Whatcom County
Birch Bay Stormwater
Funding Analysis

CONSULTING SERVICES PROVIDED BY:

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Report Contents

BIRCH BAY STORMWATER FUNDING PLAN

1.0 Background

Growth and development is continuing in and around the Birch Bay Community. In 2002, the Birch Bay Community Steering Committee was organized to address the rapidly increasing population and associated development in the area. A key concern of the group was the impact of development on the water quality of the Bay itself. A number of citizens joined in as the Stormwater and Shellfish Protection subgroup to focus on the impacts of stormwater. From the fall of 2005 until the present, this group has worked with representatives of the Whatcom County Planning and Development Department and a consulting firm to begin to address the areas of concern. Their effort first resulted in the Birch Bay Comprehensive Stormwater Plan (CSP). The CSP was adopted in 2006 and provides guidance on addressing or preventing current and future problems related to increasing flooding and erosion, declining water quality and the loss of aquatic habitat as a result of increasing growth and development in the region.

In March of 2007, the County Council passed an ordinance establishing a watershed-wide sub-flood control zone district which provided the authority to begin putting the CSP recommendations into action. The citizen group named the sub-flood district the Birch Bay Watershed Aquatic Resources Management District (BBWARM).

The next action item of the CSP included establishing a funding mechanism to carry out the CSP.

2.0 Study Introduction

In May of 2007, the Whatcom County Public Works Department contracted with FCS GROUP to assist in the development of a funding mechanism to support implementation of the stormwater program outlined in the 2006 Comprehensive Stormwater Plan (CSP). The goal of the funding plan is to establish an ongoing funding source to meet the capital and operating needs detailed in the CSP and to ensure that the funding mechanism developed is equitable, defensible and administratively feasible.

The study was performed using the following general approach:

- **Public Outreach**. In this task we met with the Birch Bay Watershed and Aquatic Resources Management District (BBWARM) at key milestones of the project to discuss key policy issues, share the results of the analysis and to incorporate broader public outreach/education prior to implementation of the recommended changes. Copies of the presentations delivered during this public outreach process can be found in Appendix

A. In addition, presentations were provided on April 15 to the County Executive and May 21, 2008 to the County Council to summarize the study process and recommendations.

- **Explore Key Issues.** In this step, we provided issue papers to BBWARM and the County that addressed key policy issues for consideration. The issue papers identified the issue at hand, provided alternatives, discussed pros and cons and provided a recommendation. The issue papers were provided in advance of the meeting and served as an educational tool that allowed for a focused discussion during the meeting. The issue papers provided centered on:
  - ✓ Rate structures – Outlined several viable approaches, or bases that can be used to structure an appropriate stormwater fee.
  - ✓ Stormwater rate credits – Identified different types of rate credits that are often considered and offered by stormwater programs in the region.
  - ✓ Countywide Flood Control Zone District (FCZD) - Summarized the existing FCZD authorizing code, revenue, expenses, responsibilities and work effort.
  - ✓ Governance – Identified viable alternative governance structures for BBWARM.

  The issue papers delivered as part of this step can be found in Appendix B
- **Prepare Baseline Stormwater Program Costs.** In this step, we prepared a multi-year stormwater program funding plan which identified the total program costs including: operations and maintenance expenses, administrative costs, taxes, capital improvement costs, debt obligations and fiscal policy achievement. The capital funding analysis attempted to normalize the stormwater annual funding requirements through use of available funding methods or alternative timing of planned projects. The funding plan and supporting documentation can be found in Appendix C.
- **Determine Impervious Areas**. This task determined impervious surface area for single family and non-single family developed property. The process of calculating impervious surface uses the county's Geographic Information System (GIS), a software suite that allows users to view, query and author spatially referenced information. The spatially referenced data used included: Zoning Comprehensive Plan, Birch Bay Subzone parcels, photographic aerial imaging based on a Washington Department of Transportation study and aerial images generated by the Department of Agriculture's national Agriculture Imagery Program retrieved by the University of Washington. Additional information regarding the approach used to determine impervious area can be found beginning in section 4.2 Planning Data.
- **Rate Design.** In this step, we developed a rate design based on impervious surface area with a focus on an equitable allocation of functional costs to the different customer classes served based on proportional use of the system. Rate design considered such items as fixed costs, density costs, percent of impervious surface area of a parcel and rate credits. Additional information on rate design along with sample bill calculations can be found in sections 4.6 through sections 5.2

- **Implementation Assistance.** In this step, we developed a draft implementing ordinance and rate resolution for adoption and implementation of the stormwater program fee. The ordinance and resolution can be found in Appendix D. In addition, a master billing account file has been provided to the County to document the basis for the rate analysis and the parcel characteristics utilized in the study development. A meeting with County staff to explain the new rate structures was scheduled and is followed up with a "frequently asked questions" list for use by County staff. This frequently asked questions list can be found in Appendix E.

The following report details the stormwater funding analysis process, results and recommendations.

3.0 Organizational Structure of Program

An important policy decision to consider as well as understand is the organizational structure of the program. The organizational structure will determine the roles, responsibilities and powers of the governing body. The financial plan addressed the legal options that are available for flood control zone district governance. An issue paper addressing governance of the sub-flood district is included in the Appendix.

