

**CITY OF SNOHOMISH  
Snohomish, Washington**

**ORDINANCE 2060**

**AN ORDINANCE OF THE CITY OF SNOHOMISH, WASHINGTON  
ESTABLISHING A STORMWATER UTILITY AND ADOPTION OF  
STORMWATER UTILITY RATES BY RESOLUTION OF CITY  
COUNCIL**

**WHEREAS**, The Federal Clean Water Act, 33 U.S.C. 1251 et seq., requires certain political entities, such as the City, to implement stormwater management programs within prescribed time frames, and the Environmental Protection Agency, pursuant to the Federal Clean Water Act, 33 U.S.C. 1251 et seq., has published rules for stormwater outfall permits; and

**WHEREAS**, pursuant to RCW Ch. 35 A.11, Ch. 35.67 and Ch. 35.92, the City has the authority to establish a stormwater utility and set utility rates, and

**WHEREAS**, the City currently combines its sewer and stormwater utility rates into a single utility rate; and

**WHEREAS**, in December 2003, the City authorized a Stormwater Plan Implementation Agreement with a qualified consultant; and

**WHEREAS**, on April 6, 2004, the City Council appointed a Stormwater Advisory Committee to recommend systems and policies to finance the City's Stormwater responsibilities, and that Committee met on five occasions to discuss and review stormwater plan implementation; and

**WHEREAS**, on August 17, 2004, the Stormwater Advisory Committee's recommendations were presented to City Council, recommending the establishment of a separate Stormwater utility and Stormwater utility rate. A written report was developed with the assistance of a qualified consultant. Said report is dated August 17, 2004 and is hereby incorporated by this reference; and

**WHEREAS**, the City desires to establish a Stormwater utility to be responsible for the operation, construction and maintenance of stormwater facilities; for stormwater system planning, and for review of stormwater development plans for compliance with stormwater management codes; and

**WHEREAS**, the City Clerk did give notice of the public hearing as required by law; and

**WHEREAS**, on September 21, 2004, the City Council did conduct a Public Hearing on the establishment of a Stormwater utility and Stormwater utility rate; and

**WHEREAS**, for purposes of convenience and efficiency, the City wishes to combine its rates and charges for water, sewer, garbage and stormwater into one Resolution;

**NOW THEREFORE**, the City Council of the City of Snohomish, Washington do ordain as follows:

Section 1. The City of Snohomish finds, determines and declares that the stormwater system which provides for the collection, treatment, storage and disposal of stormwater provides benefits and services to all property within the incorporated city limits. Such benefits include, but are not limited to: the provision of adequate systems of collection, conveyance, detention, treatment and release of stormwater; the reduction of hazards to property and life resulting from stormwater runoff; improvements in general health and welfare through reduction of undesirable stormwater conditions; and improvements to the water quality in the stormwater and surface water system and its receiving waters.

Section 2. For those purposes of the Federal Clean Water Act and pursuant to authority set forth in RCW Chapters 35A.11, 35.67, and 35.92, there is created a stormwater utility which shall consist of a separate fund account and such staff as the City Council shall authorize. The stormwater utility, under the control of the City Council, shall:

- (1) Administer the acquisition, design, construction, maintenance and operation of the stormwater utility system, including capital improvements designated in the capital improvement program;
- (2) Administer and enforce this ordinance and all regulations and procedures adopted relating to the design, construction, maintenance, operation and alteration of the utility stormwater system, including, but not limited to, the quantity, quality and/or velocity of the stormwater conveyed thereby;
- (3) Advise the City Council and other City departments on matters relating to the utility;
- (4) Review plans and approve or deny, inspect and accept extensions and connections to the system;
- (5) Enforce regulations to protect and maintain water quality and quantity within the system in compliance with water quality standards established by state, regional and/or federal agencies as now adopted or hereafter amended;
- (6) Annually analyze the cost of services and benefits provided, and the system and structure of fees, charges, civil penalties and other revenues of the utility;
- (7) Perform such other actions as are consistent with the Federal Clean Water Act and RCW Chapters 35A.11, 35.67, and 35.92.

Section 3. Funding for the stormwater utility's activities may include, but not be limited to, the following:

- (1) Stormwater user fees.
- (2) Civil penalties and damage assessments imposed for or arising from the violation of the City's stormwater management ordinance.
- (3) Stormwater permit and inspection fees.
- (4) Other funds or income obtained from federal, state, local, and private grants, or revolving funds.

To the extent that the stormwater utility fees collected are insufficient to construct needed stormwater drainage facilities, the cost of the same may be paid from such City funds as may be determined by the City Council.

Section 4. All revenues generated by or on behalf of the stormwater utility shall be deposited in a stormwater utility fund and used exclusively for the stormwater utility. For the purpose set forth in this Ordinance, Fund 404 is hereby established.

Section 5. The City Council shall adopt an operating budget for the stormwater utility each fiscal year. The operating budget shall set forth for such fiscal year the estimated revenues and the estimated costs for operations and maintenance, extension and replacement and debt service.

Section 6. There shall be imposed on each and every developed property in the City a stormwater user's fee, which shall be set from time to time by ordinance or resolution, and in the manner and amount prescribed by this ordinance.

Section 7. Equivalent residential unit (ERU).

- (1) Establishment. There is established for purposes of calculating the stormwater user's fee the equivalent residential unit (ERU).
- (2) Single Family ERU. The average square footage of impervious surface of a detached single family residential property, which shall be 2,500 square feet.
- (3) Non-Residential ERU. 2,500 square feet of impervious surface for all property other than that developed as single family detached residential.
- (4) Setting the ERU. The fee or rate per ERU shall be set by the City Council from time to time by ordinance or resolution.
- (5) Source of ERU. The City Engineer shall have the discretion to determine the source of the data from which the ERU is established, taking into consideration the general acceptance and use of such source on the part of other stormwater systems, and the reliability and general accuracy of the source. The City Engineer shall have the discretion to determine the impervious surface area of other developed property through property tax assessor's rolls or site examination, mapping information, aerial photographs, and other reliable information.

Section 8. Property classification for stormwater user's fee.

- (1) Property classifications. For purposes of determining the stormwater user's fee, all properties in the city are classified into one of the following classes:
  - (a) Single family detached residential property;
  - (b) Other developed property;
- (2) Single family residential fee. The City Council finds that the intensity of development of most parcels of real property in the City classified as single family residential is similar and that it would be excessively and unnecessarily expensive to determine precisely the square footage of the improvements (such as buildings, structures, and other impervious areas) on each such parcel. Therefore,

all single family residential properties in the City shall be charged a flat stormwater management fee, equal the base rate, regardless of the size of the parcel or the improvements.

- (3) Other developed property fee. The fee for all other developed property (i.e., non-single-family detached residential property) in the City shall be the base rate multiplied by the numerical factor obtained by dividing the total impervious area (square feet) of the property by one ERU. The impervious surface area for other developed property is the square footage for the buildings and other improvements on the property. One ERU shall be 2,500 square feet of impervious surface. The minimum stormwater management fee for other developed property shall equal the base rate for single family residential property.

Section 9. Effective January 1, 2005, a Stormwater Utility shall be established for the City of Snohomish.

Section 10. The City Council shall adopt Stormwater fees and rates by Resolution. Said fees and rates shall be effective January 1, 2005 and may be combined in a Resolution stating the fees and rates for water, sewer and garbage. Stormwater fees and rates shall be reviewed during the annual budget process.

Section 11. The City may offer discounts for stormwater rates in the same manner and under the same conditions as are offered for Sewer pursuant to SMC 15.04.127.

Section 12. The City may enforce the collection of stormwater utility fees and rates under the same conditions that apply to the Sewer utility under SMC 15.05.

Section 13. Severability. If any section, subsection, sentence, clause, phrase or word of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality thereof shall not affect the validity or constitutionality of any other section, subsection, sentence, clause, phrase or word of this ordinance.

ADOPTED by the City Council and APPROVED by the Mayor this 5<sup>th</sup> day of October 2004.

