



King County

King County Surface Water Management Rate Study

**Report Prepared by the Water and Land Resources Division of the
King County Department of Natural Resources and Parks**

For the King County Executive and the King County Council

September 10, 2012

Surface Water Management (SWM) Rate Study Report

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Acronyms

BMPs	= best management practices
CIP	= capital improvement program
LID	= low impact development
NPDES	= National Pollutant Discharge Elimination System
SWM	= surface water management
TMDL	= total maximum daily load (an indicator of water quality problems)
WLRD	= Water and Land Resources Division

Executive Summary

In 1986, the Metropolitan King County Council adopted the original surface water management (SWM) rate structure, which assessed fees on all developed and cleared properties in the SWM service area. Since 1986, the area covered by SWM fees and services has expanded to include all of unincorporated King County. The fee has been raised several times since then, the most recent being in 2011. A rate adjustment (“discount”) program was established to encourage landowners to manage stormwater runoff and treat water quality on their own properties.

In Ordinance 17246, the King County Council directed the Water and Land Resources Division (WLRD) of the Department of Natural Resources and Parks to analyze the current rate structure, focusing on revising the existing rate adjustment (“discount”) program for non-residential parcels. The intent is to offer better incentives to landowners to encourage them to control stormwater runoff and improve water quality on their property.

The revenues to fund SWM programs are decreasing as cities annex the more densely populated areas of unincorporated King County. At the same time, the Washington Department of Ecology (Ecology) will be issuing a new and more stringent National Pollutant Discharge Elimination System (NPDES) permit for county management of stormwater runoff and water quality in the unincorporated area. The new permit will run from August 1, 2013 through July 31, 2018. Until then, Ecology has extended the current permit through July 31, 2013. WLRD has assessed revenue requirements to implement the current and the new permits while continuing other popular SWM-funded programs in the face of annexations.

The resulting recommendations for these efforts are:

1. The rate adjustment program will offer a tiered approach on non-residential parcels of additive discounts that can be “stacked” up to 90 percent to give landowners credit for varying levels of stormwater controls, water quality treatment, and management practices. (See chapter II for specifics.)
2. A rate increase of \$36.00 is proposed for residential parcels to maintain the current base SWM programs, comply with the new NPDES permit, and improve delivery of capital projects. Rates for non-residential classes would be increased by approximately 27 percent. (See chapter III for details.)

I. Introduction and Background

A. Purpose of the Study and Report

At the direction of the King County Council, per Ordinance 17246, WLRD has undertaken a study of the County’s SWM rate structure, looking in particular at the rate adjustment (“discount”) program. In addition, WLRD evaluated resources needed to meet the more stringent requirements of the 2013-2018 NPDES municipal stormwater permit and to address other water quality and quantity and public safety issues. Also considered in this assessment was how to balance decreasing revenues as a result of annexations and the effects of inflation. The study and its results are described in this report.

The report is organized into three chapters followed by related appendices. The first chapter summarizes why SWM programs are required, what the SWM fees fund, key reasons for the study, and

the amount of SWM fees other local jurisdictions collect. The second chapter explains the current rate structure and recommends changes to the rate adjustment program. The third chapter looks at what it would take to fulfill all legal obligations and service priorities to address stormwater runoff in a comprehensive manner. The chapter also recommends a rate increase in 2013-14 and describes what it will pay for.

B. Surface Water Management Services

State and federal laws require King County to provide services that respond to the impacts on surface waters of land development and conversion of forested land to impervious area. Increased impervious area increases stormwater runoff from rainfall that cannot percolate into the ground or evaporate. This can cause flooding, erosion, and pollution, and can lead to drainage obstructions and stream flows that are too high in the winter and too low during the summer. Different land use practices contribute pollutants to the runoff, which can result in degradation of ground and surface waters. The County's SWM programs offer services to help identify, prevent, manage, and resolve these problems in the unincorporated area. To pay for these services, a fee authorized under state law (RCW 36.89) is assessed on property owners in unincorporated King County. (Cities are required to provide similar services in the incorporated areas.)

1. Drivers for SWM

There are several forces that set requirements, motivate, and provide the rationale for the County's SWM programs. These include the King County Code, Comprehensive Plan, and Strategic Plan as well as federal laws such as the Clean Water Act and the Endangered Species Act and state permits such as the NPDES municipal discharge for stormwater and water pollution control and regulations for salmon recovery and growth management.

In addition, SWM programs are driven by ratepayers' needs and concerns. WLRD managers convened an external outreach group to seek feedback on some of the concepts presented in this report. Different citizen and business interests and sections of the county were represented in the group to obtain a spectrum of perspectives. The group met twice and reviewed the final write-up of their discussions. Because of the limited time, the intent was to hear the range of responses rather than strive for consensus recommendations. In general, the participants were supportive of the new rate adjustment program. They also felt that retrofits, restoration, and education should be King County's top priorities for addressing stormwater runoff and related water quality problems. They did not see the proposed numbers for the rate increase. (See Appendix 1 for a separate report summarizing the outreach group's discussions.)

2. Summary of what SWM fees cover

SWM fees contribute to funding a range of WLRD programs, including:

- Stormwater Operations (NPDES permit and facilities management, complaint response);
- Stormwater Capital (facility remediation, retrofits, private and public drainage projects);
- Ecosystem Capital (habitat restoration and protection projects);
- Regional Services (for example, county cost-shares of watershed coordination teams, community lake grants);
- Rural Services (agricultural water quality, forest stewardship, groundwater protection, basin stewardship);
- Science and the Environmental Lab (monitoring, technical support).

Here are some examples of services in unincorporated King County that are paid for with revenues collected from SWM fees:

- Identification, design, and construction of capital projects to improve drainage and water quality, stabilize ravines, and restore fish and wildlife habitat.

- Response to more than 1,000 customer service calls per year regarding flooding, water quality problems, erosion, sedimentation, stormwater facility concerns, and SWM fee charges and discounts.
- Maintenance and/or inspection of over 2,000 stormwater facilities such as retention and detention ponds for controlling runoff flows, bio-swales for removing pollutants from runoff, and pipes and ditches for conveying runoff.
- Monitoring of King County waters to ensure water quality is not degraded.
- Working with farmers, livestock owners, rural landowners, and forest landowners to implement best management practices (BMPs) and land stewardship to reduce stormwater quantity and quality impacts.
- Providing the science and monitoring for county implementation of the NPDES stormwater permit, response to the Endangered Species Act, basin planning, and land use decisions that protect impacts from stormwater runoff.

As Table 1 shows, SWM-funded programs fall in four of the five product families listed in the 2012 WLRD Business Plan.