RCW 86.15.025 authorizes the formation of sub-flood control zone districts, or subzones, providing also that subzones "shall have authority to exercise any and all powers conferred by the provisions of RCW 86.15.080 as now law or hereafter amended." [RCW 86.15.080 defines the general powers of flood control zone districts.]

The supervision of subzones is also provided for in RCW 86.15.050. The section states that the board of county commissioners (BOCC) in any county shall be, by virtue of their office, the supervisors of any subzones. [The board of county commissioners for Whatcom County is the County Council.]

Three alternative governance structures were considered.

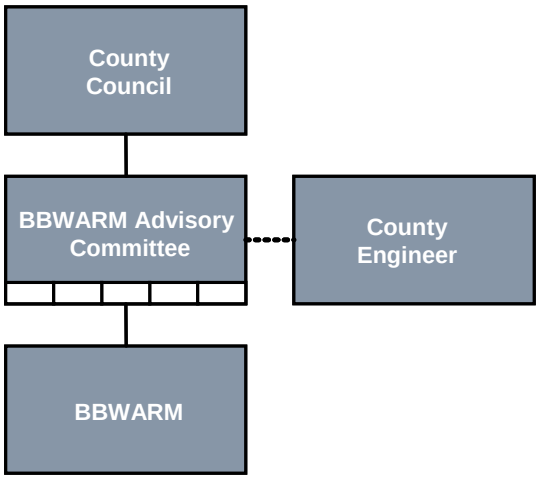
- Passive – A passive approach to governance would be to accept the supervision of the BOCC and the administration of the County engineer, without an engaged advisory committee. This approach would certainly require the least energy on the part of the residents of BBWARM, but would seem to be inconsistent with the financial commitment made by BBWARM residents and businesses through potential rates and charges.
- Active / subordinate – An active but subordinate approach to watershed management would be to request the appointment of the five-person advisory committee provided for in RCW 86.15.070, as is the County's practice with its other existing subzones.
- Independent – An independent approach to management of the watershed would be to request or petition to authorize an election of three BBWARM supervisors. The subzone would then become an independently run district, subject still to RCW 86.15, but also empowered to contract with other service providers for subzone administration and other support.

In considering alternative governance structures, it is important to note that the determination of how BBWARM will be governed in large part rests in the hands of the County Council.

It is our belief and recommendation that the active / subordinate approach would best meet the goals and objectives of the Birch Bay Community and its values. In order to maximize BBWARM involvement, the advisory committee could be supported by a larger group tasked with such activities as (1) financial oversight, (2) program effectiveness monitoring, (3) environmental oversight, etc. In this alternative, the supervision of the subzone would remain the ultimate responsibility of the BOCC, and the administration of the subzone would remain the responsibility of the County engineer. This approach would make use of existing County programs and bureaucracy, accepting County supervision but with an active voice through the advisory committee. The structure will respect and defer to an engaged advisory committee that represents the interests of those who have essentially developed and continue to pay for the watershed program itself. We believe that the institutional memory, resources, and expertise of County staff will be most efficiently utilized under this approach.

A graphical depiction of the active/subordinate governance structure is provided in the figure 1.

FIGURE 1: RECOMMENDED ACTIVE/SUBORDINATE GOVERNANCE STRUCTURE



4.0 Program Components

The establishment of a fiscally sound funding mechanism requires that an operating forecast be developed that identifies the total funding requirements of carrying out the program on a stand-alone basis. The operating forecast enables the setting of rates that are rooted in the "costs-of-service" and which fully recover the total costs of the stormwater program. Linking funding needs to an operating forecast such as this helps to enable not only sound financial performance for the program, but also, a clear and reasonable relationship between the costs imposed and the costs incurred to provide stormwater service.

The stormwater program contains three key areas that must be funded to ensure future sustainability: operating costs, capital costs and fiscal policies.

- Operating Costs – The CSP identifies future annual non-capital costs associated with the operation, maintenance, and administration of the stormwater program. Chapter five of the CSP outlines and details the operating costs that were used as the basis to project operating costs. Since the CSP was completed in 2007, all operating costs were escalated by two years of inflation to calculate the operating costs in 2009 dollars. Operating costs include administration, monitoring & related activities, operating & maintenance, planning, public education and taxes. Key assumptions include:
  - ✓ Growth rate of 4.0% per year
  - ✓ General cost escalation at 3.0% per year
  - ✓ Labor cost escalation of 5.0% per year
  - ✓ State Excise Tax rate of 1.5% on fee revenue
  - ✓ First year includes $461,000 in one-time programmatic implementation costs for billing, monitoring, compliance/emergency response and public involvement/education activities outlined in CSP.
  - ✓ Annual debt service (principal & interest) funding for the interfund loan and assumed revenue bond in 2014

  Approximately 50% of the operating costs of the stormwater program relate to fixed costs (administration, monitoring & related activities, plan and taxes) and 50% related to variable costs (O&M, pubic education and involvement).