CITY OF SNOHOMISH

By \_\_\_\_\_  
Liz Loomis, Mayor

ATTEST:

By \_\_\_\_\_  
Torchie Corey, City Clerk

APPROVED AS TO FORM:

By \_\_\_\_\_  
Grant Weed, City Attorney

Date of Publication: October 9, 2004

Effective Date: January 1, 2005

# **City of Snohomish**

## **STORMWATER PROGRAM IMPLEMENTATION**

### **REPORT**

#### **1. Executive Summary**

##### **1.1 Background**

The City of Snohomish is faced with several challenges in managing stormwater and affected resources within its jurisdiction. There are numerous identified problems of flooding, water quality impairment, and resource degradation throughout the City. These problems have been identified in prior plans prepared for the City:

- Stormwater Management Plan (2001)
- Combined Sewer Overflow Control Plan Update (draft 2004)
- Endangered Species Act Strategy (2004)

Other problems with the City's drainage infrastructure are identified in the annually updated Capital Facilities Plan.

In addition to needed capital improvements, the City of Snohomish must undertake additional responsibilities to comply with regulatory mandates promulgated over the past decade. The added obligations result primarily from federal and state agencies enforcing provisions of the Clean Water Act (CWA) and Endangered Species Act (ESA), along with relevant measures of the Puget Sound Water Quality Management Plan, Growth Management Act, and federal and state floodplain regulations.

The goal of this project is to recommend and adopt a funding mechanism that allows the City of Snohomish to implement a stormwater management program meeting the community's needs for flooding control, water quality protection, and surface water resource management. To select and implement the most appropriate funding approach requires clear definition of the capital and operational revenue requirements, available funding sources, and the corresponding funding bases from which to generate the revenue. The mix of funding should take advantage of potential outside sources, must be sufficient to support the program, and must equitably share the cost burden.

This project was completed by Earth Tech, Inc. and its subconsultant Katy Isaksen & Associates, with assistance and guidance from City staff and the Stormwater Management Advisory Committee. The Committee convened for five evening meetings between May 10 and July 19, 2004. The Committee quickly oriented themselves to the issues in stormwater management, requested additional information from City staff and the project team as needed to complete their understandings, and provided specific guidance on priorities and on the recommendations presented in this report.

## 1.2 Summary of Recommendations

The Committee considered and weighed several aspects in arriving at their recommendations for funding a stormwater program: the rigor of the program in addressing stormwater problems (termed “Level of Service”), the relative allocation of resources between system maintenance, capital improvements and operational activities, the need to achieve regulatory compliance, and the cost to Snohomish residents, businesses, and agencies. Further, the Committee evaluated several alternative approaches for allocating the costs among property owners across the City.

### Method of Allocating Costs

The Committee selected a stormwater utility fee, allocated across properties based on the amount of impervious surface area on each land parcel (impervious surfaces include rooftops, pavements, and traffic-compacted gravel areas). This methodology was viewed as a more equitable and appropriate means of distributing costs than through the sewer charge, which is based on water usage. Single family residential properties would be charged a flat rate based on an average impervious surface area of 2,500 square feet, with other properties charged in proportion to their impervious surface area measured from scaled aerial photography.

All stormwater related projects and activities would be funded through this new stormwater charge. Because of the new charge, the costs for stormwater functions would be removed from the sewer utility fund, and there would be a corresponding reduction in the sewer rate.

### Level of Program Funding

The Committee recommends that funding for annual maintenance, inspection and program operations be established at roughly the same levels as those recommended in the 2001 Stormwater Management Plan (SWM Plan), with several modifications. Unit costs for maintenance activities were underestimated in the SWM Plan; therefore, maintenance activities would be focused on higher priority measures to maintain costs at close to the SWM Plan estimates. The SWM Plan cost estimates for regular drainage infrastructure repair and replacement had omitted the costs of construction materials, and these costs have been incorporated into the recommended funding program. Also added to the annual costs are estimates of billing and collection, finance, and taxes associated with administering the stormwater utility charge.

***Table ES-1 Recommended Annual Program On-going Cost Components***

<b>Annual Stormwater Program On-going Costs (2004 dollars)</b>	<b>Targeted Level of Service (as First Step)</b>
System Maintenance & Inspection	\$117,332
Repair & Replacement	56,050
Program Operations	33,000
Billing & Collection/Finance/Taxes	34,695
Reserve	12,054

System Replacement	Included in M&O, CIP
<b>Total Stormwater On-going Costs Before Capital</b>	<b>\$253,131</b>

Capital improvements are proposed to address flooding, water quality, habitat, and CSO reduction needs. The total cost of proposed capital improvements is broken down as shown in Table ES-2. A detailed list of the projects is provided in Section three of this report.

Table ES-2 Capital Improvement Program Summary

<b>Problem Type to be Addressed</b>	<b>Estimated Project Costs (2004 \$s)</b>	<b>Net Costs to City (1)</b>	<b>Timeline to Initiate</b>
Flooding / Water Quality (8 projects)	\$3,236,000	\$3,236,000	2005-2024
Habitat / ESA (7 projects)	\$3,387,000	\$2,557,500	2005-2024
CSO-related (4 projects)	\$2,700,000	\$1,350,000	2011
Sewer Separation	\$26,747,000	(2)	2012 - 2042
<b>Total Stormwater Capital Improvements Cost</b>		<b>\$7,143,500</b>	

(1) Net costs reflect assumption that selected projects receive grant funding.

(2) Because of the proposed timeline for separation of storm sewers and uncertainties in the need for completing such projects, budgeting for their cost was deferred.

The preferred program costs, corresponding monthly stormwater rate, offsetting reduction in sewer rates, and resulting impact on an average single family customer are shown in Table ES-3. The Committee selected an approach that funds the completion of the capital improvements over twenty years. The rate would be increased three years in advance of constructing the CSO-related stormwater projects in order to collect sufficient revenues to match grant funding opportunities for those projects.

Table ES-3 Stormwater Management Advisory Committee's Preferred Program Funding

<b>Advisory Committee's Preferred Program: "MAKE PROGRESS, EASY ON THE POCKET"</b> <b>(Review annually to keep up with cost escalation)</b>	<b>Average Annual Program Funding (2004\$)</b>	<b>Monthly Stormwater Rate per Impervious ERU (1) (2)</b>	<b>Reduction in Monthly Sewer Rate, Avg. Single Family (3)</b>	<b>Net Impact on Average Single Family per Month</b>
On-going costs	\$ 253,131			
Account Set-up over 3 years	\$ 5,150			
Flooding/Drainage/Water Quality over 20 years	\$ 161,800			
Habitat/ESA over 20 years	\$ 127,875			
<b>Average Annual Program - Beginning</b>	<b>\$ 547,956</b>	<b>\$7.07</b>	<b>(\$4.85)</b>	<b>\$2.22</b>
Next Steps:				
A. Remove Account Set-up after 3 years	\$ (5,150)	(\$0.07)		

B. Increase for CSO-Related projects based on timing of projects and grant/loan. Begin 3 yrs. before to generate local match, fund over 20 yrs. (2008 for project to be constructed in 2011)	\$ 93,408	\$1.21		
C. Hold for future determination on Sewer Separation. Assumed that project would not go forward without substantial grant, and sewer would pay majority.				

Notes:

(1) Single family property equals one Impervious ERU. Non-single family equals one Impervious ERU for every 2,500 square feet of impervious area.

Estimated number of Impervious ERU's:

(2) Recommend Senior/Disabled Low Income Discount to be the same as sewer – 50%.

(3) The stormwater program is currently funded through sewer rates, and sewer rates would be offset by the new stormwater rate. The actual rate reduction will depend on water consumption. The average single family customer uses 800 cubic feet per month.

## 2. Introduction and Background

### 2.1 Project Objectives and Scope

The goal of this project is to recommend and adopt a funding mechanism that allows the City of Snohomish to implement a stormwater management program meeting the community’s needs for flooding control, water quality protection, and surface water resource management. The City’s Stormwater Management Plan adopted in 2001 addresses capital projects and operating and maintenance activities. Two related plans are currently being completed for the City: the Endangered Species Act Plan, and the CSO Reduction Plan update. These plans identify specific capital needs, some of which look to a stormwater funding mechanism for revenue.