Table 1. WLRD Product Families and Products

WLRD Product Families	SWM-Fee Funded Products
1. Control Stormwater Discharge	Complaint response; Regulatory compliance; Stormwater capital projects; Stormwater facilities maintained; Stormwater billings
2. River Flood Safety	Funded by Flood Control District; no SWM-funded products
3. Land Protected and Restored	Acres restored; New acres protected; Habitat restoration projects; Technical assistance
4. Emergency Response	Lab tests; Information brochures and internet sites; Stormwater drainage response; Water quality hotline
5. Water Quality Protection	Data sets; Technical assistance and scientific advice

It should be noted that other revenues fund some of these product families as well.

The current geography and population covered by the SWM fee is all of unincorporated King County, which includes Vashon Island and unincorporated lands inside the Urban Growth Area (UGA) as well as rural and resource lands outside the UGA. The current population served is roughly 255,000. The current land area totals 1,723 square miles. (See map of the SWM service area in Appendix 2.)

C. Key Reasons for SWM Rate Study

There are five primary reasons that King County is reviewing the current SWM fee rate and rate structure.

1. New and expanded NPDES permit requirements

As required by the federal Clean Water Act, the Washington Department of Ecology (Ecology) issues a municipal NPDES permit to specify conditions under which a local government is allowed to discharge stormwater into state water bodies. The more populated counties and cities in the state including King County, as Phase I permittees, have been required by the state to adhere to increasingly stricter NPDES stormwater discharge permits over time. In addition, the Puget Sound Partnership and Ecology cite stormwater runoff as one of the top threats to Puget Sound water quality. As a result, the 2013-2018 permit includes more stringent requirements that will cost more to implement. (See chapter III, section B1 for details on what the new permit will require.)

2. Declining revenues due to annexations

Annexations by cities of most of the remaining urban and urbanizing areas in unincorporated King County (Potential Annexation Areas) have resulted in a decline in revenues to the SWM fund. Although annexations will reduce the County's cost of providing site-specific services in more

densely populated areas, some of the basic costs of running the SWM programs will not decrease in corresponding amounts.

Fifty square miles of some of the most populated areas are inside the urban growth boundary and subject to annexation under the Growth Management Act. The state legislature has been offering financial incentives to encourage cities to annex adjacent unincorporated urban areas. It is expected that the remaining urban and urbanizing areas in King County will be annexed by cities in the next 10 years. This would be a reduction in total annualized impacts of approximately 19 percent, based on 2012 SWM rate and revenues. Table 2 summarizes annexation projections expected through 2014. (See also Map of Annexations Expected in 2012-2014 in Appendix 4.)

Table 2. Annexation Projections for 2012-2014

City	Annexation	Annual Impact* (\$)	2012** (\$)	2013** (\$)	2014** (\$)
Snoqualmie	Snoqualmie Mill Pond	\$229,000	\$114,500	\$229,000	\$229,000
Bellevue	Eastgate	286,000	167,000	286,000	286,000
Bothell	Bothell "islands"	329,000	-	329,000	329,000
Renton	West Hill	753,000	-	-	565,000
Issaquah/ Sammamish	Klahanie	567,000	-	-	425,000
Burien	N. Highline (Area Y)	1,430,000	-	1,097,000	1,430,000
Burien	N. Highline East (Sliver and Triangle)	137,000			137,000
	TOTALS	\$3,734,000	\$281,500	\$1,941,000	\$3,401,000

All dollar amounts are based on current rate of \$133 per residential parcel.

*These are total revenues lost from annexations. While some expenditures for site-specific services decrease, there is a minimum funding level necessary to provide area-wide programs, which is included in the rate request.

** Some annexations occur during the course of a year, making revenue loss less than the annual amount.

3. Underfunded restoration and retrofit obligations

As development has increased in King County, more is known about its effects on water quality, runoff, and salmon habitat. This new knowledge now informs how the County regulates new construction. However, earlier development occurred with inadequate or no controls, causing impacts that need to be rectified through capital projects such as repairing and, when necessary, replacing aging stormwater facilities and infrastructure, retrofitting areas developed prior to requirements established for improved stormwater control, and restoring habitat damaged and lost by stormwater runoff. These are all top priorities according to the Puget Sound Partnership for recovery of Puget Sound. However, to date, insufficient funding has been available from all levels of government to make acceptable headway in mitigating all stormwater impacts. (For details, see chapter III, section A.)

4. Optimization of aging County assets

WLRD has responsibility to manage nearly 1,000 flow control and water quality treatment facilities, 90 conveyance facilities, more than 2,000 county outfalls, and inspection and enforcement of maintenance compliance for more than 800 private flow control and treatment facilities. In addition, to meet regulatory requirements, WLRD staff inspect and enforce compliance with pollution-prevention requirements on more than 2,100 developed non-residential properties. As some county pipes near the end of their life-span, WLRD is proposing to develop a comprehensive framework to

optimize management of county stormwater assets to efficiently determine and prioritize major maintenance and replacement demands. (See chapter III, section B3 for a description.)

5. Incentives for better stormwater management on private property

In 2011, King County worked with gravel industry representatives to revise the SWM rate discount program to better reflect landowner investments to control stormwater runoff. These changes are intended to encourage non-residential ratepayers to enhance how they manage stormwater on their properties. (For details, see chapter II, section B.)

D. SWM Services and Fee Collections of Neighboring Jurisdictions

The 2012 SWM fee rates for King, Pierce, and Snohomish counties along with Tacoma and 29 cities in King County were compared. The mean average is \$153.18; the median is \$150.37. Algona has the lowest SWM fee at \$66.00; Seattle has the highest at \$261.66. As Phase I NPDES permittees, the three counties and the cities of Seattle and Tacoma all have to comply with more stringent NPDES permit requirements than the other cities and smaller counties, which have to meet less rigorous requirements as Phase II permittees. (The full comparison of SWM fees can be found in Appendix 3.)

II. Proposed Changes to the Rate Adjustment (“Discount”) Program

A. Current Rate Structure

The current fee assessment is based on the fact that the amount and type of land development contribute to the need for stormwater services by increasing the amount of runoff during rainstorms. The measure used to calculate contribution of runoff from each parcel is the amount of impervious surface (i.e., hard surfaces such as parking lots, roofs, and driveways). Properties are categorized broadly by land use and assessed according to the relative amount of impervious surface.

Impervious surface is considered an equitable method for distributing program costs because the services provided by the King County SWM programs either respond to impacts of surface water runoff or provide tools to prevent such problems.

The major categories of properties and the amounts billed for 2012 are shown in Table 3. Specifics on the rate classes and fees are explained in the subsections that follow the table.

Table 3. 2012 SWM Billings by Property Category

Category	Amount	% of Grand Total
RESIDENTIAL		
Single Family Residential	\$ 10,751,854	53.17 %
Condos/Townhomes	\$ 483,612	2.39 %
Residential Subtotals	\$ 11,235,466	55.56 %
NON-RESIDENTIAL Subtotals	\$ 3,838,301	18.98%
ROADS/HIGHWAYS		
County Roads	\$ 3,744,664	18.52%
State Highways	\$ 796,008	3.94%
Roads/Highways Subtotals	\$ 4,540,672	22.45%
DEBT SERVICE - Annexed Areas	\$ 608,894	3.01 %
GRAND TOTALS*	\$ 20,223,333	100.00%

*Total billed does not include adjustments for possible annexations in the second half of 2012.