- Capital Costs - Capital costs identify the capital needs of the stormwater program that are structural and not programmatic. The CSP provided a list of 12 different stormwater problems that required structural solutions. The six projects ranked at the top in the CSP have been included as the initial capital improvement projects to be funded in the operating forecast developed. Table 1 provides a summary of the capital funding projects included in this funding plan.

TABLE 1: SUMMARY OF CAPITAL PROJECTS 2006

Description	Current Costs 2006 $
CT-06 Drainage Improvements, Cottonwood neighborhood	$225,000
CT-01 Drainage Improvements, Shintaffer at Richmond Park	125,000
CC-12 Terrell Creek Improvements for Water Quality	50,000
BR-12 Drainage Improvements, Birch Point	615,000
CC-11 Terrell Creek Culvert at Grandview Road	460,000
BV-01 Drainage Improvements, Rogers Slough at Birch Bay Drive	425,000
Future identified CIP ($250,000 per year 2012 - 2014)	750,000
Total Capital Costs for 2009 through 2014	**$2,650,000**

TABLE 2: SUMMARY OF CAPITAL COSTS BY YEAR (INFLATED AND UNINFLATED COSTS)

Year	Uninflated Cost	Inflated Cost
2009	$100,000	$112,486
2010	200,000	233,972
2011	200,000	243,331
2012	475,000	601,027
2013	525,000	690,864
2014	1,150,000	1,573,854
Total	**$2,650,000**	**$3,455,534**

Key assumptions related to the capital costs include:

- ✓ Project costs are inflated to the year of construction at 4.0% per year to determine cash flow needs during the year of construction.
- ✓ An interfund loan of $115,000 is required to fund initial year capital projects of $112,486.
- ✓ Pay as you go capital funding through user charges during 2009 – 2013 (average $462,000 available each year).
- ✓ In 2014, $1.5 million in capital funding identified. Operating forecast assumes $1.0 million in new debt issued.

- Fiscal Policies – For prudent fiscal management certain minimum levels of cash reserves are required to operate. These reserves address variability and timing of expenditures and receipts, as well as occasional disruptions in activities, costs or revenues. Common reserve types include operating (working capital reserve) and capital reserves. These two reserves were included in the operating forecast of needs.
  - ✓ Operating (Working Capital) Reserve – This is essentially a minimum unrestricted fund balance needed to accommodate the short-term cycles of revenues and expenses. Operating or working capital reserves provide a "cushion" which can be used to cover cash balance fluctuations. These reserves are intended to address both anticipated and unanticipated changes in revenues and expenses such as billing and receipt cycles, payroll cycles, and other payables. A 90-day operating reserve target is recommended for the stormwater program. The target is achieved during the second year of the operating forecast.
  - ✓ Capital Contingency Reserve – In addition to protecting against variations in operating costs and revenues, it is prudent to establish and maintain a capital contingency reserve to meet unexpected emergency capital outlays. While it would be impractical to reserve against major system-wide failures such as an earthquake (there are often other insurance policies available for such catastrophic events), it is reasonable and prudent to identify and quantify possible failures of individual system components. Based on our experience with other stormwater programs and in order to minimize the financial impact of establishing this reserve, the initial capital reserve

target is set at $200,000. As the program matures, this reserve target should be revisited to ensure it is set at appropriate levels.

A multi-year operating forecast was developed to identify the total funding needs of carrying out the stormwater program. It is anticipated that the program will begin to charge fees in 2009, therefore the planning period established is for 2009 through 2014. The operating forecast develop includes funding the operating, capital, and fiscal policies of the stormwater program. A summary of the six-year operating forecast is included in Table 3.

TABLE 3: SUMMARY OF OPERATING FORECAST

	2009	2010	2011	2012	2013	2014
Operating Costs						
Administrative	$ 201,571	$ 43,709	$ 45,020	$ 46,371	$ 47,762	$ 49,195
Monitoring & Related Activities	159,665	54,636	56,275	57,964	59,703	61,494
O&M	111,395	92,882	95,668	98,538	101,494	104,539
Public Involv/Education/Plans	257,799	135,000	84,413	146,648	89,554	92,241
Excise Tax	11,606	12,074	12,603	13,099	13,631	14,167
Total Operating Costs	**$ 742,036**	**$ 338,300**	**$ 293,980**	**$ 362,620**	**$ 312,144**	**$ 321,635**
Existing Debt Service	**$ 26,109**	**$ 26,109**	**$ 26,109**	**$ 26,109**	**$ 26,109**	**$ -**
New Debt Service	$ -	$ -	$ -	$ -	$ -	$ 91,727
Fiscal Policies	$ -	$ 77,822	$ -	$ 16,925	$ -	$ 2,340
Available for Capital	$ -	$ 362,681	$ 520,124	$ 467,597	$ 570,489	$ 528,748
Total Revenue Requirement	**$ 768,144**	**$ 804,912**	**$ 840,213**	**$ 873,250**	**$ 908,741**	**$ 944,450**
Revenue Generated From Fee	**$ 768,144**	**$ 804,912**	**$ 840,213**	**$ 873,250**	**$ 908,741**	**$ 944,450**
Fund Beginning Balance	$ -	$ 5,595	$ 83,417	$ 72,488	$ 89,413	$ 76,967
Ending Balance	$ 5,595	$ 83,417	$ 72,488	$ 89,413	$ 76,967	$ 79,307
Target Balance (90 days)	*N/A*	*$ 83,417*	*$ 72,488*	*$ 89,413*	*$ 76,967*	*$ 79,307*
Days of Operating Expense		*90*	*90*	*90*	*90*	*90*

The operating forecast has identified that the stormwater program will require ongoing funding of $768,000 to $944,000 per year in order to meet the total program funding requirements for the planning period. The funding strategy is to identify the level of fees required from users in order to meet this six-year operating forecast.