Crucial to successfully implementing the capital and operational elements of the stormwater program is establishing a reliable source of funding. To select and implement the most appropriate funding approach requires clear definition of the capital and operational revenue requirements, available funding sources, and the corresponding funding bases from which to generate the revenue. The mix of funding should take advantage of potential outside sources, must be sufficient to support the program, and must equitably share the cost burden.

The objectives of this project are to:

- Document any changes that have occurred since the Stormwater Plan was completed;
- Update and prioritize proposed:
  - capital improvement projects
  - maintenance and operational activities
- Define and evaluate alternatives for funding implementation of the stormwater activities;
- Engage an advisory committee in funding alternatives development and evaluation;
- Report to City Council on recommendations for stormwater funding.

This project to develop stormwater program funding recommendations was authorized by the City of Snohomish through the Professional Services Agreement executed with Earth Tech, Inc. dated December 31, 2003. Katy Isaksen & Associates is a subconsultant to Earth Tech on the financial aspects of this project.

## **2.2 Committee and Staff Involvement**

This project was completed with assistance and guidance from City staff and the Stormwater Management Advisory Committee. City staff performed mapping analyses of impervious areas throughout the City of Snohomish, provided historical and current engineering and financial data, served as a reference source regarding City policies and procedures, and formed and supported the advisory committee.

The Stormwater Management Advisory Committee quickly oriented themselves to the issues in stormwater management, requested additional information from City Staff and the project team as needed to complete their understandings, and provided specific guidance on priorities and on the recommendations presented in this report. The Committee convened for five evening meetings between May 10 and July 19, 2004. The Stormwater Management Advisory Committee members are acknowledged in Table 2-1.

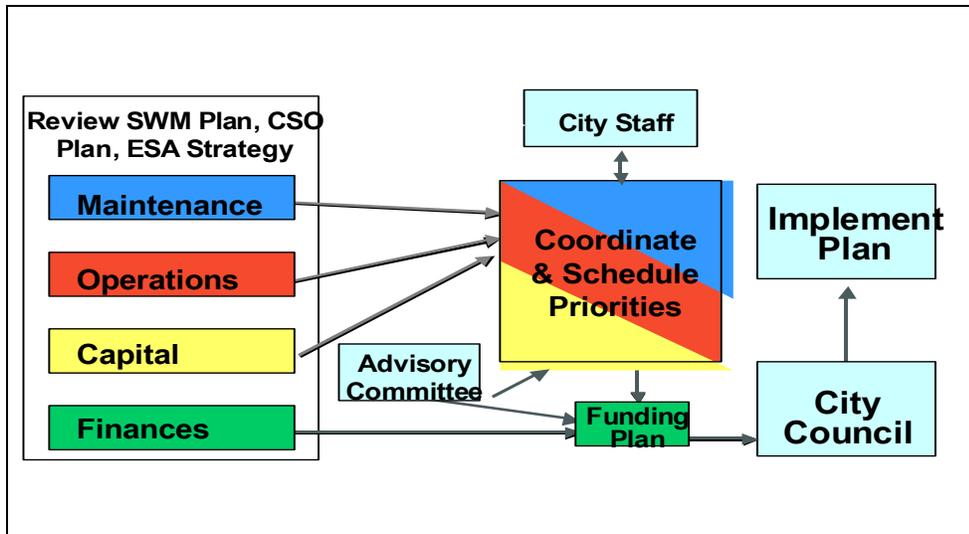
### ***Table 2-1 Stormwater Management Advisory Committee***

Tonya Christoffersen	Dan Huntington
Ray Cook	Bob McDaniel
Laura Hines	Jim Price
	Lya Badgley (Council Liaison)

We very much appreciate the Committee members devoting their substantial personal time and efforts towards this project.

Figure 2.1 presents a schematic describing the process used to engage the advisory committee in developing the recommendations in this report. The consultant team (Earth Tech, Inc. and Katy Isaksen & Associates) compiled and reviewed recent and ongoing plans and sewer/stormwater budget data to define the current status of stormwater efforts and finances.

Figure 2.1 Study Process



The consultant team presented background information and identified needs to the Stormwater Management Advisory Committee at the first meetings. The second two meetings explored alternative means of funding and structuring the stormwater program. The summary of recommendations was drafted and circulated to the Committee members and City staff and then incorporated into the project report for presentation to the City Council.

### 2.3 Drainage Needs

The City of Snohomish is faced with several challenges in managing stormwater and effected resources within its jurisdiction. There are numerous identified problems of flooding, water quality impairment, and resource degradation throughout the City. These problems have been identified in prior plans prepared for the City:

- Stormwater Management Plan (2001)
- Combined Sewer Overflow Control Plan Update (draft 2004)
- Endangered Species Act Strategy (2004)

Other problems with the City's drainage infrastructure are identified in the annually updated Capital Facilities Plan. In addition, storm drain capacity problems were evident from in street flooding that occurred during a thunderstorm in late May 2004. Capital improvements proposed to resolve the problems identified by the foregoing efforts are compiled in Section three of this report.

### 2.4 Regulatory Mandates

In addition to needed capital improvements, the City of Snohomish must undertake additional responsibilities to comply with regulatory mandates promulgated over the past decade. The added obligations result primarily from federal and state agencies enforcing provisions of the Clean Water Act (CWA) and Endangered Species Act (ESA), along with relevant measures of the Puget Sound Water Quality Management Plan, Growth Management Act, and federal and

state floodplain regulations. More detailed discussion of Snohomish’s obligations under these regulations is presented in the 2001 Stormwater Management Plan.

### National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) stormwater permit for municipal agencies defines the impact of CWA compliance upon the City’s stormwater program. The NPDES program is administered by the state Department of Ecology through authority delegated by the U.S. Environmental Protection Agency. The City submitted its NPDES permit application in March 2003 in conformance with Federal rules. A copy of the City’s application is presented in Appendix A to this report for reference.

The NPDES regulations require communities like Snohomish to implement six minimum control measures to protect water quality. In addition, the state Department of Ecology has called for communities to meet an additional four requirements based on the Puget Sound Water Quality Management Plan outcomes. The federal and state requirements under the NPDES permitting program are listed in Table 2.2.

Table 2.2 NPDES Requirements for Snohomish

<b>Six Minimum Federal Requirements</b>	<b>Four Additional State Requirements</b>
Public Education and Outreach	Problem Identification and Ranking
Public Involvement and Participation	Program Monitoring
Illicit Discharge Detection and Elimination	Funding
Pollution Prevention Measures for Municipal Operations	Planning, Standards and Implementation
Construction Site Stormwater Runoff Control	
Post-Construction Stormwater Management in New Development and Re-development	

Details of the foregoing provisions are described in the 2001 Stormwater Management Plan. The bottom line impact to the City of Snohomish to comply with these provisions is dedication of additional staff resources to perform more aggressive drainage system maintenance; evaluate, update and enforce standards; implement field and program monitoring; and report progress in complying with the regulations to the state.

### Endangered Species Act

The City of Snohomish has recently completed an ESA Strategy to guide the City in complying with the federal Endangered Species Act. The goals of the ESA Strategy are to:

- Guide the City’s compliance with multiple federal and state environmental regulation in one integrated strategy
- Protect and restore the City’s streams, wetlands and riverfront to maximize their habitat value, while recognizing local constraints, and
- Provide the City with options to pursue means of reducing the City’s regulatory exposure.

The strategy addresses these goals by completing reviews of City activities in seven categories:

- Development regulations: buffers, stormwater standards, and other issues
- Habitat acquisition and restoration
- Maintenance of park and riverfront property
- Stormwater management programs and projects
- Pilchuck Dam operations and improvements
- Technical assistance for community-based stewardship
- Road and other public works maintenance

Except for those activities related to the Pilchuck Dam operations, the activities reviewed in developing the ESA Strategy are integral to the scope of the stormwater management program activities. Among the seven activity categories, the habitat acquisition and restoration element of the ESA Strategy had the largest financial impact in the stormwater funding analysis.