1. Residential charges

With the exception of certain discounts, all single family residential properties are currently charged a uniform fee of \$133/parcel. Unlike charges for other land uses, the residential charges are not based on characteristics of individual parcels (parcel size and percent impervious). The concept of a flat fee was based on previous rate studies, the most recent being 1999, that determined that single family residential parcel characteristics were similar enough to justify a single rate based on the average size of parcel and amount of impervious area. In addition, there are nearly 84,000 single family residential parcels in unincorporated King County, and the County cannot feasibly measure impervious area or parcel size for all these parcels. Thus a statistically representative sample of residential parcels has been measured and used as the basis of the residential rate.

2. Non-residential charges

Non-residential parcels are organized into different rate categories based on their percentage of impervious surface (Table 4). Fees for these properties are calculated by multiplying the appropriate rate by the total acreage of the parcel.

The exception to this formula is the Very Light category of parcels, which have 10 percent impervious surface area or less and are charged a flat per-parcel fee. These parcels generally have large undeveloped areas, resulting in significantly less impact to the surface water system. In addition, since many of these properties were recreational, agricultural, or timber lands identified in the King County Comprehensive Plan, the flat fee is intended to encourage retention of the low intensity of development for open space benefit.

Table 4. Current Classes and Rates for Non-Residential Parcels

Rate Class/ Category	Percent Impervious	Annual Rate
2/ Very Light	0 to ≤ 10%	\$133.00 per parcel
3/ Light	> 10% to ≤ 20%	\$320.61 per acre
4/ Moderate	> 20% to ≤ 45%	\$702.61 per acre
5/ Moderately Heavy	> 45% to ≤ 65%	\$1,199.36 per acre
6/ Heavy	> 65% to ≤ 85%	\$1,641.53 per acre
7/ Very Heavy	> 85% to ≤ 100%	\$2,046.72 per acre

3. Rate adjustment (“discount”) program

King County Code includes provisions for reducing a parcel’s SWM fee charge if the parcel contains stormwater control facilities, provides other specified mitigation for runoff, or if there are special discounts (e.g., low-income senior discount). Up until 2011, the King County Code allowed for a one-rate-class discount (i.e., reclassification to a lower rate class) for eligible properties. However, as a result of concerns raised that the historic discount program did not adequately take into account the functional benefits of on-site facilities built under new requirements, the one-rate class discount was temporarily increased to a two-rate-class discount as part of the 2011 budget. This budget also included a proviso that directed WLRD to evaluate the discount program. In the spring of 2011, WLRD transmitted a report to the Council that recommended the temporary two-rate-class discount be continued through 2012 but then be replaced by a new “stackable” (additive) discount program that would incorporate percentage discounts based on a range of specific facility characteristics to handle flow control and water quality. More details on the proposed discount program are provided below in section B.

4. Roads charges

County and state roads are treated similarly to non-residential accounts, with one exception. The fees are calculated by multiplying the roadway acreage, including the entire right-of-way, by a per-acre rate, which is derived from the percent impervious area for different types of roadways.

Consistent with state law, the fee is assessed at 30 percent of the total calculation. This benefit recognizes ongoing expenditures by state and county departments of transportation for the construction, operation, and maintenance of facilities designed to control stormwater runoff from road and highway rights of way. This discount is required for state highways under RCW 90.03.525. It is applied to county roadways using the same justification.

B. Proposed Changes to Rate Adjustment (“Discount”) Program and Rationale

King County Code 9.08 includes provisions for reducing a parcel’s SWM fee charge if the parcel contains stormwater control facilities. However, the code’s historical (1987-2010), or “old,” one-rate-class discount may be insufficient to reflect the extent to which surface water is managed through on-site infiltration or other infrastructure or BMPs. In addition, the historic discount program might not have always or adequately reflected the effectiveness of stormwater controls on gravel mining sites as well as other non-residential developed properties.

Because of these issues, the one-rate-class facility discount was temporarily increased to a two-rate-class facility discount (2011 discount) as part of the 2011 budget, pending consideration of a new discount program to better reflect the extent to which a parcel’s surface water is managed.

1. New stackable rate adjustment (“discount”) program

In 2011, the County worked with gravel industry representatives to review and revise the historic discount program to offer stronger incentives to non-residential land owners to control stormwater flow on their property.

a. Guiding principles

To ensure that SWM rates are consistent with applicable legal requirements, the following guiding principles were used to develop the updated discount program for non-residential parcels. They were included in King County Ordinance 17246 as “a reasonable and legitimate basis for future amendments to the rate adjustment program.” The principles state that the rate adjustment program for non-residential parcels to the extent possible:

- (1) will be linked to the effectiveness of facility or on-site practices that reduce stormwater impacts (that is, the more effective the facility is at reducing stormwater impacts, the greater the discount);
- (2) will be administratively feasible;
- (3) will provide an incentive to property owners to improve on-site control of stormwater, such as via retrofitting an existing facility, improved operations and maintenance, and similar approaches;
- (4) will be consistent, meaning not in conflict, with other King County Code requirements;
- and
- (5) will be available to all non-residential properties once adopted.

b. Proposed discounts

The new discount program is a tiered system of percentage discounts that gives credit for various levels or types of surface and storm water controls applied to the runoff from developed surfaces on the non-residential parcel. The following discounts can be additive and therefore are referred to as “stackable”:

- (1) **Twenty percent** can be discounted for flow control facilities that meet any current or previous King County standard for design of such facilities and serve 50 percent or more of the parcel’s impervious surface. This discount is referred to as the “**basic flow control facility discount**.” Any other qualifying discounts listed below are in addition to, or are stacked on top of, this discount.

(2) **Twenty percent** can be discounted for flow control facilities that meet modern design standards (standards adopted in the 1990 or later versions of the King County Surface Water Design Manual) and serve 50 percent or more of the parcel's impervious surface. Such facilities are typically four to 10 times larger than those meeting pre-1990 design standards. This discount is in addition to the basic flow control facility discount above for a maximum possible discount of 40 percent discount for **modern flow control facilities**. The 40 percent value reflects the importance of flow control in protecting public safety and property from flooding and erosion, and protecting streams and aquatic resources from erosive flows. This discount is also in addition to any other qualifying discounts below.

(3) **Twenty percent** can be discounted for **county standard flow control best management practices (BMPs) and/or infiltration facilities** that serve to absorb, retain, or disperse runoff from 50 percent or more of the parcel's impervious surface so its discharge to the surface water system is minimized. Such practices and facilities encourage groundwater recharge and reduce the impacts of runoff volumes to streams and aquatic resources. Flow control BMPs are essentially low impact development BMPs. This discount replaces the current pervious surface absorption discount and, unlike the current discount, is in addition to any other qualifying discounts in this list.