In an effort to minimize fee levels required for program implementation, the first year focus is on generating sufficient revenue to cover the one-time programmatic implementation activities and only a minor amount of capital. During the second year (2010), additional structural costs can begin to be funded. The increased level of capital funding is shown in the "available for capital" line in Table 3.

5.0 Program Funding Approach

The stormwater program funding approach specifically identifies the level of fees that would support the financial obligations identified in the operating forecast. There are a number of approaches for charging stormwater fees. Under a rates and charges concept stormwater program costs, or a significant portion of them, would be recovered through ongoing rates to users. For the most part, the program would be a financially independent entity, free of

reliance on the General Fund, with all of its revenues dedicated to stormwater management operations, maintenance, and capital construction.

RCW 86.15.176 authorizes such districts to fix rates and charges for stormwater management, and provides that "the board may in its discretion consider the character and use of land and its water runoff characteristics and any other matters that present a reasonable difference as a ground for distinction." The County therefore has the authority to impose a fee to fund the implementation of the Birch Bay Comprehensive Stormwater Plan. A rate is generally found legally valid if the funded services generally benefit those who pay the fee.

There are a number of approaches, or methods, which can be used to determine stormwater rates and charges that are suitable in terms of legal defensibility, equity, and ease of implementation and administration. Several of these alternative approaches are discussed in an issue paper included in the Appendix. The funding approaches were shared with the community at a public meeting on October 17, 2007.

5.1 Rate Structure

The recommended rate structure basis for charging in the County is impervious surface area. Impervious surface area describes the hard surface area that prevents or slows water permeation into the ground. This measure of a property's runoff contribution is widely accepted and understood, providing a clear relationship – or "rational nexus" – to service received or required from a stormwater program.

The problem of polluted stormwater runoff has two main components: the increased volume and rate of runoff from impervious surfaces and the concentration of pollutants in the runoff. Both components are highly related to development in urban and urbanizing areas. In addition to increasing the deposition of pollutants, supporting scientific research shows that the impervious surface area in even moderately developed areas greatly increases peak flows to streams, while decreasing base flows. The higher peak flows cause flooding and erosion, increasing sediment mobilization and damage to aquatic habitat. The lower base flows can also damage habitat.

Due to the mix of both urban-style and rural parcel characteristics in the watershed, we further recommend that the County consider incorporating density of development along with total impervious surface area. This will provide an adjustment factor that acknowledges the percentage of the parcel covered by hard surface. Density of development is based on the fact that more intense development more directly requires surface water management. The term refers to density factors that when applied will adjust charges based on the percentage of the parcel covered by hard surface. As an adjusting factor, it is used to acknowledge that, for example, 5,000 square feet of impervious surface on a 6,000 square foot lot more directly impacts the public system than 5,000 square feet of hard surface on a 30,000 square foot lot.

Density of development is an appropriate charge basis because it adequately quantifies the relationship between the rate paid and the amount of service received.

5.2 Planning Data

To administer a rate structure based on impervious surface area and density of development, specific parcel characteristic data is required. The data layers used to generate impervious surface values included the following:

- Zoning Comprehensive Plan
- Birch Bay Subzone parcels (this file includes assessors data)
- Aerial image based on a Washington Department of Transportation (WDOT) study
- Aerial image generated by the Department of Agriculture's National Agriculture Imagery Program (NAIP) retrieved from the University of Washington

The process of calculating impervious surface uses a suite of software programs called Geographic Information Systems (GIS). This software suite allows users to view, query, and author spatially referenced information. The above data are spatially referenced, and thus, used to calculate the impervious surfaces for parcels as they exist in their respective land use zones.

To minimize administrative and data collection costs, stormwater programs typically develop a uniform rate for single family residential customers based on an estimated average amount of impervious surface area per developed residential parcel. The charge basis for all other customer types is generally actual measured impervious surface area by parcel. The charge itself is most commonly calculated as a dollar amount per unit of impervious surface area, or an equivalent unit of service, especially when the fee structure is implemented as a uniform charge for residential customers.

5.3 Equivalent Residential Service Unit (ESU) Calculation

Establishing the value of one ESU required a sampling analysis of single family parcels. The database associated with the parcel data layer was screened to show only single family parcels. This population of parcels were numbered via a random number generator, 152 parcels were selected. The sample population size was based on a standard estimating technique using the following assumptions: 90% confidence interval, expected high/low of 5,000 and 1,000 square feet of impervious surface per single family residential, and a sampling error of 100 square feet.