Section three presents results of analyses completed to assess the organizational and financial impacts of complying with the multiple regulations faced by the City's stormwater program.

### **3. Stormwater Program Components and Costs**

The elements of municipal stormwater management in Snohomish can be categorized into three functional areas:

- Drainage infrastructure maintenance and inspection
- Stormwater program operations
- Capital improvements

The scope of the stormwater program in each of these functional areas is summarized in this section along with estimates of the costs to implement the necessary activities and projects.

#### **3.1 System Maintenance and Inspection**

The objective of an inspection and maintenance program is to assure the reliability and dependability of the drainage infrastructure, including pipes, culverts, catch basins, manholes, ditches and swales, ponds, vaults, oil/water separators, and other facilities. Such a program is designed to extend facility life, minimize life-cycle costs, protect property and structures against drainage damage, and protect receiving water quality.

In addition to the practical benefits of drainage facility maintenance, local jurisdictions are required to adopt a maintenance program under the provisions of the Puget Sound Water Quality Management Plan and the Stormwater NPDES Permit Program.

To develop estimates of annual costs to perform drainage infrastructure maintenance and inspection, the following process was undertaken:

- An inventory of the City’s drainage infrastructure was made based on current City records and mapping.
- For each type of drainage structure, the types of maintenance activities and inspections were specified, along with the appropriate number of personnel and equipment types.
- For each maintenance activity, the productivity rate (i.e., number of catch basins cleaned per day) and the frequency of the activity (i.e., clean catch basins once per year) were specified.
- For the personnel and each type of equipment, the hourly costs were defined based upon current rates.
- A replacement rate (percent of system per year) was assumed (i.e., one percent replacement rate implies an average facility service life of 100 years).

A spreadsheet model was constructed to combine the above data and assumptions and produce an estimated average annual cost, in current dollars, to perform the maintenance to the level of service specified. The level of service is characterized by the frequency at which the maintenance is performed and assuming that more frequent maintenance better assures system capacity and service life. (There is, of course, a practical upper limit to maintenance frequency at which higher frequencies are not cost-effective; beyond general guidelines for maintenance frequencies, local experience with the City’s storm drainage network is important to establishing the most cost-effective maintenance methods and frequencies.)

Estimates of annual maintenance costs were presented in the 2001 Stormwater Management Plan at \$137,103, which was comprised of \$112,083 for inspection and maintenance and \$25,020 for system repair and replacement. The estimates in the 2001 Plan were developed for a relatively high level of service (LOS). However, the cost estimate was artificially low due to lower unit costs and insufficient crew/equipment configurations and due to the omission of material costs from the system replacement cost estimates. Alternative LOS scenarios and corresponding cost estimates were therefore developed for the system maintenance element:

- The first alternative scenario is comprised of the relatively rigorous LOS presented in the 2001 SWM Plan using corrected unit cost values and crew/equipment configurations, and including the materials costs in the replacement estimates.
- The second alternative provides a lower LOS, using the corrected unit costs and configurations, but reduces the frequencies of selected maintenance activities in order to target efforts and approximate the overall maintenance cost estimated in the 2001 Plan.

Table 3-1 summarizes the costs for the respective maintenance and inspection scenarios. The lower portion of the table contrasts the system replacement cost estimates in the 2001 Plan with the updated estimates.

**Table 3-1 Alternative Maintenance and Inspection Scenarios (2004 dollars)**

Facility	Activity	2001 SWM Plan LOS, Unit Costs		SWM Plan LOS w/ Updated Costs		Targeted LOS w/ Updated Costs	
		Frequency (years)	Annual Cost	Frequency (years)	Annual Cost	Frequency (years)	Annual Cost
Catch Basin	Clean & Inspect	1	49,968	1	101,767	1.5	51,810

Manhole	Clean	1	13,425	1	30,113	1.5	18,077
Outfalls	Clean & Inspect	1	889	1	1,730	3	577
Ditches	Sediment & Vegetation Control	10(sed) 1(veg)	11,988	10(sed) 1(veg)	17,449	10(sed) 1(veg)	17,449
Storm Drain	Clean	5	3,356	5	6,023	10	3,011
Culverts	Clean (Stream, Driveway)	2(stream) 5 (drvwy)	10,267	2(stream) 5 (drvwy)	3,322	3(stream) 5 (drvwy)	2,619
Streets	Sweep	(1)	17,200	(1)	17,200	(1)	17,200
Detention Pipe/Vault	Clean	3	4,990	3	10,983	5	6,590
<b>Total Maintenance &amp; Inspection</b>		<b>\$112,083</b>		<b>\$188,587</b>		<b>\$117,332</b>	
Repair & Replacement		1%/year	25,020	1%/year	56,050	1%/year	56,050
<b>Total Annual Cost</b>		<b>\$137,103</b>		<b>\$244,637</b>		<b>\$173,382</b>	

(1) Contracted service; cost reflects 50% allocation of total cost towards stormwater program.

### 3.2 Program Operations

Program operations comprise the planning, administrative, engineering, and compliance aspects of municipal stormwater management. Specific activities include program oversight, scheduling, compliance monitoring and reporting, public involvement/education, developing and enforcing local standards, customer response, and day-to-day management of stormwater-related activities.

The 2001 SWM Plan defined the resources necessary for program operations in terms of full-time equivalent (FTE) staff. These costs have been updated in Table 3-2 below.

**Table 3-2 Annual Operations Program Costs**

<b>Activity</b>	<b>Staffing</b>	<b>Annual Cost</b>
Stormwater Engineering and Regulatory Support	0.35 FTE	\$21,000
Public Education	0.15 FTE	9,000
Annual Operations Cost (2001 dollars)	0.50 FTE	\$30,000
Annual Operations Cost (2004 dollars)	0.50 FTE	<b>\$33,000</b>

### 3.3 Capital Improvements

Stormwater and surface water related capital improvements are identified in the 2001 Stormwater Management Plan, the 2004 ESA Strategy, and the 2004 draft Combined Sewer Overflow Control Plan Update. These capital improvements are directed at correcting existing problems of flooding, erosion, treatment plant hydraulic loading, and water quality and habitat degradation. In compiling the capital improvement needs from the various planning efforts, redundant or overlapping projects were screened out to avoid duplicative cost estimates.

In addition to capital improvements identified in prior planning efforts, a thunderstorm in late May 2004 produced street and property flooding at several locations in Snohomish. City staff prepared preliminary cost estimates for improvements to correct these problems, and these improvements were incorporated into the project list. Table 3-3 summarizes the compiled capital improvement projects with their estimated total project costs in 2004 dollars; “total project cost”

includes the estimated direct costs of construction together with associated costs of engineering, design, permitting, construction administration, and inspection.

In estimating the net capital costs to the City, several assumptions have been incorporated into Table 3-3:

- For CSO projects, only those portions of the conveyance improvements (pump station, forcemain, gravity trunk) identified as stormwater elements in the draft CSO Plan Update were included in the table.
- The full costs of proposed storm/sanitary sewer separation projects are included in the table. However, because the projects are scheduled for completion over a long period of time and not to begin for several years, they have been deferred from the financial planning presented in later sections of this report.
- Estimates of grant funding have been made for selected projects: 50 percent grant funding is assumed for the CSO-related projects, consistent with planning assumptions for the CSO program; and habitat projects are assumed to receive, on average, 25 percent grant funding or other outside participation.

Table 3-3 also allocates the projects into four categories based on the primary type of benefit to be derived from each project. This characterization was helpful in the Committee’s deliberations on funding prioritization. In addition, the table indicates when the projects are scheduled for implementation.

