

Anne Arundel County, MD

Background

Anne Arundel County offers an interesting case study on the challenges facing local governments in achieving stormwater management and water quality goals. The County, working with the Environmental Finance Center at the University of Maryland (EFC), estimated that achieving required Chesapeake Bay pollution reductions would cost in excess of \$1 billion, a commitment well beyond what many community leaders considered practicable. As a result, there was a clear and pressing need to reduce costs through innovation, flexibility, and a focus on performance. The EFC's involvement in this project focused on identifying specific strategies and options available to Anne Arundel County to achieve stormwater management and water quality goals. The goal was to assist the community in achieving its water quality priorities and to provide a process and opportunity for other communities to model the transformational efforts expected to take place across the County. The EFC provided an assessment of the financing challenges faced by Anne Arundel County, the financing opportunities available to the County for meeting those challenges, and the potential impact that investments in stormwater management would have on job development within the County. This assistance aided the County in realizing its unique opportunity to transform its stormwater financing efforts and to make clean water part of the County's foundation and infrastructure into the future.

Approach

The EFC worked directly with the County's Department of Public Works—which had managed a sophisticated stormwater program since the early 1990s—to develop an estimate of the total expected costs of complying with the County's WIP and Municipal Separate Storm Sewer System (MS4) requirements. This approach was intended to demonstrate how using historical stormwater program data regarding costs and constraints, rather than a list of desired future projects, can result in significant efficiencies and lower overall costs. The total expected costs were high: \$1.1 billion for meeting WIP requirements and \$341 million for achieving treatment of 20 percent of impervious cover, as required by the County's MS4 permit.

Next, the EFC looked at the County's capacity to effectively address its investment needs. This was done by assessing the County's ability to generate sufficient program revenue and its ability to create efficiencies and reduce costs. Maryland House Bill 987 had become law prior to this study, requiring jurisdictions with MS4 Phase I requirements, such as Anne Arundel County, to implement stormwater fees, providing an opportunity for the EFC to develop a relatively precise estimate of expected revenue from the County's Watershed Restoration and Protection Fee (WRPF). Based on the number of residential and non-residential properties, as well as the graduated schedule by which the fee was to be implemented, the EFC estimated expected revenue to be \$14 million in the first year of the program, \$18 million in the second year, and \$22 million in each successive year.

HIGHLIGHTS

Location: Maryland

Jurisdiction Type: County

Population: 537,656 (2010)

MS4 Permit: Phase I

Project Period: 2012-2013

Funder: National Fish and Wildlife Foundation

The EFC then explored ways in which the County could reduce the costs of implementing the needed improvements. The study found that by focusing on two specific BMPs (retrofits of stormwater management ponds and severely degraded outfalls) due to perceived benefits beyond water quality and stormwater management, the County was forgoing other BMPs that would minimize costs and achieve its water-quality goals more efficiently. In addition, the study found that by restricting its restoration activities



Olde Severna Park Outfall Retrofit: before (left) and after (right). Photos courtesy of Anne Arundel County DPW.

to public lands, the County was missing opportunities to take advantage of what the marketplace and private sector do well: reducing costs and creating efficiencies. Finally, the study found that the lack of direct engagement with ratepayers via meaningful fee credits was hampering private-sector engagement with stormwater.

Next, the EFC prepared an economic impact report that assessed the anticipated level of economic activity associated with WIP implementation in Anne Arundel County. The EFC found that Anne Arundel County could anticipate an economic impact of approximately \$115 million for each \$100 million invested in stormwater BMP construction, as well as an impact of about \$15 million for each \$10 million invested in stormwater operations and maintenance.

Finally, the EFC crafted recommendations to help Anne Arundel County take advantage of the competitive power of the marketplace to reduce costs and achieve efficiencies in implementing its WIP and MS4 requirements.

Key Findings and Recommendations

- **There are significant costs savings to be gained.** Though the costs associated with achieving the WIPs are significant, the EFC's analysis indicated that there were opportunities to dramatically reduce implementation costs through effective and efficient implementation of best management practices. Specifically, the EFC's analysis indicated that the County could reduce WIP-related costs by more than 40% through adoption of a more flexible, performance-based financing system.
- **The financing focus should be on complying with permit obligations.** Though the WIP process has dominated much of the discussion and debate associated with urban wet-weather management, it is the NPDES permitting process and the County's MS4 permit that are, or should be, driving decision-making in regards to stormwater financing. In fact, the WIPs are not a regulatory requirement. Therefore, the County's revenue and financing programs should be

focused exclusively on complying with the MS4 permit obligations, including requirements to treat impervious surfaces within the County.

- **Revenues do not match existing cost estimates.** Estimates for achieving permitting obligations were significant and would require fiscal resources that are beyond the existing revenues supporting the County's stormwater program.
- **The EFC made the following recommendations to enable the County to advance its stormwater program into the future:**
 - Develop and implement a stormwater financing system that is focused on performance and measurable, verifiable benefits to the environment and local water quality.
 - Substantively engage the private sector in a way that reduces program costs in the long term and creates efficient environmental outcomes.
 - Partner with the many existing nonprofit and environmental organizations across the County by establishing innovative public/private partnerships.



North Branch of Cypress Creek Post-Restoration. Photo courtesy of Anne Arundel County DPW.

For more information, please visit the [MOST Knowledge Center](#).

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