The sample population of parcel data was viewed using aerial images whereupon impervious areas were digitized. The digitized impervious areas were created by tracing the buildings, driveways and other "drivable" surfaces. GIS allows for the user to calculate lengths and

areas; these totals were exported into a spreadsheet where the average area and percent impervious surface, per parcel, were calculated.

The impervious surface digitized for the single family sample population indicated an average of 4,000 square feet of impervious surface area; therefore, one ESU is defined to be 4,000 square feet of impervious surface area. This ESU definition will be used as the basis for measurement and one of the criteria for assessing stormwater fees.

5.4 Single Family & Agricultural (< 1 acre impervious surface area)

All single family residential parcels will have a minimum rate equal to one ESU. Parcels zoned agricultural with less than or equal to 43,560 square feet (one acre) of impervious surface area will also have a uniform one ESU rate. All other agricultural property will be billed based on measured impervious surface area.

5.5 All other Parcels

Impervious area was delineated for each individual parcel other than single family residential. The approach employed for all other parcels used the zoning layers to separate parcels into several categories.

- Condo/Mobile Home
- Agricultural (agriculture, agriculture open space, livestock, ranch, or dairy)
- Public Areas (parks, public works, water & sewer district)
- Commercial
- Multi-Unit Mobile Homes/RV Parks/Condominiums
- Heavy Industrial (non BP)
- Heavy Industrial BP (drains to Birch Bay Watershed)
- Heavy Industrial BP (drains outside Birch Bay Watershed)

The aerial image of the zone was scanned and in a similar fashion the impervious areas were delineated by digitizing those areas that appeared "drivable." Total ESUs for each parcel was determined by dividing total impervious area for each parcel by 4,000 square feet of impervious surface area (definition of one ESU).

Example 1: 24,000 sq ft of Impervious Surface Area (ISA) ÷ 4,000 sq ft (ESU equivalent) = 6 chargeable ESUs

Example 2: 3,500 sq ft of ISA ÷ 4,000 sq ft (ESU equivalent) = 1 chargeable ESU (minimum)

A summary of the parcel statistics used to generate the chargeable ESUs is provided in Table 4. It is important to note that the table includes chargeable ESUs and adjusted ESUs. The adjusted ESUs factor is the assumed allowance for applicable credits. The adjusted ESUs will be used to determine the fee that must be charged to generate sufficient revenue to carry out the stormwater program.

TABLE 4: SUMMARY OF CHARGEABLE ESUs AND ADJUSTED ESUs

Class	Total Area	Impervious Area	Chargeable ESUs	Credit	Adjusted ESUs
Single Family Res. [c]	136,936,158	15,292,000	3,823	8%	3,504
Condo / Mobile Home	6,109,394	256,000	64	8%	59
Agricultural	55,799,846	1,680,118	195	8%	179
Public	19,697,932	837,397	210	8%	192
Commercial	20,638,115	10,402,412	2,590	8%	2,374
Multi Unit Mobile / RV Parks	4,455,536	2,418,230	619	8%	567
Heavy Industrial Ind. (Non BP)	5,363,701	1,804,996	451	8%	413
HII BP (Drains to BB Watershed [a])	19,601,475	4,858,073	1,215	0%	1,215
HII BP (Drains outside BB Watershed [b])	15,243,708	14,027,779	-	0%	-
Total	283,845,865	51,577,005	**9,167**	7.23%	8,504

[a] Includes purple, green, yellow and orange zones provided by BP

[b] Includes red and aqua zones on the map

[c] Includes 41 ESU from the RC Holiday Park Zone and 253 ESUs which were taken out of the Commercial Classes

5.6 Density Adjustment Factor

As previously discussed, due to the mix of both urban-style and rural parcel characteristics in the watershed, incorporating a density of development adjustment factor increases the equity of the proposed rate structure by assigning a greater proportion of costs to those properties that are more intensely developed thereby requiring more surface water management. Density factors were grouped based on the following criteria:

TABLE 5: DENSITY OF DEVELOPMENT RANGES AND FACTORS

Density Range	Percentage ISA of Property	Density Factor
Low	1 – 10%	0.50
Medium	11 – 50%	1.00
High	> 50%	2.00

The chargeable ESUs calculated for each parcel will be applied to the rate applicable to the parcel density range: low, medium or high. The following examples provide sample calculations to help understand the proposed stormwater fee approach.

Example 1: Parcel Data: Total Square Feet = 50,000; ISA = 24,000 sq feet Density Range = 24,000 ISA ÷ 50,000 Total sq ft = 48% = MEDIUM DENSITY RANGE

Example 2: Parcel Data: Total Square Feet = 80,000; ISA = 24,000 sq feet Density Range = 24,000 ISA ÷ 80,000 Total sq ft = 30% = LOW DENSITY RANGE

Example 3: Parcel Data: Total Square Feet = 30,000; ISA = 24,000 sq feet
Density Range = 24,000 ISA ÷ 30,000 Total sq ft = 80% = HIGH DENSITY RANGE

5.7 Proposed Rate

The proposed rate level developed for the stormwater program begins by taking the previously identified financial obligations of the program and dividing by the available billing units. The total financial obligations were separated into two categories; 1) fixed costs and 2) density costs.