(4) **Twenty percent** can be discounted for **county standard water quality treatment facilities or equivalent** that serve 50 percent or more of the parcel's impervious surface to remove pollutants from runoff prior to discharge to the surface water system or to groundwater. The "or equivalent" would be demonstrated through regular monitoring of stormwater discharges that show water quality standards for surface and/or ground water are not being violated. This discount replaces the current water quality treatment facility discount and, unlike the current discount, is in addition to any other qualifying discounts in this list.

(5) **Ten percent** can be discounted to parcels on which stormwater discharges from the parcel's impervious surface are regulated under a separate site-specific **NPDES stormwater permit** issued by the state. The discount recognizes the additional rigor required for managing surface and storm water runoff on a parcel that has been issued an individual NPDES permit, such as ongoing monitoring and reporting of stormwater discharges and immediate correction of problems that are detected. Sites that are subject to such an NPDES permit also receive more frequent inspections. This discount is in addition to any other qualifying discounts in this list.

The above tiered system of stackable percentage discounts for non-residential parcels replaces the current facility rate-class type discount and pervious surface absorption rate-class type discount. In addition, the new discount program also replaces the current 65-10 one-rate-class discount on non-residential parcels with a flat percentage discount of 80 percent for properties that are at least 65 percent forested and have no more than 10 percent effective impervious area. (On some of these properties, BMPs for dispersing and infiltrating runoff must be used to achieve 10 percent effective impervious area.) This discount is a stand-alone and not available with the other discounts listed above. The rationale for replacing the old discount with the new program is that the same level of stormwater control effectiveness is achieved, so the discounts should be consistent.

Because the 2010 proviso targeted only the discounts applied to non-residential parcels, no changes in the discounts for single-family residential parcels were considered. The 65-10 discount as currently applied to single-family residential parcels will continue to be applied in the same way, which is a 50 percent reduction to the residential parcel fee. For example, half the proposed residential parcel fee of \$169 would be \$84.50. Also, residential parcels that

currently receive a 50 percent discount for an onsite county standard flow control or water quality treatment facility will continue to receive this amount of discount under the recommended new program. Discounts on residential parcels are not stackable.

2. Analysis of aggregation rate class adjustment

As part of the 2011 review of possible discounts, the gravel industry proposed an option to lower a property's rate class by allowing owners of contiguous parcels to aggregate their parcels for the purposes of determining their base SWM fee. Aggregation of contiguous parcels could result in a lower SWM fee if the percentage of impervious surface for the aggregated site was such that it put the site into a lower rate class. An owner of multiple contiguous parcels could compare the sum of SWM fee charges for all the parcels to what the SWM fee would be if the multiple parcels were treated as one (i.e., aggregated) parcel and apply the less expensive option. If the aggregation resulted in a lower SWM fee, then that rate would become the base SWM fee from which qualifying percentage discounts would be subtracted for stormwater controls that mitigate the runoff impacts from impervious surfaces.

After analyzing the likely effects and impacts of such a rate class adjustment, WLRD recommended in 2011 against implementing it for the following reasons (summarized):

- a. Based on the initial analysis of the aggregation rate class adjustment under the current rate structure, there is no demonstrated water quality or quantity benefit to the surface water system achieved by offering such an adjustment.
- b. Because no surface or ground water benefit is achieved, this adjustment is counter to the following guiding principle from King County Ordinance 17246 (described in 1a above): "The new discount program will be, to the extent possible, linked to the effectiveness of facility or on-site practices that reduce storm water impacts, i.e., the more effective the facility is at reducing storm water impacts the greater the discount."
- c. There is no incentive to the property owner to improve stormwater control. This is counter to the following guiding principle also from King County Ordinance 17246 (and described in 1a above): "Program provides property owner incentive to improve on-site control of stormwater, e.g., via retrofitting existing facility; improved operations/maintenance etc."
- d. Because no surface water benefit is achieved and the aggregation adjustment mainly benefits parcels within Rate Class 2 that already pay the lowest SWM fees, the extra cost to administer this adjustment (\$114,000 in the first year and \$38,000 per year in out years) is difficult to justify.
- e. Evaluation of the aggregation adjustment indicated that it would more than double the SWM fee revenue impact of the old discount program (increasing it from \$1.15 million to \$2.7 million), which could necessitate increasing SWM fees for parcels outside of the discount program to compensate for this impact alone. This is counter to the following guiding principle from King County Ordinance 17246 (described above in 1a): "New discount program will not be at the expense of properties not in the discount program in 2011..."
- f. For parcel aggregations in Rate Class 3 or greater, the rate class adjustment tends to reward those aggregations that have the highest impervious surface percentage within a given rate class.
- g. When aggregation options were analyzed across all contiguous parcels under single ownership in the SWM service area, aggregation resulted in reduced SWM rate class designation for some property owners, but in an increased SWM rate class designation for other property owners.

A later consideration was to determine whether there were some parcel or multiple parcel landscape characteristics that could be defined that could result in water quality benefits if multiple parcels under common ownership were aggregated. None could be identified.

It may be possible to use a multiple-parcel, single-site NPDES stormwater discharge permit as a surrogate for a characteristic that provides some water quality benefit due to the fact that NPDES discharge permits require practices that benefit water quality. Such practices include frequent facility inspections, surface water quality monitoring, reporting of facility performance to the Washington Department of Ecology, and prompt correction of any identified surface water problems. However, the recommended discount program gives a 10 percent discount to any parcel that is in compliance with a separate, site-specific NPDES stormwater discharge permit. Thus, using this same characteristic as a condition for a rate adjustment appears to be unnecessary.

Any property owner in unincorporated King County who owns contiguous parcels has the right to apply for a boundary lot adjustment to aggregate two or more contiguous parcels. If a property owner wishes to aggregate contiguous parcels for whatever reason, it is already an option. In addition, if a separate parcel is served by a stormwater facility on an adjacent parcel, the served parcel is eligible for a rate adjustment in both the existing and proposed rate adjustment program.

In light of these factors, it is still recommended that the aggregation discount not be implemented. While aggregation could reduce the SWM rates for some property owners, that reduction does not represent any demonstrable improvement in water quality.

III. Proposed Rate Increase and Rationale

Since the SWM fee was first established in 1987, the King County Council has approved rate increases to address stormwater runoff impacts from development. Under County Code, this also includes water quality improvements and salmon habitat restoration and protection.

A. Context: What It Would Take to Fulfill All Requirements to Address Impacts from Stormwater Runoff

In its Action Agenda, the Puget Sound Partnership identified the lack of stormwater controls in older developed areas as one of the most significant problems preventing Puget Sound recovery. The application of water quality controls and substantially more effective flow controls did not occur until the early 1990s. Consequently, nearly all development occurring prior to 1990 has little or no flow control and no water quality control. In unincorporated King County, more than two thirds of the land was developed prior to 1990. This amounts to about 150 square miles of land on which native forest was converted to impervious surfaces, lawn and landscape surfaces, and pasture or crop land surfaces without stormwater controls to mitigate the increased runoff and pollution generated by these surfaces.

