

Surface Water Fees Used to Reduce Urban Flooding

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THE EXPANSIVE forests, lakes, and streams of King County are not the only dramatic products of northwestern rains. Annual rainfall, ranging from 35 in. on the shores of the Puget Sound to 200 in. in the higher elevations of the county, also creates another phenomenon; large volumes of surface water runoff too intense even for a county rich with wetlands, lakes, and rivers.

In response to seasonal flooding along many major river channels, King County saw the need for surface water management more than 50 years ago. During the past 30 years, rapid growth in the county has resulted in a 21 percent increase in population (from 986,000 in 1966 to about 1.2 million in 1986), which has further increased runoff due to natural vegetation being replaced by hard, impervious surfaces.

During heavy rains, stormwater floods into local streams, eroding their banks, scouring their beds, and carrying silt and sediment downstream. In addition, the urban runoff is often polluted with chemicals and litter that is carried into the rivers, lakes, and ultimately Puget Sound. The combination of pollution, erosion, and excess sediment in turn damages the habitat of plants and animals dependent on the streams, and at times threatens public safety and properties.

These problems prompted the Department of Public Works Surface Water Management (SWM) Division to develop a comprehensive program to solve existing drainage problems, prevent future drainage problems from occurring, and protect the natural drainage system.

The concept for a service charge program originated in 1974 when a need for drainage control and comprehensive basin management in the Juanita Creek and other basins was identified. A larger portion of the county was later studied to determine the feasibility of a county-wide comprehensive program. The county council and executive office in May 1986 approved the establishment of a service charge program to be implemented January 1, 1987. SWM would be responsible for carrying out the broad surface water management objectives of the county: develop watershed programs, build drainage facilities, acquire and enhance wetlands, perform facility maintenance, coordinate with planning agencies and local jurisdictions to minimize the drainage and water quality impacts, and inform and educate the public about surface water problems.

In 1982, the county council proposed that SWM do a study to evaluate the feasibility of an expanded surface water program. The two-year study included a detailed analysis of program options, associated costs, and alternatives - including a service charge - to finance this expanded program. . During March 1983, five public meetings were held throughout the proposed service charge area to solicit public comment on the idea of a service charge program. Several concerns were expressed by the public, such as the need to improve and enforce drainage control requirements, work closely with incorporated areas on common surface water issues, and spend program funds wisely and equitably in the local areas that contributed the revenue.

During 1984, after reviewing the recommendations in the study by the county council, and subsequent council approval, SWM began an aggressive program to inform and involve communities in the development of the proposed service program activities. A speaker's bureau was established to make presentations to civic organizations

throughout King County. Presentations to the public raised community awareness of the natural drainage system and the serious public and private damages occurring from increased runoff. Speakers explained why the county did not have the tools and funding to undertake a much needed countywide program. Those meetings outlined how a county SWM program, which levied a service charge based on the runoff contribution of each land parcel, could benefit residents and solve the problem. A SWM Utility Citizens Advisory Committee was established and charged with examining the proposed capital improvements. A total of 260 capital improvements costing about \$65 million were ultimately identified. Thirty-four projects were targeted for construction over a three-year period at a cost of \$8 million.

To obtain further public opinion, two telephone surveys were conducted in the proposed service charge area. The first sampled 500 residential property owners and 500 nonresidential property owners. The second survey consisted of 215 questionnaires completed by citizens at public meetings. Once residents understood the severity of the growing surface water problems and the limitations of current funding sources and other financial options, questionnaire and survey responses showed many willing to pay up to \$40 per year for an expanded SWM program, which they felt was not only desirable, but necessary. King County received a National Association of County's Achievement Award for this public involvement, priority process.

Because basins and watersheds are shared by incorporated and unincorporated areas, SWM is now developing interlocal agreements with several cities. The agreements are designed to coordinate land control regulations, cost sharing for basin planning and capital improvement projects, inspections, and annexations between the county and cities.

The Comprehensive Program

The SWM service charge program is based on the premise that it is far better to protect, preserve, and use the natural system - and by so doing, to prevent drainage and water quality problems from occurring - than it is to attempt to reconstruct and maintain indefinitely a man-made system.

The service charge rate structure is based on the amount of impervious surfaces on developed property, which is then used as an equitable measure of the property owner's contribution to runoff problems. The areas charged include only the developed properties in 38 of the 72 drainage basins in unincorporated King County. The current fee structure for residential property owners is \$29.89 per year. Nonresidential will pay between \$29.89 to \$404.10 per acre per year depending on the percent coverage of impervious surfaces. County roads will pay a total of \$1.4 million, and state highways will pay a sum of \$171,437. Senior citizens with property tax exemptions get a discount and schools can provide in-kind services if the school institutes curricula that benefit the surface water program through education. The comprehensive program will generate an estimated \$8.4 million annually.

The comprehensive SWM program is being seen as an important milestone for King County because it will provide a dedicated source of funding to address the many SWM capital improvement needs. Other important facets of the program include open space and wildlife habitat preservation and the development of tools that will enable the county to anticipate and account for the effects of development on the natural drainage systems. It will also enhance the creation of drainage control methods that will work with existing natural systems while minimizing the introduction of pollutants into receiving bodies of water. Capital improvement revenues collected from the SWM utility service charge will only be applied to those areas paying the fee, and special emphasis will be placed on areas characterized by urban development or expected future growth. Attention is also given to the formation of interlocal agreements on basin platting, drainage control plans, common project construction, and similar maintenance standards.

There are over 2,000 on-site retention/detention facilities that have been built since 1975 within the county. The King County Department of Public Works is responsible for maintaining 527 facilities in residential areas. They are designed to slowly release the additional runoff associated with development to minimize the impacts to downstream properties. Maintenance funds provided by the service charge will allow the county to undertake a complete routine program involving regular visits to all facilities to assure proper functioning, and to consolidate some of the old facilities as well as modifying others to increase their effectiveness.

There are several programs to increase citizens' awareness. The Critical Stream Reach Designation and Urban Streams Programs, Flood Awareness/Flood Warning Program, Committees on Basin Plan Development, a Citizen Advisory Committee, and a Public Education Program will all serve to promote future awareness of water runoff issues.