The fixed costs of the system are those costs that do not vary with the amount of stormwater or customers on the system. For the Birch Bay stormwater program fixed costs were considered those costs related to administration and monitoring related activities. The total cost related to these activities is $386,869 per year. The fixed costs on the system were assessed equally to all parcels at $3.79 per chargeable ESU. The density adjustment is not applied to these costs.

The density costs of the system are those costs that are considered variable such as operating & maintenance related activities, public education and involvement. The total density costs of the system total $386,869. The total average density rate is $3.79 per chargeable ESU; however, the rate charged to each parcel is dependent on the density range of the parcel. The density range is intended to allocate a cost on those parcels that are more densely developed, thereby requiring more stormwater management. Table 6 summarizes the he proposed density charges.

TABLE 6: PROPOSED DENSITY CHARGES PER ESU

Density Range	Percentage ISA of Property	Density Factor	Density Charge/ ESU
Low	1 – 10%	0.50	$1.23
Medium	11 – 50%	1.00	$2.46
High	> 50%	2.00	$4.93

The total proposed stormwater charge includes two components – fixed charge plus the density charge. Both of the charges are assessed based on the number of chargeable ESUs of each parcel. A summary of total proposed stormwater charge is as follows:

TABLE 7: SUMMARY OF TOTAL MONTHLY CHARGE BY DENSITY RANGE

Density Range	Fixed Charge Component	Density Charge Component	Total Monthly Charge
Low	$3.79	$1.23	**$5.02**
Medium	$3.79	$2.46	**$6.26**
High	$3.79	$4.93	**$8.72**

To understand how the charge applies to different land use types, a sample bill comparison is provided in Table 8.

TABLE 8: SAMPLE BILLS BY LAND USE TYPE

Fixed Charge/ESU	$3.79		Density Charge/ESU		Low	0-10%	$1.23	
					Med	11-50%	$2.46	
					High	>50%	$4.93	
Land Use Type	Total Area sq ft	Impervious Area	Total ESUs	Percent Density	Density Category	Fixed Charge	Density Charge	Monthly Bill
SINGLE FAMILY	5,910	4,000	1	67.7%	HIGH	$3.79	$4.93	$8.72
SINGLE FAMILY	18,799	4,000	1	21.3%	MED	$3.79	$2.46	$6.25
SINGLE FAMILY	203,681	4,000	1	2.0%	LOW	$3.79	$1.23	$5.02
AGRICULTURAL **	1,650,678	71,839	18	4.4%	LOW	$68.22	$22.14	$90.36
AGRICULTURAL	1,277,473	34,321	1	2.7%	LOW	$3.79	$1.23	$5.02
PUBLIC **	3,038,514	292,186	73	9.6%	LOW	$276.67	$89.79	$366.46
COMMERCIAL **	416,919	314,597	79	75.5%	HIGH	$299.41	$389.47	$688.88
COMMERCIAL **	433,805	116,302	29	26.8%	MED	$109.91	$71.34	$181.25
COMMERCIAL **	7,388	318	1	4.3%	LOW	$3.79	$1.23	$5.02
MULTIFAMILY /RV **	18,649	13,565	3	72.7%	HIGH	$11.37	$14.79	$26.16
MULTIFAMILY /RV **	133,502	55,065	14	41.2%	MED	$53.06	$34.44	$87.50
MULTIFAMILY /RV **	740,115	13,531	3	1.8%	LOW	$11.37	$3.69	$15.06
HEAVY INDUSTRIAL **	821,400	530,778	133	64.6%	HIGH	$504.07	$655.69	$1,159.76
HEAVY INDUSTRIAL **	1,379,721	210,813	53	15.3%	MED	$200.87	$130.38	$331.25

** Bill calculated based on measured impervious surface area

5.8 Rate Credits

In some cases, it may be appropriate to allow for adjustments to the service charge based on the characteristics of the customer or of the parcel. When considering how to charge, or credit, different types of customers, it is important to remember that a stormwater rate is a fee for service, not a tax. As such, the level of a customer's charge must substantially relate to that customer's proportionate share of the program's costs. In terms of equity and legal defensibility, it is important to recognize the significance of that type of relationship when defining exemption or credit policies because such policies could potentially move a program away from the rational linkage between service delivered and the amount of the fee.

A number of rate credits are often considered and sometimes offered by stormwater programs in the region. Several possible credits are discussed in an issue paper included in Appendix. The summary recommendations are a result of the presentation and discussion of the issue paper with the community at a public meeting on October 17, 2007.

Low income Senior Citizen and/or Low Income – Service fee reductions for senior citizen and/or low income customers should generally be established only if the costs of that policy are to be paid for by the County's General Fund. However, if the County's existing practice is to grant rate reductions for qualifying low-income senior customers in the County-wide flood control zone district or in its sub-flood control zone districts, then we believe it would be reasonable to extend this specific practice to the stormwater rates for the Birch Bay service area.