**Table 3-3 Capital Improvement Program**

Capital Projects	Estimated Project Cost (2004 \$)	Estimated Grant Percentage	Net Cost By Project Type			
			CSO-Related	Sewer Separation	Habitat/ ESA	Flooding/ Drainage/ WQ
Replace Stormwater System, West Side of Avenue A	154,000					154,000
Park Avenue System Replacement	91,000					91,000
Pump Station - Stormwater Portion	278,000	50%	139,000			
Force Mains - Stormwater Portion	101,000	50%	50,500			
Gravity Trunk Line on Second Street	1,621,000	50%	810,500			
Lagoon Improvements for Stormwater Treatment	700,000	50%	350,000			
Avenue D Storm Drain System (partially completed)	806,000					806,000
Habitat Restoration at Confluence of Cemetery Creek	100,000	25%			75,000	
Wetland and Channel Restoration, Upper Cemetery Creek	200,000	25%			150,000	
In-Channel LWD Augmentation on Cemetery Creek	70,000	25%			52,500	
Riparian Vegetation	5,000				5,000	
Conveyance Improvements on Mill Avenue	300,000					300,000
Conveyance Improvements on Bonneville Avenue	250,000					250,000
Water Quality and Drainage on Blackmans	500,000					500,000

Lake						
Storm/Sewer Separation Projects	26,747,000			26,747,000		
Realign Cemetery Creek and BPA Wetland Restoration	2,000,000	25%			1,500,000	
Freshman Campus to Pilchuck River w/ Fish Ladder	2,131,000	25% / 0%			759,000	1,119,000
Snohomish Iron Works Drainage Improvements	16,000					16,000
Steplogs on Bunk Foss Creek	16,000				16,000	
<b>Total Stormwater Known CIP Projects</b>	<b>\$36,086,000</b>		<b>\$1,350,000</b>	<b>\$26,747,000</b>	<b>\$2,557,500</b>	<b>\$3,236,000</b>
<b>Estimated Timelines</b>			<b>2011</b>	<b>2012 - 2042</b>	<b>Now</b>	<b>Now</b>
Add: Account / Billing System Set-up	\$15,000					
<b>Total Stormwater Known CIP Projects</b>	<b>\$36,101,000</b>					

#### 4. Funding Sources and Alternatives

One of the key tasks of the Stormwater Advisory Committee was to make recommendations on the preferred method of funding the enhanced stormwater program. The Committee reviewed a variety of alternatives and discussed how best to match the funding to the program needs.

##### 4.1 Current Funding Sources

The City has a combined sewer/storm utility that is funded primarily through monthly sewer rates. Each year during the budget process, the rates are reviewed with the anticipated budget to make sure revenue and expenses are in balance. The Committee discussed the fact that the line on the customer bills says sewer and does not make mention of storm. Although it is a combined sewer/storm rate, the typical customer is only aware of sewer service. This would require education to inform the customers. At the outset, the Committee was not in favor of beginning a new charge. Certainly if there was to be any discussion of separating the rates, there would have to be an offset reduction in sewer rates.

In order to match funding options for long-term success of the program, it is important to understand the nature of the costs. These can be thought of in two categories – on-going costs or one-time costs. Capital improvement projects are one-time costs. On-going costs include maintenance, operations, and any debt repayment for borrowing that may be necessary to accomplish capital improvements.

<p><b><u>One-Time Costs</u></b> Capital Improvements</p>
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<p><b><u>On-going Costs</u></b> Maintenance Operations Debt Repayment</p>
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Funding sources should be evaluated with the same categories to make sure there is a fit. For example, a grant from an outside agency may be available for a capital improvement project, but would not be available to fund on-going maintenance and operations.

## 4.2 Funding Source Criteria and Applications

Another consideration in developing a funding package is to identify the criteria that must be met for an alternative to be considered.

There are a variety of funding sources available for stormwater management programs. Several can be used in combination with one another.

**Grants** – A one-time source of revenue that does not have to be repaid. Most often this is a source of revenue for capital projects or to begin implementation of a new program. There is no certainty in grants when planning for the future. Often the grant programs are competitive and cannot be counted on until notified of approval. Capital projects can be identified as potential candidates for the City to pursue.

*Table 4-1 Funding Source Criteria*

<b>Criteria</b>	<b>Description</b>
Equity and Fairness	Does this funding source fairly and equitably collect revenue from those who contribute to drainage problems and will benefit from improvements and operations?
Stability/Reliability	Are revenues from this source reliable and predictable? Can the City plan on them over the long-run?
Manageability	Can the City control the revenue source, increasing or decreasing it as required to fund programs?
Adequacy/Sufficiency	Does this source generate sufficient revenue to fund the requirements?
Relatedness to Stormwater	Is this funding source related to the problem that the revenue will be used to address?
Ability to Implement	Can this funding source be activated in time to fund the City's program?
Restrictions	What are the restrictions on this funding source? Will it fund both capital and operations?
Acceptability	Is this source likely to be acceptable to the City's public, business community, and elected officials?
Legality	What are the legal requirements for implementing this source?

**State Low-Interest Loan Programs** – There are several low-interest loan programs offered by the State of Washington that would be available for stormwater capital projects. These are typically competitive programs with certain application cycles. These can be a cost-effective method of funding capital projects that would be repaid over a longer term up to twenty years.

**Developer Contributions** – If the focus of capital improvements is more regional in nature, some cities use a Fee-In-Lieu-of-Construction as a developer contribution toward

regional projects that are designed to mitigate the impacts of such development. In other situations, developers may be required to construct a facility that may be transferred to the city.

**Collaborations With Other Agencies** – This method is based on the concept that combining resources may be an effective way to fund either on-going programs or specific capital projects. This collaboration can be either within a city (combined sewer/storm program, street cleaning effort supported by streets and storm) or a multi-jurisdictional effort (Snohomish County, Washington State Department of Transportation). This is a good method of leveraging limited resources.

**Selling Bonds** – There are two main types of bonds, general obligation and revenue bonds. General obligation bonds are backed by the general tax base of the city, whereas revenue bonds are backed by a specified source of revenue, often monthly utility charges. The city is restricted in the maximum amount of general obligation bonds that can be outstanding, although there is a higher limit with voter approval. Revenue bonds are restricted by the monthly rates, or whatever revenue source is promised for repayment. This means that rates can be raised in the future if more bonds need to be sold. With all bonds, the city must meet certain covenants, which can increase the cost or impact of the bonds.

**General Government Taxes** – The city collects property taxes and other unrestricted taxes to be used as the Council approves in the annual budget process. In the past, many jurisdictions used this source for stormwater programs. However as demands for police, fire, criminal justice and parks have increased, less funds are available. In addition, there are increasing regulations on stormwater management that cities must meet, thus increasing the cost of managing stormwater.

**Streets/Road Fund** – This is another common source of revenue for stormwater programs, or at least used to be very common. Street maintenance is typically focused on maintaining the streets as thoroughfares and managing the pavement aspects. As areas become more urbanized, the effects on water quality have become apparent and stormwater programs are focusing on water quality as well as managing the capacity of the system to avoid flooding situations. The City currently shares the cost of street sweeping 50/50 between stormwater and streets.

**Local Improvement Districts** – This is a method of funding capital improvements that benefit specific properties. It is common for LIDs for water and sewer projects in many jurisdictions. The City has used this for a sewer/storm project in a specific area.

**System Development Charges** - This is typically a one-time fee collected from new development as an equitable share of the cost of the system. Each city defines what costs are to be covered by such a fee. There are a variety of fees that are similar and each is specific to a city: capital facilities charge, connection charge. These fees are set aside for capital improvements and not for on-going operations and maintenance.

**Permit/Review Fees** – These fees are charged for specific services provided in reviewing and approving plans during the permit process. The purpose is to reimburse the City for specific staff time/costs and would be for on-going operations, not for capital projects.

**Inspection Fees** – These fees are charged for reimbursement of specific services provided by City staff. This would be for on-going operations and not typically for capital projects.

**Utility Rates** – This revenue source typically provides a predictable stream of revenue that is available for on-going maintenance and operations, capital projects and debt repayment. Some jurisdictions have a separate stormwater utility rate that is dedicated to funding the stormwater program. Snohomish currently has a combined sewer/storm utility and associated monthly rate that is commonly labeled “sewer” and does not include the term “storm” on the monthly bill. The City does account for the stormwater program separately.