WLRD recently completed a preliminary assessment of future retrofit requirements to reduce stormwater runoff and mitigate quantity and quality impacts. The assessment identified 64 small stream and lake basins in unincorporated King County that have fair to poor biological health or a water quality impairment likely caused by stormwater runoff from developed land. The biological health was determined using the benthic index of biological integrity, which is a scientific system of measuring multiple indicators to evaluate the condition of a stream. Preliminary estimates for water quality improvements in these small basins could cost approximately \$1.1 billion, or about \$11 million annually for 100 years. Practically speaking, such a sum would likely be beyond the SWM service area capability. However, by not retrofitting these small basins to more holistically address the impact of stormwater runoff, individual drainage and erosion problems will continually need piecemeal solutions. These will cost more in the long run without resolving any water quality impairments. (See Appendix 5 for a map and list of the 64 small stream basins that have documented degraded water quality.)

It should be noted that these 64 stream basins were selected based on the presence of documented problems coupled with a small basin size that makes them more sensitive to the impacts of stormwater runoff from developed land. As such, they do not reflect the full scope of stream basins that have either documented or non-documented problems attributable to stormwater runoff from developed land.

In addition to the lack of stormwater controls in areas that urbanized prior to 1990, another long-time problem related to stormwater runoff and poor water quality faces Puget Sound and King County. Puget Sound Chinook salmon were listed in 1999 as threatened under the federal Endangered Species Act. Other salmon species and steelhead are also in trouble. Uncontrolled stormwater runoff degraded salmon habitat and contributed to these listings. Salmon are not only a regional cultural icon, they have been a cornerstone of the state's economy and lifeblood to the tribes. In addition, the Puget Sound Partnership Action Agenda calls for implementation of the Puget Sound Salmon Recovery Plan, and the Partnership has recently identified habitat protection and salmon recovery as one of their top three strategic initiatives.

To determine 10-year goals to support Chinook salmon recovery, local governments, state and federal agencies, business and environmental interests, and concerned citizens collaborated extensively over many years to create federally and state approved plans. Using the most current scientific information available, these watershed-based plans recommend 146 projects totaling many millions of dollars to restore and protect salmon habitat. Many of the sites are critical for salmon spawning and rearing. These projects also support water quality improvement. However, although the watershed plans were approved more than six years ago, finding adequate funds to implement the habitat projects has proved challenging, and salmon remain far from recovery. (See Appendix 6 for a map and list that show location and status of 146 salmon habitat projects identified as important for meeting 10-year watershed planning goals in support of salmon recovery.)

In summary, it would take significant sums of money to not only maintain current levels of environmental quality but to fully address the impacts of stormwater runoff, poor water quality, and salmon habitat degradation on public safety, the economy, and quality of life. These problems will grow as the region continues to grow and become more populated. This provides context to what will be proposed for actual funding by the SWM rate fee in the next biennium. (See next section below.)

B. New or Expanded Requests for the 2013-14 Biennium

Additional funding to address new and expanded SWM services is requested in the 2013-14 biennial budget for the following reasons:

1. To meet the requirements of the new NPDES municipal stormwater permit for unincorporated King County;
2. To respond to declining revenues due to annexations and to address inflation and central overhead costs to keep base programs operating;
3. To more effectively involve interested communities in capital projects;
4. To more efficiently manage stormwater assets;
5. To implement capital program commitments to retrofit stormwater controls, improve water quality, and restore and protect salmon habitat;
6. To improve water quality along roadways.

Table 6 summarizes what the proposed rate increase will fund. Program descriptions follow the table.

Table 6 SWM Rate Increase Request by Programs

Program/Service	Average Annual Cost (\$)
Base Program ¹	\$2,016,936
NPDES Permit	1,950,000
CIP Community Outreach (Loan-out) ²	(33,000)
Capital Asset Management	300,000
CIP Expansion (Debt Service)	199,000
Roads Water Quality Projects (2013 only)	500,000
TOTALS	\$4,932,936

¹ Base Program includes adjustments for annexations, inflations, and overhead.

² CIP Community Outreach costs will be absorbed through adjustment of third burden rate; see chapter III, section C3 for an explanation.

Below are descriptions of each program for which a change in funding is requested. It should be noted that although staff reductions have been made as a result of annexations and changed work priorities, there will be no reduction in force because of new work associated with new NPDES permit requirements and capital program expansion.

1. New NPDES permit requirements

King County and other jurisdictions are legally required to comply with the NPDES permit. Penalties for lack of compliance can be quite costly. Most current NPDES-related tasks and programs will need to be expanded as outlined below to meet requirements of the new permit:

- Web-based mapping to more readily pinpoint potential drainage and conveyance problems;
- Updated stormwater regulations and manuals that include low impact development standards for greener construction alternatives;
- Expanded detection and elimination of illicit discharges to the county's stormwater system;
- Increased inspection and enforcement of maintenance of private stormwater facilities to ensure public safety;
- Sampling, source tracing, enforcement, and technical assistance in four areas of the county that have total maximum daily load (TMDL) water quality problems;
- Basin-scale planning to more holistically address protection and restoration of water quantity and quality;
- New Puget Sound-wide cost-share program to more cost-efficiently monitor stormwater program effectiveness.

2. Overhead/inflation/annexations

Projections for increased overhead include central county support and business and occupation (B&O) taxes. These costs cannot be altered. A percentage of revenues lost from annexations will need to be replaced to keep SWM service area-wide programs sustainable. (See chapter I, section B2 for a summary of SWM-funded programs and section C2 for additional detail on effects of annexations on SWM revenues.)

3. Capital program community outreach

WLRD currently lacks adequate capacity to reach out to communities and provide general communications about restoration and protection strategies and actions, including capital projects. This can result in the hasty and costly redirection of staff, the stalling of projects to address community concerns, and going in to communities after the fact trying to explain what occurred and why. A more active approach would be more efficient, build stronger community ties, and better achieve King County Strategic Plan goal of public engagement. In addition, the recent independent peer review of WLRD engineering practices recommends increasing public and stakeholder involvement earlier in CIP planning and implementation. (The *Independent Expert Panel Review of Water and Land Resources Division's Project Scoping and Implementation Practices* can be found online at <http://www.kingcounty.gov/environment/dnrp/publications/wlrd-expert-review-report.aspx>.) Costs would be absorbed through adjustment of the third burden rate. (See chapter III, section C3 for an explanation.)