Publicly-Owned Property – It is in fact required in RCW 86.15.176 that rates be charged to those served or benefited, *including public entities*. So, publicly owned property should be treated as all other developed property and charged its share of stormwater program costs through the service charge. Tax-exempt properties should be treated as all other properties contributing runoff and assessed the full service charge. Undeveloped property should be exempted from the service charge.

State and Local Roads – Like any other type of impervious surface, public and private roads contribute to stormwater runoff. The key issue pertaining to whether roads should be equally charged a stormwater service charge is the integration of stormwater and road functions. In other words, an appropriate charge must recognize both the contribution of runoff that roads generate and the tax-funded service they deliver in the right-of-way.

Road and stormwater functions are intertwined from a variety of perspectives. First, many stormwater facilities are located in or use the public right-of-way, providing key conveyance of stormwater runoff. Also, most stormwater systems are constructed as part of road projects. Finally, road departments typically provide stormwater system maintenance for facilities that are within the right-of-way. Due to this commingling of services, it is recommended that no rates should be imposed on public roads because of the facilities paid for by road resources as well as the ongoing cost of maintenance, the required franchise rights of locating facilities in the public right-of-ways, and the important role roads play as a part of stormwater infrastructure in collecting and channeling runoff.

On-site Mitigation – Credits for on-site mitigation should be provided with the general criteria being that the stormwater facility requirements built for the sake of obtaining development approval must effectively reduce the program's costs *above and beyond* the required amount called for in granting development approval. The cost of *meeting* County standards should be considered a "cost of doing business," since this only partially neutralizes the impact of developing the property in the first place. A credit should be achievable only for *exceeding* minimum requirements.

The distinction between meeting and exceeding standards certainly can be crafted to allow for specific on-site practices to be credit-worthy. For example, credits could be structured to apply to qualifying low impact development (assuming low impact development reduces program costs and is not a County requirement). [Low impact development is an environmentally sensitive approach to developing property and managing surface water runoff.]

One key question in the consideration of rate credits for on-site mitigation is how much to credit. The case for allowing complete exemptions would imply that the customer is not being served by any of the programs or services offered. This is a very difficult case to make, because usually access to the property is available during storm events and less directly related

program activities, such as water quality management, regulatory compliance and public information, benefit all the program's customers.

The maximum level of credit available should represent that portion of the program cost that is related to managing stormwater flow. These costs have been characterized as "density" costs. Those remaining program costs can be characterized as "fixed" costs. They generally do not vary by stormwater flows from individual parcels. Fixed costs typically include water quality activities, regulatory compliance, and billing/administration. Density costs include budget categories such as operating & maintenance, public education/ involvement and some capital improvements. The credit approach developed for the County determined that operating & maintenance costs are the main costs that can be affected by on-site mitigation. Therefore the O&M costs (operations, ditch and culvert cleaning/repair, complaint response and emergency response) divided by the total O&M expenses of the system calculated a maximum on-site mitigation credit of 27% from the density charge category.

Small Parcels – During the community involvement process a credit for small parcels with much less impervious area than the defined One ESU or 4,000 square feet was broadly supported. The Birch Bay community has a history of being a resort community with small cottages on small lots. In an effort to consider the unique needs of the community a credit for parcels with less than 2,000 square feet of impervious surface area was proposed. Parcels who meet this criterion would receive a 50% credit to the fixed ESU rate of $3.79 and would pay the full density rate based on the parcel's density range (low, medium or high).

In consideration of the credits discussed, the funding approach has assumed that parcels applying for and approved for a credit would represent 8% of the total chargeable parcels in each land use category with the exception of BP who has had a detailed analysis of parcels completed independently. This is an important point since in order to cover the total stormwater program costs, any credit provided must be recovered from the remaining chargeable ESUs. This is represented by the chargeable ESUs of 9,167 before the credits and adjusted chargeable ESUs of 8,504 after the credit assumption has been applied.

6.0 Billing Implementation

Billing implementation is accomplished through the use of the master billing file that was developed as part of this study. The master billing file contains billing and bill calculation information for each parcel separated by land use category. The general information was identified by the Whatcom County Assessor's Geocode and contained information such as: taxpayer name, address and taxpayer ID. Information required to calculate the assessed bill includes total area, total delineated impervious area (if applicable), the equivalent unit measurement (4,000 square feet of impervious area), number of ESUs (calculated) and the fixed rate and density rates.

6.1 Bill implementation for Single Family and Agricultural <= 1 acre impervious area

The billing implementation is as follows for all parcels with land use category of single family and agricultural parcels with less than one acre (43.560 square feet of impervious surface area) is as follows:

6.1.a Sample data:

Parcel 1: Information: **193,900** total square feet, **4,000** square feet of ISA

Parcel 2: Information: **15,260** total square feet, **4,000** square feet of ISA

Parcel 3: Information: **6,400** total square feet, **4,000** square feet of ISA

6.1.b Calculation of bill:

Step 1: Assign 1 ESU for the fixed charge component of the rate.

Step 2: Calculate the density range of the parcel (4,000 square feet applicable to all single family and agricultural parcels with less than one acre impervious surface area). The calculation will result in a percentage that determines density range low (1-10%), medium (11 – 50%) or high (>50%).

