

User Fees-The Key to Managing Stormwater Costs

ROGER NULL

Kennedy/Jenks Consultants, San Francisco, California

This article originally appeared in the August 1995 issue of Public Works? , published by Public Works Journal Corporation, 200 South Broad Street, Ridgewood, NJ 07450. ? 1995 Public Works Journal Corporation. All Rights Reserved.

The city of Santa Cruz, California has found a cost-effective way to finance the costs of complying with recently mandated stormwater management regulations. To pay for sizeable stormwater-related costs that will arise in the next five years, the city is adopting users' fees, an increasingly popular alternative among municipalities. Using this approach, cities consolidate their stormwater and flood control activities into a stormwater enterprise and recover the costs from the residents who use and benefit from the system.

Paying for stormwater management through users' fees has now a boon to cities like Santa Cruz that have been struggling with lower tax-based revenues and growing demands for municipal services. In the past, Santa Cruz managed stormwater-related activities through its various city departments and paid for the costs from general funds. These costs, however, have greatly increased due to EPA's new stormwater requirements.

The city hired Kennedy/Jenks Consultants to study the effects of setting up a self-funded stormwater and flood control enterprise, develop a fee schedule, and prepare a report that would serve as a basis for the city's stormwater rate and revenue plan.

Regulatory Mandate

Municipal stormwater management costs have escalated in recent years due to EPA's 1990 stormwater discharge regulations that require large cities (over 250,000 population) and medium-sized cities (over 100,000) with separate storm sewer systems to be regulated under the National Pollutant Discharge Elimination System (NPDES) permit program. To comply with the NPDES program, cities and special districts must address stormwater management issues such as monitoring maintenance, flood control, and providing public education programs to reduce stormwater pollution.

After reviewing the city's existing costs for stormwater/flood control management, its financial commitment to federal flood control projects, and future operational and capital costs, Kennedy/Jenks prepared a revenue plan to project potential costs and revenues. It became apparent that these future requirements would substantially increase the costs for operations and maintenance (O&M), capital requirements, and debt service for the city's stormwater management program.

Under the NPDES requirements, the city will have to upgrade O&M of the existing stormwater system and implement NPDES permitting and "best management practices" (BMP). The city will also assume responsibility for managing and operating the new flood control facilities as well as administering the new stormwater enterprise.

BMP Compliance

The BMP criteria set forth in the NPDES program require cities to upgrade pollution prevention and reduction practices, including both O&M upgrades and capital improvements. While Santa Cruz currently performs some of the required BMP activities, the city will need to implement additional BMP procedures to comply with the NPDES program.

Kennedy/Jenks helped the city staff review typical BMPs, estimate schedules, and project potential financial impacts of implementing NPDES compliance. Because the costs of complying with the NPDES requirements will affect several municipal departments, each group will need to record stormwater-related costs as they occur so that these expenses can be recovered through the new user charge.

The actual cost of total BMP activities is hard to assess, however, since it is often unclear where normal departmental operations end and BMP activities begin. Some BMP activities can be merged with existing operations, but other compliance costs will be extensive and could involve several city departments.

City costs also include asset depreciation associated with wear and tear, corrosion, and obsolescence. Depreciation needs to be recorded and recovered from current ratepayers and owners on a “pay as you go basis” for stormwater facilities rather than deferring and burdening future system users with historical system costs.

Capital Expenditures and Funding

The city also faces sizeable capital expenditures in the next three years, as it pays for its share of a major flood control program for the San Lorenzo River. Planned and constructed in conjunction with the Army Corps of Engineers (COE), the capital improvement program will raise the Soquel bridge, renovate the Water Street bridge, and increase the height of the river flood wall to improve flood protection. The ambitious flood control program is funded jointly by the COE, the California Department of Transportation (CALTRANS), and the city.

The city’s estimated share of the total costs is approximately \$10 million according to COE estimates. The bridge improvements may be eligible for partial funding under a CALTRANS grant program. If the city qualifies, up to 80 percent of the cost of design and construction will be funded. While final eligibility has not been decided, city staff expect funding that would reduce their total cost to about \$4 million.