4. Stormwater capital asset management

As discussed below in section B5a(5) of this chapter, some stormwater facilities in King County are approaching the end of their functional life. To cost-effectively prioritize potential problems, WLRD will develop a framework in the coming biennium to optimize the lifespan of its stormwater assets. The purpose is to more efficiently manage and predict maintenance and capital program demands for WLRD stormwater assets. These are the assets for which WLRD has responsibility by way of (1) its custodianship of certain county-owned stormwater assets, (2) its regulatory obligation under the County's NPDES municipal general stormwater permit to enforce compliance, and (3) its mission to protect public safety, property, and water quality. (See chapter I, section C4 and subsection a. below for a description of the stormwater assets WLRD manages.)

In 2013, the management framework will be scoped and software will be selected to manage the full inventory, maintenance, and replacement of assets. In 2014, the framework will be developed and staff trained to use it. It is expected that the framework will become available for use starting in 2015. Looking at the experiences of other King County agencies and other local governments that are developing asset management programs, it generally takes three to five years to get the framework in place and adapt internal systems for full use.

a. Scope of assets that will be addressed

- (1) Flow control and treatment facilities/BMPs (nearly 1,000);
- (2) Conveyance facilities (~90);
- (3) Properties WLRD manages where there is a potential for stormwater quantity and quality impacts;
- (4) Private flow control and treatment facilities/BMPs for which WLRD has a regulatory obligation to inspect and enforce compliance with adopted maintenance standards (more than 800 facilities, more than 1,000 BMP sites);
- (5) Private conveyance facility catch basins for which WLRD has a regulatory obligation to enforce compliance with adopted maintenance standards;
- (6) Developed commercial, industrial, and non-residential properties for which WLRD has a regulatory obligation to inspect and enforce compliance with pollution-prevention requirements (nearly 2,200 sites);
- (7) Private conveyance facilities for which WLRD has a concern with respect to its mission to protect public safety, property, and water quality; for example, potential facility failure due to age, lack of maintenance, or other factors (see section B5a(5) of this chapter below for more detailed discussion) (155 lengths of pipe);
- (8) County outfalls for which WLRD is obligated by its NPDES permit to screen for illicit discharge (more than 2,000).

The stormwater asset management framework would not address conveyance facilities and property under the custodianship of other county agencies (possible exception is the mapping data WLRD manages for these agencies) and stormwater assets in cities that WLRD inspects under services contracts.

b. Key tasks for development of the asset management framework

There are several steps to create the asset management framework:

- Assess WLRD's current asset management procedures, standards, and practices to identify gaps, inefficiencies, and improvements to optimize management of assets.
- Address level of service options for maintenance practices including mowing frequency and inspection of WLRD properties, and policy for adoption of private pipes, etc.
- Identify replacement plan (criteria and finances) for aging facilities and components.
- Select new software needed to efficiently inventory and track all stormwater assets (this task is already under way).
- Seek stakeholder and resident input to finalize the framework.

5. Capital programs increase

An evaluation of existing capital projects to mitigate and prevent problems due to stormwater runoff and discharge of pollutants in the SWM service area demonstrated a significant number of identified problems that could be solved by an increase in the SWM-funded capital program. The capital projects identified are for both the stormwater and ecosystem capital programs (defined below) and for the water quality and runoff projects in the right of way for the Roads Services Division.

To move forward on implementation of these capital improvement projects, WLRD is proposing to use bonds to finance \$11.3 million of capital construction projects in WLRD and the Roads Services Division. This bond-financed capital program will increase capacity to conduct feasibility, design, and construction of capital projects in 2013 and 2014. As proposed, the bonds would be interest only through 2016, at which time debt from a major bond issuance from 1996 will be retired. In 2017, payments for full amortization will commence at an annual cost of about \$1.0 million. This would enable the stormwater and the ecosystem (habitat) capital programs to be increased by \$1.6 million each above the base funding in each year of the biennium, in addition to the \$3.155 million of Roads capital projects. Remaining funds would go towards improving community relations, capital project management, and monitoring effectiveness.

This increased capital program will help move the County closer to meeting requirements and commitments to retrofit pre-1990 development, improve water quality, and restore salmon habitat as well as reduce the significant water quality impacts associated with King County roads. In addition, the investments will help achieve the service excellence and environmental sustainability and public safety goals of the Strategic Plan. (Specifics regarding each capital program (stormwater, ecosystem, and roads) are described in the following subsections.)

a. Stormwater capital

Stormwater capital includes programs that assist landowners in improving water quality on their properties as well as projects that are focused on replacing aging infrastructure and building new facilities to retrofit areas developed prior to current stormwater control standards.

Described below are (1) stormwater retrofits, (2) the Agricultural Drainage Assistance Program, (3) the Neighborhood Drainage Assistance Program, (4) the Stewardship Water Quality Cost-Share Program, and (5) aging infrastructure replacement programs. The proposed bond will add a total of \$3.8 M of bond revenue to help fund all of these programs as described below. (See Appendix 8 for a map and list of specific stormwater capital projects.)

(1) Stormwater retrofits

The lack of stormwater controls in development prior to 1990 has contributed to water quality impairments and fair to poor biological health of stream basins. A preliminary analysis indicates the magnitude of what it would take to retrofit these areas. (See section A of this chapter for a description and results of the analysis of 64 small stream basins that have documented poor to fair biological health or water quality.) To begin addressing this, WLRD and the Roads Services Division will collaborate in the coming biennium to develop a systematic strategy for retrofitting, including evaluation of additional costs, necessary resources, prioritization, and community concerns and interests. Retrofitting would not only improve water quality and biological health of the basin, it would likely decrease the need for and associated cost of responding to emergency erosion and flooding problems on both public and private properties and King County roads.

(2) Agricultural Drainage Assistance Program

The Agricultural Drainage Assistance Program (ADAP), created in the late 1990s, helps the owners of agricultural lands maintain and improve the drainage on their property. Improved drainage can extend the growing season by allowing fields to be planted earlier in the year and harvested later in the season or can put fields back into production that became too wet to work due to lack of maintenance.

After determining that the permitting requirements under the old system were burdensome to farmers, the ADAP was revised in collaboration with farmers and local and state regulatory agencies. The streamlined ADAP that was introduced to farmers in 2012 reduces staff time required for each project by standardizing BMPs for consistency and

predictability, and simplifies permitting so that for most projects, landowners will need only a Hydraulic Project Approval from the state along with a farm plan.

The capital bond includes funding for ADAP of an additional \$150,000 to bring the total program for the biennium to \$170,000. This additional funding will help farmers in King County improve agricultural productivity through improved drainage systems in agricultural production districts.

(3) Neighborhood Drainage Assistance Program

The Neighborhood Drainage Assistance Program (NDAP) was created in 1992 to help property owners address problems with their drainage facilities caused by increased runoff from upstream development. These drainage problems are typically associated with the largely private off-road stormwater conveyance system. Problems can be resolved by building new drainage facilities (CIP), by maintaining existing drainage facilities (Facility Fix), or with small drainage improvement projects that cost less than \$5,000 and do not require permits (Quick Fix).