The Committee was interested in the City continuing to pursue grants for capital improvements whenever possible and that this should be reflected in the funding program. Some of the grants come in the form of a combined grant/loan and require a local match to be paid by the City (staff time, permitting costs, etc.) While known capital projects can be identified today, it is understood that change is part of fluid management of the stormwater system that City staff deals with on a regular basis. For on-going costs, the Committee felt that utility rates were the most reasonable alternative.

**Table 4-2 Funding Source Applications**

<b>FUNDING SOURCE</b>	<b>PAY FOR CAPITAL?</b>	<b>PAY FOR O&amp;M?</b>
Grants	Yes	Maybe startup, not on-going
State Loan Programs	Yes	No
Developer Contributions	Yes	No
Collaboration with other agencies	Yes	Likely not
Selling Bonds	Yes	Yes, not good idea
General Government Taxes	Yes	Yes
Streets/Road Fund	Yes, if available	Yes, if available
Local Improvement District	Yes	No
System Development Charges	Yes	No
Utility Rates	Yes	Yes
Permit/Review Fees	No	Yes
Inspection Fees	No	Yes

### **4.3 Utility Rates**

The criteria in Table 4-3 were developed to identify those features that are important in designing and evaluating utility rates.

**Table 4-3 Criteria for Utility Rates**

Be fair and equitable among customer classes
Provide stable source of revenue for stormwater management program
Be easy to understand and explain
Be consistent with existing City utility policies
Be efficient to administer
Be legally, publicly, and politically acceptable

**Types of Stormwater Program Rates**

There are a variety of rate types for stormwater management programs around the state as illustrated in the Table 4-4 below. Jurisdictions have the ability to design utility rates to meet their own program needs, the community’s priorities, and special circumstances. The utility defines its classes of customers and must treat them fair and equitably within each class. Often jurisdictions are balancing the administrative aspects of a rate type with the ability to meet the program goals. You can always achieve a greater level of equity, but at what cost?

The City currently uses combined sewer/storm utility rates to fund the stormwater program, better known as the sewer rate. All customers pay a basic rate per month depending on the water meter size and also pay a usage rate based on the amount of water consumed. Stormwater management and sewer costs are, thereby, allocated on the basis of water consumption rather than runoff characteristics.

**Table 4-4 Alternative Forms of Stormwater Rates**

<b>Stormwater Rate Type</b>	<b>Summary Description</b>
Combined sewer/storm	Allocate costs on same basis as sewer rates
Separate O&M from capital	Maintain annual O&M costs in sewer rate; establish new stormwater rate only to pay for capital improvement costs
Basin-specific rates	Variable rate depending on capital costs within each drainage basin
Land use	Variable rate depending on general runoff characteristics from type of land use on a parcel
Density of development / lot size	Variable rate depending on gross parcel area and approximate percent of parcel impervious coverage
Impervious surface area	Rate based on impervious surface area present on parcel, determined by direct measurement
Other	i.e., flat rate, by parcel, regardless of area

A second type of rate treats operations and maintenance costs differently than capital costs. In this situation, the O&M costs could remain in the sewer rate, and a new stormwater rate would be established for capital improvements. This new rate could employ any one of the stormwater rate types discussed in this section.

Some jurisdictions choose to differentiate customer rates by drainage basin. While this can be viewed as a means to achieve a greater degree of equity, the result can be very different rates between areas within the City; a common argument against this type of rate is the disparity in rates between similar properties simply because of their respective locations. This adds complexity (and cost) to the utility billing function, drawing resources from on-the-grounds stormwater activities.

The density of development combined with lot size is a common rate type used by counties and those cities that contract with counties for billing and collection. The county systems typically were designed around property tax-type of data such as lot size, percent developed, etc. Since this information is readily available, it becomes the basis for designing a rate structure to equitably spread the costs among the property owners.

Impervious surface area is the most common stormwater rate type among cities. The underlying concept of this rate type is that the quantity and quality of stormwater to manage increases as development occurs throughout the community. Impervious area is a common indicator of the increasing impact on the overall system and can be easily measured.

### **Common Impervious Area Rate Concept**

Let us assume the average impervious area for a single family lot is approximately 2,500 square feet. This would become the definition of one equivalent residential unit (ERU) of impervious area. Non-residential properties would be converted into ERUs based on the amount of impervious area on the property:

Each Single Family Residential customer = 1 ERU

Each Non-residential customer =  $n$  ERUs

where  $n$  = the property's impervious area divided by the average single family parcel impervious area (2,500 square feet)

**EXAMPLE:**

Average Single Family Lot → 2,500 sq. ft. impervious area  
Shopping Center with 10,000 sq. ft. impervious area =  
 $10,000 / 2,500 = 4$  ERUs

The Committee was interested in developing this rate concept further as it seemed to spread the stormwater program costs on a more appropriate basis than water usage. Discussions referred to the difference between a small water user with a large parking lot and a large water user that may have a small property.

#### 4.4 Estimated Rate Base of Impervious Area

The average single family lot in Snohomish is estimated to have approximately 2,500 square feet of impervious surface area, including roof lines, driveways, and other paved or graveled areas. With guidance from the consultant team, City staff measured the impervious area of non-single family residential parcels throughout Snohomish utilizing scaled aerial photography resident in the City's GIS system. The impervious surface area was defined for each individual parcel; the total non-single family parcel impervious area was computed to be approximately 10,000 square feet. This measurement also includes any City-owned property (or other government agency) except for roadways. This data now resides on the City's computerized mapping system and is available for further database development.

**Table 4-5 Estimated Impervious Area Rate Base**

<i>Assume average single family impervious is 1 ERU</i>		
<i>2,500sq. ft. impervious area per ERU</i>		
	sq. ft. impervious area	ERU's
Single Family		2,500
Non-Single Family	10,000	4,000
	<b>Estimated Total ERUs</b>	<b>6,500</b>

### 5. Stormwater Rate Options

#### 5.1 Comparison With Other Jurisdictions

A review of the neighboring jurisdictions sewer and stormwater rates gave the Committee some background on what other local cities are charging. While this was helpful information, the Committee wanted to make sure it balanced Snohomish's revenue with its own program needs.

The average single family customer in Snohomish uses approximately 800 cubic feet of water per month. The following table compares the stormwater and sewer rates for this typical single family customer. Since Snohomish currently uses a combined sewer/stormwater rate, both rates are compared.

**Table 5-1 Comparison of Rates Among Jurisdictions**

<b>SINGLE FAMILY MONTHLY RATES</b> (800 cubic feet/mo/sewer)	<b>STORM</b>	<b>SEWER</b>	<b>COMBINED</b>
SNOHOMISH – Current	In sewer	\$45.25	\$45.25
DUVALL	\$16.92	\$54.45	\$71.37
LAKE STEVENS (1)	\$5.00	\$40.00	\$45.00
MILL CREEK (2)	\$6.50	\$26.78	\$33.28
MONROE	\$6.00	\$41.15	\$47.15
SNOQUALMIE	\$7.75	\$24.50	\$32.25
SNOQUALMIE - specific area	\$7.75	\$30.30	\$38.05
WOODINVILLE (3)	\$7.09	\$40.85	\$47.94
UNINCORPORATED SNOHOMISH COUNTY:			
Within UGA	\$5.42		
Outside of UGA	\$2.75		

(1) Sewer service provided by Lake Stevens Sewer District.

(2) Sewer service provided by Alderwood Water and Wastewater District.

(3) Sewer service provided by Woodinville Water District.

Common comparisons between jurisdictions are often based on 1,000 cubic feet of water per month. In this case, the Snohomish combined rate would be \$51.05 using the existing rates since the sewer rate depends on water usage. All other jurisdictions in the table charge a flat sewer rate for a residential customer that does not vary with water usage.