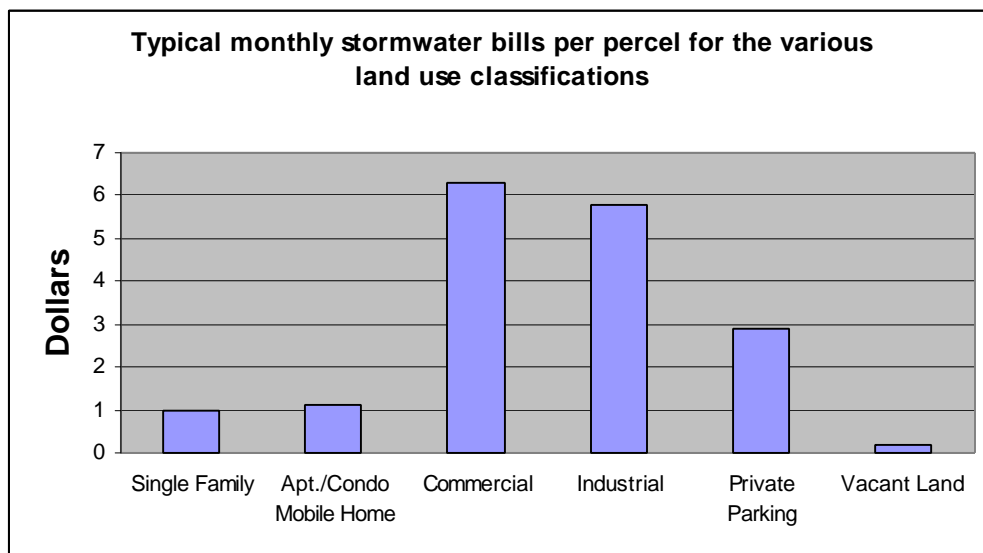
However, since the costs of the San Lorenzo River improvements will be substantial, the city will probably also need to use bond funding to help pay for the flood control improvements and for repair and replacement of the existing storm drainage and flood control system.

Developing a Stormwater Enterprise

Although municipal stormwater and flood control enterprise operations are an accepted practice in many parts of the United States, relatively few California cities have enacted the legal authority to adopt a stormwater revenue mechanism. However, the state law provides cities with the legal authority to establish charges for services according to use or benefits received.

Using this general authority, the cities of Los Angeles, Chino, Ontario, Palo Alto, Modesto, San Jose, Berkeley, Tracy, and Richmond have established user charges to fund stormwater activity. The practice is also employed in the states of Washington, Oregon, Colorado, Kentucky, and Florida.

Based on analysis of the city's budget and future capital and operational requirements, Kennedy/Jenks recommended that the city create a stormwater enterprise, adopt a user charge, and use the County Tax Assessor's Office as the billing mechanism for the new user charge. This approach charges customers for services provided by the utility and sets rates based on an established schedule of rates and charges. Fees, based on the amount of service, may provide for all or part of the utility's cost of providing the service.



Allocating Costs to the Users

Based on the criteria that each parcel of property inside city boundaries benefits from a stormwater pollution control program, stormwater costs are allocated according to the benefit received, or the portion of stormwater that runs off from each parcel. This method of allocating costs is commonly employed by special flood control districts and stormwater utilities and enterprises nationwide.

Using a combination of land use runoff factors and coefficients developed by the city, Kennedy/Jenks calculated the percentage of runoff from representative parcels for each land use within the city. The city's imperviousness factors were developed from aerial photographs and data supplied by the tax assessor which were used to calculate the ratio of impervious area to total parcel size.

To generate the revenue needed to maintain the stormwater management program, the city will charge residents a user fee based on the city's expenditures for stormwater-related activities. The fee schedule is calculated based on a "Basic Assessment Unit" (BAU) which is equivalent to the land use of a single family residence with an average parcel size of 0.1773 acre (7723 sq ft) and a runoff coefficient of 0.4310. The user charge for each parcel is calculated according to the number of equivalent BAUs. For simplicity, all single-family parcels are charged as one BAU. Other land use classifications are calculated according to the following formula:

Number of BAU's = [(parcel size in acres) x (land use runoff coefficient)] / one BAU (0.1773 x 0.4310)

An additional surcharge will also be assessed to fund the flood control projects on the San Lorenzo River. Since the downtown area has been designated as a floodplain by the Federal Emergency Management Authority (FEMA), the channel improvements will provide the greatest benefit to downtown Santa Cruz. Accordingly, the stormwater enterprise will levy a surcharge on the downtown area to help pay for the costs of constructing and maintaining the flood control improvements. However, since the surcharge is timed to coincide with a reduction in FEMA flood insurance rates due to improved flood protection, the impact of the fee on the merchants will be minimized.

By forming a separate stormwater enterprise and charging residents in proportion to the actual use and benefit they derive from the system, the city of Santa Cruz has found a viable way to improve flood protection, reduce the discharge of pollutants to Monterey Bay, and also halt the drain on the city's limited general funds.