

STORMWATER



DELIVERING FINANCIAL AND OPERATIONAL RESILIENCE WITH A

Holistic Stormwater Management Framework

Author: Prabha Kumar | Director, Water Advisory & Planning
Black & Veatch Management Consulting, LLC



When it comes to stormwater management, many competing forces, such as regulatory permit compliance, stormwater drainage infrastructure management, flooding mitigation, community needs, green infrastructure and environmental stewardship, pose challenges for utilities. The confluence of these challenges exerts pressure not only on funding capacity, but also on a city or municipality's strategic mission, program planning, policies and overall organizational capacity.

Often stormwater organizations are left asking,

“Is there a meaningful and effective way to manage all of these elements as part of a cohesive and actionable framework?”

The good news is stormwater managers are beginning to actively seek comprehensive and sustainable management solutions. Whether stormwater management responsibilities are inherent within water/sewer departments or handled completely separately by a Public Works Department, Streets Department, or a combination thereof, a holistic approach benefits three distinct stakeholder groups: utility managers; regulatory entities, and customers.

THE NEXUS FRAMEWORK: PROGRAM, POLICIES, FUNDING, BENEFITS

So what would an integrated stormwater management framework look like? A holistic management framework should reflect interdependencies or a “nexus” among four key focus areas – program, policies, funding and benefits – and help build long-term financial and operational resilience.

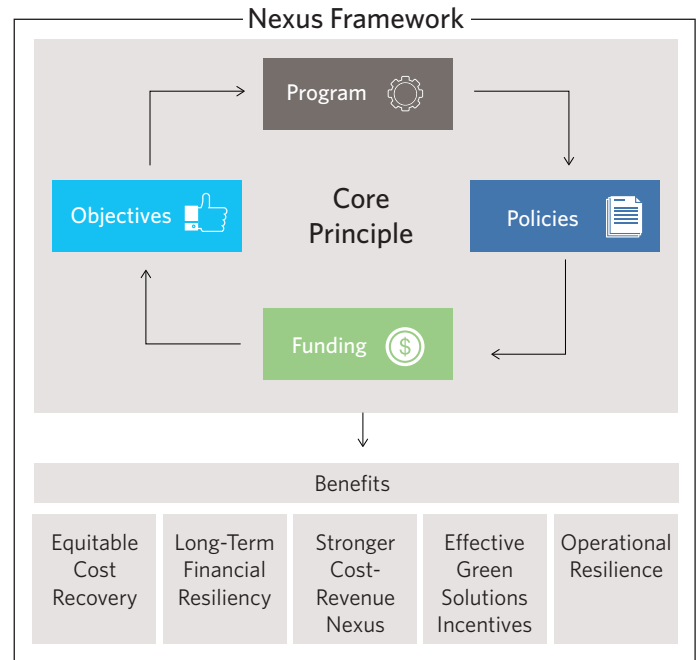


Figure 1: Stormwater Nexus Framework Supported by User Fee Funding

When establishing a nexus framework, an organization should address the following questions:

Program: What infrastructure, regulatory, operational, and community needs are being addressed?

Policies: What policies, existing and new, need to be reviewed and established to support program, funding and customer care?

Funding: What does it cost to deliver the desired level of service and how can those costs be recovered in a fair and equitable manner?

Benefits: What system-wide benefits do customers gain and how will it be perceived?

Taking these focus areas into consideration provides the foundation for a successful nexus-based framework.



STORMWATER FUNDING APPROACHES AND IMPACTS

Funding for stormwater management costs involves diverse sources that include stormwater or sewer user fee funding, ad valorem property tax funding, sales tax funding and special assessments. Funding stormwater management through tax funding mechanisms is a practice more commonly seen in the stormwater than in water and/or sewer utilities.

In municipalities where stormwater user fees are a key funding source, often these fees are not designed to recover the full cost of service. While user fee funding mechanisms, which only recover a portion of the annual stormwater cost of service, may help with lower stormwater rates, however they do not fully support equitable cost recovery.

So, why should utilities strive to recover their full cost of service through user fees rather than recover costs through a combination of user fees and other non-user fees such as taxes? A few key reasons:

Equity of Cost Recovery. Stormwater user fees are typically based on the level of imperviousness (commonly referred to as impervious area), which reasonably approximates with the property's stormwater runoff contribution to the stormwater system.

In the case of tax-based recovery, taxes are based on a property's value or level of sales, which has no direct correlation to the stormwater contributed to a system. In addition, many properties have tax exemptions in place, so they are not required to contribute to stormwater system operating costs. Recovering the full cost of service through user fees, instead of relying on tax-based fees, allows for a more equitable recovery of costs among customers.

Customer Perception. When a fee is designed to reflect the full cost of service, customers are more likely to understand the true value and costs incurred as a direct result of the services provided.

Onsite Stormwater Management. If user fees are set to fully correlate with cost of service, utilities will have the ability to offer stormwater fee credits to property owners who undergo approved measures to reduce their stormwater contribution to the utility system.



SUSTAINABLE FUNDING APPROACH IMPLEMENTATION

The following examples illustrate how two municipalities have defined their full cost of service and have established a stormwater user fee to recover their full cost of service.

Philadelphia Water Department

The Philadelphia Water Department (PWD) manages a combined sewer and separate storm sewer systems. With Black & Veatch's assistance, PWD established a multi-level cost allocation process that allocates direct stormwater management costs and a portion of the combined sewer operating and capital costs to the stormwater utility. This process enables PWD to estimate its stormwater utility's annual full cost of service, and recover those costs via a gross area and impervious area-based stormwater user fee.

In addition, to meet its Long Term Control Plan (LTCP) consent order agreement requirements, PWD offers robust stormwater credits and incentives programs, the costs of which are proportionally funded through both wastewater rates and stormwater rates.

City of Newark, Delaware

The City of Newark only has a separate storm sewer system, and Black & Veatch recently supported the establishment of a stormwater user fee to fully recover its annual revenue requirements. The impervious area based stormwater fee helps recover all of the stormwater costs thereby establishing a reasonable nexus between the City's stormwater cost of service and the magnitude of stormwater user fee revenues. To further enhance equity, the city has also implemented a stormwater credits program to offer fee reduction opportunities for property owners that exceed stormwater development regulation requirements.