It is typical to have a flat rate for residential stormwater rates. This is generally based on an average single family lot within the city. By charging a flat rate, all residential customers are treated the same - it is simple to explain and simple to administer. All the neighboring stormwater rates in the table are flat rates for residential.

## **5.2 Levels of Service**

There are a lot of dollars identified in the stormwater program needs earlier in this report. In order for the Committee to balance the priorities and the affordability of the program, the costs were broken into two main elements – on-going maintenance and operations, and the capital improvement program. Each of these two elements was then evaluated in depth and various levels of service were defined. The level of service identifies the quantity, productivity or timeframe for expected completion of the tasks. For example with repair and replacement, how many years will we assume it takes to replace the system? Another example with the capital improvement program, is how many years will we assume it will take to complete the projects – 10, 15 or 20?

### **On-going Maintenance and Operations**

This refers to the on-going annual program before including capital improvements. Three levels of service alternatives were identified and result in various total annual stormwater costs before capital.

The on-going annual program includes six main items: System Maintenance and Inspection includes the costs of labor and equipment to carry out the identified maintenance and inspection program. Repair and Replacement includes the cost of replacing the system over a 100-year period. Program Operations includes engineering/regulatory support and public education. Billing and Collection includes a share of the cost of billing and collection as well as State utility taxes. The Reserve is based on five percent of the annual cost to reflect current City policy (5-10%). System Replacement is included as a specific item so there is no additional factor included.

**Table 5-2 On-going Costs for Varying Levels of Service**

<b>On-going Cost Levels of Service: Annual Before Capital (2004 dollars)</b>	<b>2001 SWM Plan LOS, Unit Costs</b>	<b>SWM Plan LOS w/ Updated Costs</b>	<b>Targeted LOS w/ Updated Costs (1)</b>
System Maintenance and Inspection	112,083	188,586	117,332
Repair & Replacement	25,020	56,050	56,050
Program Operations	33,000	33,000	33,000
Billing & Collection/Finance/Taxes	28,450	46,674	34,695
Reserve	9,928	16,216	12,054
System Replacement	in M&O, CIP	in M&O, CIP	in M&O, CIP
<b>Total Stormwater Before Capital</b>	<b>\$208,480</b>	<b>\$340,526</b>	<b>\$253,131</b>

(1) Target LOS to approximate SWM Plan annual costs for system maintenance and inspection after updating unit costs and crew/equipment configurations.

**2001 SWM Plan LOS, Unit Costs** – refers to the program recommended in the 2001 Stormwater Management Plan. While the dollars from the plan were converted to 2004 for inflation, no adjustment was made for current City crew configurations or labor and equipment rates. The crew configurations are important for a smaller community like Snohomish where the crews are not as specialized as in larger communities. For example, the same crew in Snohomish typically accomplishes a variety of tasks each day as compared to cleaning or inspecting catch basins all day in larger communities. This level of service results in an annual cost before capital of \$208,480.

**SWM Plan LOS with Updated Costs** – The second level of service alternative was the result of adjusting the SWM Plan recommendations to reflect current labor rates, crew and equipment configurations, and equipment costs. This substantially increased the cost, and this level of service was estimated to be \$340,526 annually.

**Targeted LOS with Updated Costs** – The third level of service was developed to provide a reasonable beginning point. As the City tracks their efforts and refines the needs, this may be adjusted in the future. From the Committee’s point of view, this seemed to be the lowest

acceptable level to provide a full program. If it were any less, it appeared that an important issue would be left unaddressed. The annual cost of this level of service is estimated to be \$253,131.

## Capital Improvement Program

The full list of capital improvement projects cannot reasonably be accomplished in one or even a couple of years within the City of Snohomish. In order to assist the Committee in evaluating and providing general priorities to the capital improvements, the projects were assigned to categories. Each capital category was then shown as an average annual amount to be funded over various lengths of time – 10 years, 15 years or 20 years.

Two additional distinctions were made for the Committee’s consideration. The projects costs were estimated in 2004 dollars. It is understood that construction costs will continue to increase over the years. There are two ways of reflecting this in the program costs. First is to reflect 2004 cost and assume that growth or rates will be adjusted as necessary in the future to keep up with inflation. The second method is to inflate the project costs by a construction cost escalation factor for each year in the future. This is a more conservative approach to ensure that the program can be funded over the long-term, but it also results in higher average annual costs.

**Table 5-3 Alternative Capital Program Funding Approaches**

<b>Average Annual Capital Program in 2004 Dollars</b>	<b>Account Set-up</b>	<b>Flooding/ Drainage/ WQ</b>	<b>Habitat/ ESA</b>	<b>CSO-Related</b>	<b>Total This Capital Program</b>
Over 10 Years	\$1,500	\$323,600	\$255,750	\$135,000	\$715,850
Over 15 Years	1,500	215,733	170,500	90,000	477,733
Over 20 Years	1,500	161,800	127,875	67,500	358,675

<b>Average Annual Capital Program Escalated 3% per year</b>	<b>Account Set-up</b>	<b>Flooding/ Drainage/ WQ</b>	<b>Habitat/ ESA</b>	<b>CSO-Related</b>	<b>Total This Capital Program</b>
Over 10 Years	\$1,771	\$382,100	\$301,984	\$159,405	\$845,261
Over 15 Years	1,771	275,519	217,750	114,941	609,981
Over 20 Years	1,771	223,903	176,957	93,408	496,039

### 5.3 Rate Structure Alternatives

Once the program elements were broken into levels of service tables, the Committee could begin discussing rate structure alternatives and building a balanced, affordable program.

#### Sewer, Separate Storm or Combined Storm/Sewer Charge

Several primary alternatives were identified for paying for the stormwater program – continue the sewer charge for both sewer and storm, begin a separate stormwater charge for all storm-related costs, or a combination of the two approaches.

**Sewer Charge** – The current method is to include the costs of the stormwater program in the sewer rate. Although this is actually a combined rate, it shows as “sewer” on the bill and is commonly perceived as only sewer among customers. Many consider the Snohomish sewer rate to be high. Increasing it to include an enhanced stormwater program would seem unacceptably high. In addition, it is recognized that sewer rates will need to be increased to pay for substantive programmed improvements in the future. Finally, the sewer rate based on water usage is convenient since it is already in place, but is not as related to the stormwater needs as impervious area.

**Separate Stormwater Charge** – One alternative would be to develop a stormwater charge based on impervious area that would be reflected as a separate line item on the utility bill. Because the current storm costs are presently included with the sewer rate, an offset reduction in the sewer charge would be necessary to reflect the transfer of the burden from one rate to the other. Public education would be important to educate the customers on the new stormwater charge and clearly identify the reduction in the sewer rate. Because a separate storm rate would be based on impervious area, and sewer rates depend on water usage, each customer would be impacted differently.

**Combination of Sewer and Storm Charge** – Another alternative developed for consideration by the Committee was a combination of the existing sewer charge and a new stormwater charge. Because on-going maintenance and operations costs are already included in the sewer rate, a new stormwater charge could be established to fund the storm capital program. This would provide a clear stream of revenue to carry out the capital improvements that would be based on impervious area. The same forces as the sewer operations carry out stormwater maintenance and engineering services, which lends logic to this rate structure. However, the separation of costs between two charges may introduce confusion. Further, if the investment is made in establishing a rate structure more directly related to impervious area, it makes greater sense to use that rate structure to fund all stormwater related costs.

### **Credits and Rate Adjustments**

A consideration in developing a rate structure is whether to offer any type of credit or adjustment to the rate. For stormwater rates specifically, there is a very wide range of examples throughout the State of Washington and nationally, from no credits at all to very complicated systems of rates and credits. The goal of a separate storm charge is to fund the recommended stormwater program and be able to demonstrate progress in accomplishing stormwater goals. Staff increases would be targeted toward accomplishing the program goals with minimal administrative needs. Credits can be used to promote certain behavior or recognize out-of-the-norm situations. Estimating the impact of credits is important when setting an initial rate because issuing a credit to some ratepayers incrementally increases the cost to all other customers.