The NDAP prioritizes projects using a cost/benefit ratio for CIP and Facility Fix projects. Quick Fix projects are performed on a first come, first served basis if funding is available. Although total costs vary within each category of project, for budgeting purposes, the cost range of each project type is (1) CIP projects are greater than \$40,000; (2) Facility Fixes range between \$5,000 and \$40,000; and (3) Quick Fixes cost less than \$5,000. These numbers are based on actual project costs for past projects and consideration of any unusual circumstances related to the projects used for the estimates. NDAP funding has been limited or non-existent in recent years as a result of other more pressing capital needs.

The NDAP waiting list of potential projects currently contains 17 CIPs, nine Facility Fixes, and three Quick Fixes; it would take an estimated \$965,000 to complete all projects on the waiting list that was started in 2007. To eliminate the backlog within five years would require almost \$200,000 per year. Frequency of past requests was used to estimate adding requests for both base funding and bond funding for a full program in 2013 and 2014 of \$260,000. While this level of funding will not be enough to eliminate the backlog, it will reduce its growth and address multiple significant problems.

(4) Stewardship Water Quality Cost-Share Program

The Stewardship Water Quality Cost-Share Program provides match funding for livestock landowners to implement water quality and habitat BMPs recommended in farm conservation plans developed with the King Conservation District. The match ranges from 50-75 percent on a variety of practices that include, but are not limited to: heavy use area protection/confinement areas, manure management, clean water diversion, roof runoff management, stream and wetland buffer fencing, riparian restoration, pasture renovation, and stream crossings.

The program has been an effective means to encourage landowners and operators to implement BMPs and has served as seed money to start natural resource protection and enhancement on private lands. Each property has a lifetime cap of \$5,000. This allows the program to spread natural resource protection and enhancement over a larger geographic footprint. The farm conservation plan requirement and the property lifetime cap limit the demand at any given time. The program was budgeted and grants awarded at \$62,000 in 2009 and \$75,000 in each year since.

The predicted demand for the program is \$75,000 to \$100,000 every year beginning 2012; these figures do not include addressing the four creek basins targeted in the new NPDES

permit for TMDL water quality improvements. Unused funds can be carried over to following year if need be and reduce the appropriation that year.

(5) Aging infrastructure replacement

Stormwater detention and conveyance pipes deteriorate over time and should be replaced so that they meet intended function. The age at which a pipe should be replaced will vary based on what it is made of and other factors. WLRD owns or must come to terms with a large number of pipes that have been identified to be at or near replacement age as described in the next two sections.

Since these pipes have not yet been assessed to determine the urgency of replacement or the hazard posed by their failure, it is recommended that in-pipe inspections and engineering assessments be completed to determine pipe condition/failure risk and the impact of pipe failure to public safety and aquatic resources. The information collected from these assessments will be used to prioritize the pipe replacements and recommend a plan of action that may include replacement, repair, or subsequent inspection over time to monitor pipe condition.

(a) Off-road stormwater conveyance pipes at or near replacement age

A sizeable number of 18-inch and larger stormwater conveyance pipes outside of King County-maintained road rights-of-way are at or near replacement age and are not currently being regularly inspected and maintained by either the County or private parties. (See Appendix 7 for a map of these pipe systems.) Metal pipes have a life expectancy of 30-50 years while concrete pipes last 50-100 years. As their age approaches or exceeds this expected life, the risk of failure increases significantly and the consequence of failure could be substantial -- flooding inside of homes, overtopping of roads, severe erosion and sedimentation of natural streams, and/or landslides.

The King County Code (9.04.120.A) states that “The person or person holding title to the property and the applicant required to construct a drainage facility shall remain responsible for the facility’s continual performance, operation and maintenance in accordance with the standards and requirements of the department and remain responsible for any liability as a result of these duties.” The pipes in most cases are trunk line systems that traverse multiple private lots within residential subdivisions, conveying runoff between, to, or from county-managed pipes within county road rights-of-way. In many cases, the pipes are in easements originally dedicated by the subdivision to King County or for public drainage but they were never formally accepted by the County for permanent ongoing maintenance. Therefore, as required by the County Code (9.04.115.B.3), responsibility for their maintenance defaults to the multiple property owners of land through which the pipes traverse. However, this responsibility may never have been communicated to the private lot owners whose properties are traversed by the pipes. Nor were the owners provided information on recommended inspection frequency, maintenance standards, and methods. In addition, effective inspection and maintenance of pipe systems that traverse multiple lots require all the lot owners to work together and share in the costs, which can be difficult to coordinate and fund, even for a homeowners association. Consequently, these pipes are assumed to have not been managed since they were originally constructed.

One hundred and fifty unmanaged lengths of conveyance pipe were found in unincorporated King County. These lengths total about 21,400 linear feet of aging trunk line conveyance pipes that could pose a potential risk to public safety and aquatic resources in the next five to 10 years. The question is whether King County should take responsibility for the pipes or take enforcement action against the property owners to

compel active management and replacement of the pipes as needed. If King County decides to take on the responsibility to replace these pipes, the total estimated cost of replacement is approximately \$26.5 million, which includes design, acquisition, permitting, and construction. The estimated cost of inspections/assessments is summarized in Table 7 for each length of pipe and totals close to \$900,000 (\$101,880 + 775,000 = \$876,880).

Table 7. Off-Road Conveyance Pipe Estimated Replacement Costs

Category	Total	Portion in King County Easement
Pipe length (ft)	21,389	2,340
Total # of pipe lengths	155	21
Average age in 2013 (yrs)	41.7	36
Total replacement cost estimate	\$26,503,000	\$2,920,000
Total in-pipe inspection cost	\$102,000	\$11,000
Total engineering assessment cost	\$775,000	\$105,000

The proposed capital bond includes funds for a comprehensive assessment of 80 off-road conveyance pipes that have been identified as at or near replacement age as well as funds to design and implement replacement of three pipes determined to be at greatest risk during the biennium. WLRD will also evaluate service options and policies for these conveyance systems to guide future operations and capital investments.

(b) Stormwater detention pipes at or near replacement age

WLRD maintains a number of stormwater detention pipes that are at or near replacement age by virtue of being corrugated metal pipe that will be 30 years or older in 2013. (See map in Appendix 7 for locations.) As these pipes reach an age of 30-50 years, it is assumed the risk of failure increases significantly and the consequence of failure could range from flooded homes and roads to severe erosion and water quality impacts to streams and aquatic resources. In addition, all of the pipes were designed to pre-1990 detention standards, which means they may need to be enlarged to meet modern detention standards.

