for allocation of costs recommended is “**imperviousness**” on the property with a secondary factor of the **gross parcel area**. Imperviousness has been evaluated and identified as the key contributor to demand for services in stormwater, whether it is for routine drainage, flood controls, public safety, or water quality. There exists a strong body of research detailing the correlation between the development of a parcel and the impacts of that development on the drainage system and the overall services to be provided by local governments throughout the nation. It is recommended that gross area be included as a secondary rate factor to address those services that must be provided regardless of the presence of imperviousness and that should be fairly borne by all properties within the County. This increases the equity of the rate methodology, not limiting it to only land that has been disturbed and by taking into account the total lot size along with the amount of imperviousness.

*Modifying Factors:* Many modifying factors were considered in the development of the preliminary rate structure recommendation. Upon completion of the evaluation for Fairfax County, the modifying factors of **service charge credits** and a **tiered single family detached housing** rate structure are recommended. Service charge credits provide an opportunity for the County to recognize contributions made by private investment in the drainage system and in water quality protection that reduce the demand for service. A tiered single family housing rate structure also increases the equity by recognizing the varying amount of imperviousness present within this relatively homogenous land use activity. The County should consider whether it wants to place a limit on the number of billing units to be charged single family detached housing, which often occurs in the initial establishment of stormwater utility rates.

*Estimated Rate Based on Imperviousness ONLY:* Upon completion of the program evaluation and analysis of the projected service enhancements to begin to build a proactive stormwater program, an analysis of potential rates was undertaken. The approach to estimating a rate was to use Imperviousness only as the rate methodology. This was done due to constraints on time, data availability and critical policy decisions that must be made in order to finalize a rate. Basic assumptions regarding fund balance, level of other incomes such as the use of Pro Rata Share and fees for regulatory inspections, debt service and credit initiatives were made to ensure that these issues were not overlooked in the preliminary analysis. If the Board moves forward with this effort, these key policies will be established and factored into a detailed Rate Study.

**It is estimated that an initial rate of \$55.00 a year, increasing to \$84.00 a year, for every 2000 square feet of imperviousness could provide sufficient revenue to support the first steps to build a comprehensive stormwater program, over the five year planning period. (NOTE: This is an estimate of the potential rate ONLY.)** If the County chooses to move ahead with finalization of the recommendations on program enhancements and funding implementation, a very detailed cost of service and rate analysis will be completed and a refined rate structure with the final recommended rate will be provided. Critical policies will be reviewed and recommended to the Board of Supervisors as part of the final adoption process.

*Billing Options for Utility:* In order to assess the best method to allocate the costs for a stormwater program to potential payers within a user-fee system, a number of issues must be evaluated in detail. The task of creating a stormwater user fee and distributing that fee to all customers in the service area is a two-part effort. First, an account





database must be created that contains all potential customers and their associated calculated fees. Secondly, the fees must be billed to the customers through a new or existing billing system formatted specifically for the stormwater fee. Billing options evaluated were: use of the Fairfax County Water Authority billing system, use of the Department of Tax Administration (DTA) real estate billing system, and creation of a new, third party operated billing system. Due to conflicts in data management, cost of implementation and other factors highlighted in Appendix III, it is recommended that the DTA billing system be utilized, but issued on a separate stormwater bill that may also include other fees such as the solid waste fees now handled by the DTA. The final recommendation and process will be refined if the Board chooses to proceed with this funding mechanism.

## **NEXT STEPS**

Before the recommended strategy to initiate the first steps in increasing the ability of the County to address stormwater management in a comprehensive approach and to fund program enhancements primarily through a stormwater utility user fee can be implemented, many policy issues must be addressed and a detailed cost of service and rate study must be completed. To accomplish these tasks, the following steps are recommended:

1. A citizen-based advisory committee should be appointed by the Board of Supervisors with the first committee meeting scheduled for September, 2004.

In Appendix IV of this Report a full strategy for appointment and management of a citizen-based advisory committee is discussed. This committee will assist the staff and the consultant to define and craft recommendations on the following key policy decisions:

- Final Program Level of Service
- Final Rate Structure
- Credit Program
- Exemption Policy

The committee will meet with the consultant and staff throughout the fall of 2004, with recommendations completed in February 2005 for consideration in the County budget process.

2. Initiation of a communication plan to raise community awareness of the challenges facing the County on stormwater management issues. This public education program will include a dedicated microsite within the County's Web page, an outreach by staff to the community through a speakers bureau, and use of existing communications tools of the County.
3. Finalization of the recommendation on bill delivery, including the initiation of the master account file development, resolution of issues regarding database integration and finalization of the bill format, frequency and legal requirements for collection.
4. Completion of a Cost of Service and Rate Study to determine a final rate recommendation to the Board of Supervisors including the preparation of appropriate ordinance language.





5. Report to the Board of Supervisors by March 1, 2005, for final action on whether to implement a stormwater utility. This will include a report from the advisory committee, recommendations of various policies, a final rate structure and rate recommendation.