A number of forms of credits were discussed with the Committee along with examples of various jurisdictional philosophies reflected through their respective system of credits. Some cities feel that the community’s stormwater management needs are the result of increased impervious area in the community overall and as such, all impervious area pays equally and adjustments are not viewed as appropriate or necessary. Further, in order to administer a system of credits, more

administrative staff effort is needed, and this in turn increases the fiscal burden on all the other property.

The sewer rates were reviewed to ensure that a consistent philosophy would apply to storm. There is currently in place a senior/disabled low-income discount of 50 percent of the basic charge for sewer. There are 85 customers receiving that discount, and the impact of such a credit was estimated to be a reduction of 43 impervious ERUs from the stormwater rate base.

The Committee considered whether other properties should receive any credits or discounts. A number of credit alternatives were presented and discussed. In the end, the Committee agreed that all impervious area in the community contributed to the need for a more rigorous stormwater program and all should pay on the same basis. Arguments could be made for many types of credits that would require additional staff effort to administer, and the Committee was not in favor of increasing staffing for administrative purposes.

Low Impact Development (LID) was discussed on a number of occasions and specifically with respect to considering a rate credit that would encourage adoption of LID measures in land development and redevelopment. While no specific credits were recommended for any properties (other than extending the current senior/disabled low-income discount to the stormwater rate) it was recognized that LID would be beneficial to minimize receiving water impacts and to demands upon downstream drainage systems. It was suggested that the ordinance implementing a stormwater rate cite the benefits of reduced effective impervious areas and the concept of an associated reduction in stormwater rates.

## 6. Committee Recommendations

The Stormwater Management Advisory Committee met for five sessions to learn about the stormwater-related challenges the City is facing and to discuss alternatives to meeting those challenges. While the Committee was not in favor of adding any new charges to be passed on to the citizens, their collective conclusion after learning about the stormwater details was that a new stormwater charge made sense. Because the current stormwater management projects and activities are funded through the sewer rate, paying for such services through a new stormwater charge would result in an offsetting reduction in the sewer rate.

The preferred program costs, corresponding monthly stormwater rate, offsetting reduction in sewer rates, and resulting impact on an average single family customer are shown in Table 6-1. Table 6-2 presents the components comprising the On-going Costs portion of the preferred program.

**Table 6-1 Stormwater Management Advisory Committee’s Preferred Program Funding**

<p><b>Advisory Committee’s Preferred Program: “MAKE PROGRESS, EASY ON THE POCKET”</b></p> <p><b>(Review annually to keep up with cost escalation)</b></p>	<p><b>Average Annual Program Funding (\$2004)</b></p>	<p><b>Monthly Stormwater Rate per Impervious ERU (1) (2)</b></p>	<p><b>Reduction in Monthly Sewer Rate, Avg. Single Family (3)</b></p>	<p><b>Net Impact on Average Single Family per Month</b></p>
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On-going costs	\$ 253,131			
Account Set-up over 3 years	\$ 5,150			
Flooding/Drainage/Water Quality over 20 years	\$ 161,800			
Habitat/ESA over 20 years	\$ 127,875			
<b>Average Annual Program - Beginning</b>	<b>\$ 547,956</b>	<b>\$7.07</b>	<b>(\$4.85)</b>	<b>\$2.22</b>
Next Steps:				
A. Remove Account Set-up after 3 years	\$ (5,150)	(\$0.07)		
B. Increase for CSO-Related projects based on timing of projects and grant/loan. Begin 3 yrs. before to generate local match, fund over 20 yrs. (2008 for project to be constructed in 2011)	\$ 93,408	\$1.21		
C. Hold for future determination on Sewer Separation. Assumed that project would not go forward without substantial grant, and sewer would pay majority.				

Notes:

(1) Single family property equals one Impervious ERU. Non-single family equals one Impervious ERU for every 2,500 square feet of impervious area.

Estimated number of Impervious ERU's:

(2) Recommend Senior/Disabled Low-Income Discount to be the same as sewer – 50%.

(3) The stormwater program is currently funded through sewer rates, and sewer rates would be offset by the new stormwater rate. The actual rate reduction will depend on water consumption. The average single family customer uses 800 cubic feet per month.

**Table 6-2 Recommended Program On-going Cost Components**

<b>Annual Stormwater Program On-going Costs (2004 dollars)</b>	<b>Targeted Level of Service (as First Step)</b>
System Maintenance & Inspection	\$117,332
Repair & Replacement	56,050
Program Operations	33,000
Billing & Collection/Finance/Taxes	34,695
Reserve	12,054
System Replacement	Included in M&O, CIP
<b>Total Stormwater On-going Cost Before Capital</b>	<b>\$253,131</b>

The Committee was interested in striking a balance between the pocketbooks of citizens and businesses with a program to address the stormwater needs of the City. It was frustrating to some members that capital improvements could not be affordably completed on a shorter time-frame, but all agreed that the cost of further accelerating the projects was too high. The Committee's preferred program alternative was entitled, "Make Progress, Easy on the Pocket". The concept was that the City would initially undertake an expanded stormwater program over a three-year period to meet immediate needs and gradually ramp up the stormwater level of service. During that period, the account set-up would be paid for and staff would be better able

to specify the scope and timing for undertaking further program recommendations. The Committee was happy to provide general guidance to staff on prioritizing spending through its preferred program. It was understood that the stormwater landscape is constantly changing, and City staff will be addressing continuously evolving stormwater needs.

The City's current sewer rate provides funding for both sewer and stormwater. The Committee's preferred stormwater program includes a separate stormwater rate together with a reduction in the sewer rate. A customer's sewer bill depends on the amount of water used and conveyed down to the sewer treatment plant. A small property with high water consumption pays much more than a building with low water use and a large parking lot. The need for an increased stormwater program is related to the overall increase in impervious area (hard areas that have altered the natural drainage pattern before development, such as rooftops, asphalt, concrete, parking areas) across the entire community. The Committee felt it was more equitable to allocate the stormwater program costs based on the impervious area throughout the City rather than continuing to spread the costs based on water usage.

The stormwater rate structure recommended is based on impervious surface area. Since this is the driving factor in influencing the stormwater needs, the rate structure spreads the program costs evenly over the impervious area of the City. In order to be administratively efficient, a single family residence is defined to be one impervious ERU. All non-single family property will pay based on measured impervious area divided by 2,500 square feet to determine the number of ERUs. The average single family parcel has approximately 2,500 square feet of impervious area. Those customers qualifying for the sewer senior/disabled low-income discount would also receive a 50% discount for stormwater.

The Committee had several lively discussions about whether other properties should receive any credits or discounts. A number of credit alternatives were presented and discussed. In the end, the Committee agreed that all impervious areas in the community contributed to the need for a greater stormwater program and all should pay equally. Arguments could be made for many types of credits that would require additional staff effort to administer, and the Committee was not in favor of increasing staffing for administrative purposes.

Low Impact Development (LID) was discussed on a number of occasions and specifically with respect to considering a rate credit that would encourage adoption of LID measures in land development and redevelopment. While no specific credits were recommended for any properties (other than extending the current senior/disabled low-income discount to the stormwater rate), it was recognized that LID would be beneficial to minimize receiving water impacts and to demands upon downstream drainage systems. There should be a paragraph included in the implementing ordinance citing these benefits of reduced impervious area and the concept of an associated reduction in stormwater rates.

A suggestion was put before the Committee to offer ratepayers the option of contributing to a stormwater Education Fund when they pay their stormwater fee. The purpose of this fund would be to supplement funding to expand the City's water resource public involvement and education activities and thereby accelerate progress in enhancing habitat and watershed stewardship.

Finally, should any additional funds become available to the stormwater program, a majority of the Committee would prefer the City use it towards accelerating implementation of those capital projects that would reduce the City's liability exposure, probably on drainage control-oriented projects. One Committee member would prefer that any additional funds be prioritized toward completing habitat/ESA-oriented projects to avoid missing opportunities.

**Appendices:**

Appendix A City of Snohomish NPDES Stormwater Permit Application

Appendix B Stormwater Management Advisory Committee Materials