Parcel 1: **4,000** square feet base ÷ **193,900** total square feet of parcel = **2.1%** or **Low** density Range

Parcel 2: **4,000** square feet base ÷ **15,260** total square feet of parcel = **26.2%** or **Medium** density Range

Parcel 3: **4,000** square feet base ÷ **6,400** total square feet of parcel = **62.5%** or **High** density Range

Step 3: Calculate the total parcel bill.

Parcel 1: **1** ESU * **$3.79** fixed rate = **$3.79** PLUS **1** ESU * **$1.23** low density charged rate = **$1.23** Total Charge: $3.79 + $1.23 = **$5.02**

Parcel 2: **1** ESU * **$3.79** fixed rate = **$3.79** PLUS **1** ESU * **$2.46** medium density charged rate = **$2.46** Total Charge: $3.79 + $2.46 = **$6.25**

Parcel 3: **1** ESU * **$3.79** fixed rate = **$3.79** PLUS **1** ESU * **$4.93** high density charged rate = **$4.93** Total Charge: $3.79 + $4.93 = **$8.72**

6.2 Bill Implementation for All Other Parcels

The calculated bill for all other parcels (i.e. parcels zoned for the following: agricultural with greater than one acre of impervious area, condos, mobile homes, commercial, public, multi unit mobile, RV parks and heavy industrial) will require the same information as the single family residential calculation with the addition of measured impervious area.

6.2.a Sample data:

Parcel 1 Information: **174,333** total square feet, **139,566** square feet of ISA

Parcel 2 Information: **216,402** total square feet, **92,960** square feet of ISA

Parcel 3 Information: **333,026** total square feet, **32,269** square feet of ISA

6.2.b Calculation of bill:

Step 1: Calculate the number of chargeable ESUs – Total impervious surface of the property divided by one ESU equivalent (4,000 square feet of impervious surface area).

Parcel 1: **139,566** ISA ÷ **4,000** ESU basis = **35** chargeable ESUs

Parcel 2: **92,960** ISA ÷ **4,000** ESU basis = **23** chargeable ESUs

Parcel 3: **32,269** ISA ÷ **4,000** ESU basis = **8** chargeable ESUs

Step 2: Calculate the density range of the parcel (4,000 square feet applicable to all single family and agricultural parcels with less than one acre impervious surface area). The calculation will result in a percentage that determines density range low (1-10%), medium (11 – 50%) or high (>50%).

Parcel 1: **139,566** ISA ÷ **174,333** total square feet of parcel = **80.1%** or **High** density Range

Parcel 2: **92,960** ISA ÷ **216,402** total square feet of parcel = **42.9%** or **Medium** density Range

Parcel 3: **32,269** ISA ÷ **333,026** total square feet of parcel = **9.7%** or **Low** density Range

Step 3: Calculate the total parcel bill.

Parcel 1: **35** ESU * **$3.79** fixed rate = **$132.65** PLUS **35** ESU * **$4.93** high density charged rate = **$172.55** Total Charge: $132.65 + $172.55 = **$305.20**

Parcel 2: **23** ESU * **$3.79** fixed rate = **$87.17** PLUS **23** ESU * **$2.46** medium density charged rate = **$56.58** Total Charge: $87.17 + $56.58 = **$143.75**

Parcel 3: **8** ESU * **$3.79** fixed rate = **$30.32** PLUS **8** ESU * **$1.23** low density charged rate = **$9.84** Total Charge: $30.32 + $9.84 = **$40.16**

6.3 Requests for Rate Adjustments and Appeals

If the property owner or person responsible for paying for the stormwater fee believes that a particular assigned fee is incorrect, such a person may request in writing, that the fee be recomputed. However, filing of such a request does not extend the period for payment of the charge. Such requests shall be made within thirty (30) days of the mailing of the billing in question. The property owner shall have the burden of proving that the service charge adjustment should be granted.

Decisions on requests for fee adjustment shall be made by the Public Works Director or his/her designee on information submitted by the applicant and by the public works

department within sixty days of the adjustment request, except when additional information is needed. The applicant shall be notified in writing of the director's decision. If the applicant's request is denied by the director, the customer may submit an appeal within 30 days from the denial of the first appeal in writing, to the Hearing Examiner. The Hearing Examiner will review appeals and base his/her decision on information provided by the customer or by the Public Works staff or may review the property directly. The Hearing Examiner will notify the customer of his/her decision within 60 days of the receipt of the appeal. The Hearing Examiner's decision shall be final.

If an adjustment is granted which reduces the service charge for the current year, the applicant shall be refunded the amount overpaid in the current year. If the Public Works Director finds that a service charge bill has been undercharged, then either an amended bill shall be issued which reflects the increase and service charge or the undercharged amount will be added to the next year's bill.

APPENDIX: A
PUBLIC PRESENTATIONS

APPENDIX: B
ISSUE PAPERS

APPENDIX: C
STORMWATER PROGRAM COSTS

APPENDIX: D
ORDINANCE/RESOLUTION

Appendix: E
Answers to Frequently Asked Questions