There are 22 such pipes in almost as many subdivision developments, about five of which are located within Potential Annexation Areas. This totals about 3,100 linear feet of aging detention pipe that could pose a significant risk to public safety and aquatic resources in the next five to 10 years. The total estimated cost of replacement is about \$4.8 million, which includes design, acquisition, permitting, and construction. The estimated cost of inspections/assessments totals about \$123,000.

b. Ecosystem capital

Ecosystem capital includes land and water habitat restoration and protection projects that correct or prevent habitat degradation contributed to by stormwater runoff in unincorporated King County. Projects were identified in watershed-based salmon conservation plans developed through extensive interjurisdictional, multi-stakeholder collaboration and approved by federal and state agencies. Actions identified are in the four county watersheds (Snoqualmie, Lake Washington/Cedar/ Sammamish, Green-Duwamish, which includes Vashon-Maury Island, and the White). Activities include:

- Acquiring and protecting habitat sites;
- Designing and constructing restoration projects;

- Feasibility and reconnaissance studies to develop project concepts and conduct preliminary evaluations;
- Monitoring, maintenance, and post-construction inspections;
- Post-project remediation recommended by monitoring and adaptive management; and
- Creating a management reserve contingency fund.

(See Appendix 9 for a map and list of projects.)

To keep pace with the 10-year goals of the watershed plans, King County should complete, on average, more than 13 projects each year. To meet this target, the County should have completed 68 projects by end of 2010. However, funding for these actions at local, state, and federal levels has been far below the levels needed for full implementation. Consequently, King County reported completion of only 23 projects by the end of 2010. The watershed plans identified implementation schedules that reflect critically low salmon population levels and downward population trends for the region's listed species. The region needs to increase funding to levels identified in the recovery plan to achieve targeted goals within the critical time periods needed to support recovery of salmon populations. (See section A of this chapter for a discussion of what it would take to support recovery of listed Puget Sound salmon species, including implementing 146 ecosystem and habitat projects in unincorporated King County.)

Implementation of the watershed-based salmon plans, including this ecosystem CIP work, is recommended in many sections of the 2008 King County Comprehensive Plan (e.g., Chapter 4 Environment, Section VI, cooperative Salmon Recovery and Puget Sound Partnership). These actions are also key to achieving the King County Strategic Plan goals of environmental sustainability and public engagement.

Using the limited funds available to leverage federal, state, and local grants, King County has prioritized recovery action projects that deliver high-value ecological gains and are feasible within current funding constraints. (See Table 8 below and Appendix 9.) The requested budget increase would begin to provide funds for post-project remediation based on monitoring and adaptive management for projects that restore riverine processes and for which significant geomorphic changes can be anticipated in the first five to 10 years after construction. The increase including new bond revenue of \$3.8 million would help address the significant revenue needs for additional larger projects and increase efficiencies.

Table 8. Ecosystem Capital Program Funding Projections

Project/Program Groups	2013-14 Base (\$)	2013-14 Bond (\$)	2013-14 Total (\$)	10-Year Estimated Demand (\$)
WRIA 7 Ecosystem Restoration	\$1,006,635	\$1,357,850	\$2,364,485	\$30,000,000
WRIA 8 Ecosystem Restoration	34,000	150,000	184,000	5,000,000
WRIA 9 Ecosystem Restoration	443,885	716,045	1,159,930	9,500,000
WRIA 10 Ecosystem Restoration	31,000	100,000	131,000	2,500,000
Vashon Ecosystem Restoration	360,000	86,105	446,105	5,000,000
Ecosystem Restore and Protect	937,250	1,085,000	2,022,250	
Monitoring and Maintenance	550,000	0	550,000	
Small Habitat Restoration	480,000	305,000	785,000	4,500,000
Project Development/Adaptive Management				17,500,000
Totals	\$3,842,770	\$3,800,000	\$7,642,770	\$74,000,000

Notes: Project Development/Adaptive Management refers to management reserve, project management, feasibility, reconnaissance, monitoring/maintenance, hazardous removal/protection.
 10-Year Estimated Demand comes from the Puget Sound Salmon Recovery Plan and the WRIA 10-year plans. For additional detail, see Appendix 7.

b. Roads water quality maintenance and capital projects

The Washington Department of Ecology has issued reports that show many of the toxics polluting Puget Sound come from stormwater running off vehicles and impervious paved and gravel county roads. Some of this runoff is captured in roadside ditches, but a percentage ends up downstream. To address this, maintenance and capital improvements to roads rights of way are necessary for water quality. WLRD and the King County Department of Transportation Roads Services Division worked together to include \$1.0 million in SWM rate increase for increased cleaning and maintenance of catch basins and additional street sweeping of busy intersections. The rate request also will support \$3.155 million of bond-funded water quality related capital construction projects in the Roads Services Division to address existing high priority water quality problems in the road rights of way. In addition, the Roads Services Division will work in collaboration with WLRD during the biennium to systematically address the most important areas of retrofit and water quality degradation on and off the roadways in the SWM service area. (See Appendix 10 for map and list of priority projects to be funded in the Roads Services Division by the proposed bond.)

C. Other Possible Revenue Sources

To maximize funding opportunities for SWM programs, WLRD has evaluated grants, debt financing to extend funding, and how other agencies are charged for WLRD staff services.

1. Grant options

King County staff obtain roughly \$5 million to \$7 million a year in state, federal, and regional grants for stormwater and ecosystem (habitat) capital projects. However, each year starts with a blank slate, and as state and federal budgets shrink, there is less certainty and no consistency in achieving useful funding from grants. King County will continue to apply, but the competition grows fiercer as the funding pots grow smaller.

2. Debt financing/bonds

In the 1990s, the County issued bonds to help fund some SWM capital improvements. Since that time, the County has used a pay-as-you-go system. Because retrofitting and restoration projects have long lifespans, it may be more appropriate to amortize the design and construction costs over

the life of the asset rather than use only the pay-as-you-go system. To move forward on implementation of several major capital improvement projects, WLRD is proposing to use bonds to finance \$11.3 million of capital construction projects in WLRD and the Roads Services Division. As proposed, the bonds would be interest-only through 2016, at which time debt from a major bond issuance from 1996 will be retired. In 2017, payments for full amortization will commence at an annual cost of about \$1.0 million. This would enable the stormwater and the ecosystem capital programs to be increased by \$ 1.6 million each in each year of the biennium, in addition to the \$3.155 million of Roads Services Division capital projects. (See section B for descriptions of projects to be funded by the bonds and appendices 8, 9, and 10 for maps and lists of the CIP projects.) The remaining funds would go towards improving community relations, capital project management, and monitoring effectiveness.

3. Full cost recovery burden rate (capital program)

The SWM program revised its methodology for calculating indirect cost allocations that are recovered from chargeable labor. This change is in keeping with King County capital program practices. King County's financial system includes a feature that enables allocation of labor and indirect costs to programs that benefit from labor charged through the use of calculated "burden rates." Most staff who are home-based in the WLRD Ecological Services, Stormwater CIP, and Acquisitions units are dedicated to supporting capital projects, some in WLRD, some in other county agencies. Under the current methodology, the burden rates reflected certain county, department, and division indirect costs, but did not reflect costs such as section oversight and management, and administrative support hours for capital program staff. By moving to full-cost recovery, this will result in a net decrease to the SWM operating fund.