

APPENDIX B – RECOMMENDED ACTION DETAILS

Action G.1.1.A

Beaver Management Strategy and Implementation

Description: Beaver activity is attributed with some of the flooding problems that occur in Sammamish in areas where streams, wetlands, and ponds intersect road crossings or areas adjacent to the built environment. Sammamish has employed various techniques to protect infrastructure and minimize flooding due to beaver activity, including installation of “beaver deceiver” culvert systems and live-trapping and relocating the beavers. The techniques have generally been implemented as needed. A more thoughtful strategy that includes specific criteria for when certain techniques would be employed would be helpful for City staff and the public. A city-wide beaver management strategy would provide a consistent approach.

Assumptions:

- ◆ Beaver management strategy would include criteria for when to (1) leave them alone, (2) protect their environment (e.g., protect the environment they live in to lessen the damage they do), (3) manage their activity (e.g., beaver deceivers, or actively removing their dams), and (4) remove the beavers themselves.
- ◆ Environmental permits and approvals needed may include SEPA, and hydraulic project approval from WDFW.
- ◆ City staff would develop the strategy, including staff from maintenance and planning (critical areas).

Planning-level Cost Estimate:

Item	Total
Develop beaver management strategy. Assume City staff. Level of effort is assumed to be 150 hours. For budgeting purposes assume \$100/hr.	\$15,000
Beaver deceivers, beaver removal, or resource protection (implementation of beaver management strategy).	\$15,000
Total	\$30,000

Action G.1.1.B

Groundwater Seepage Strategy and Implementation

Description: Groundwater seepage contributes to drainage problems in many areas and is a difficult problem to address since the sources are not easily traced. It would be helpful for the City to develop a strategy for dealing with the various drainage issues that are clearly associated with groundwater seepage by (1) understanding the nature and extent of the problem (e.g., locations and seasonality), (2) developing a strategy for dealing with existing ongoing problem locations, and (3) preventing future problems that could occur with additional surface water infiltration (e.g., LID infiltrative facilities in the vicinity of potentially problematic areas based on geologic conditions).

Assumptions:

- ◆ City staff would develop the strategy by developing understanding of the nature and extent of the problem through review of drainage complaints and discussions with maintenance staff.
- ◆ Strategy would focus on how to manage ongoing problems (e.g., capital solutions, programmatic fixes), and preventative strategies so that future groundwater seepage does not contribute to new drainage problems.

Planning-level Cost Estimate:

Item	Total
Research nature and extent of existing problem. Develop strategy. Assume City staff. Level of effort is assumed to be 400 hours. For budgeting purposes assume \$100/hr.	\$40,000 One time cost
Design and construction small projects to implement strategy recommendations.	\$50,000 annually
	Total \$40,000 one time cost plus \$50,000 annually

Action G.1.2.A

Stormwater Retrofit Strategy and Implementation

Description: The City's stormwater facilities are aging, and there are areas that do not have any stormwater treatment at all. At the same time, regulations are moving toward requiring jurisdictions to implement structural stormwater controls in areas where none exist. Larger cities and counties that are permitted as an NPDES Phase I MS4 currently have a structural stormwater control condition in their permit. Additionally, grant funds have been available specifically for stormwater retrofit in the past five years. It would be beneficial for Sammamish to develop a city-wide stormwater retrofit strategy to (1) implement stormwater treatment where none exists, (2) upgrade or improve existing stormwater treatment facilities, and (3) be in a better position to take advantage of grant funding opportunities.

Assumptions:

- ◆ Stormwater retrofit strategy would be primarily an office-based mapping exercise, with field validation to follow.
- ◆ New stormwater treatment would focus on LID alternatives, where appropriate.
- ◆ Existing stormwater treatment facilities would be improved for better function and aesthetic appearances.

Planning-level Cost Estimate:

Item	Total
Conduct GIS map analysis of treated vs. untreated areas and age of facility (to assess level of treatment based on design standard at the time of construction). Assume consultant. Level of effort is assumed to be 200 hours. For budgeting purposes assume average \$130/hr.	\$26,000
Field visits to validate map findings. Assume consultant. Level of effort is assumed to be 40 hours. For budgeting purposes assume average \$130/hr.	\$5,200
Documentation of retrofit strategy. Level of effort is assumed to be 125 hours. Assume consultant. For budgeting purposes assume average \$150/hr.	\$18,800
Design and construction small projects to implement strategy recommendations.	\$50,000 annually
	Total
	\$100,000

Action G.1.2.B

Support Partnerships with Interested Stakeholders

Description: In order to comprehensively manage storm and surface water systems to ensure longevity of assets and proactively address problems related to development partnerships must be supported with interested stakeholders such as Sammamish Stormwater Stewards to enhance and restore the functionality or aesthetics of existing stormwater facilities.

Planning-level Cost Estimate:

This work will be completed by existing staff and will vary in efforts based on interested stakeholders.

Action G.1.3.A

Keep Abreast of Latest Research

Description: The City should keep abreast of the latest research on storm and surface water Best Management Practices and consider revising development-related policies, standards and codes to reflect the most current and best available science.

Planning-level Cost Estimate:

This work will be completed by existing staff and will vary in effort.

Action G.1.4.A Water Quality Monitoring

Description: Water quality monitoring is required by the NPDES Phase 2 permit. The City has opted in a payment to the Department of Ecology for participation in the Regional Stormwater Monitoring Program . Fees are expected to increase to \$35K annually to account for annexation population growth. Water quality monitoring is also conducted on Beaver Lake, Pine Lake, City beach areas, and Ebright Creek.

Assumptions:

- ◆ City will continue to pay into the Regional Stormwater Monitoring Program as part of the NPDES Phase 2 permit requirements.
- ◆ Beaver Lake and Pine Lake will continue to be monitored for water quality.
- ◆ Staff will continue to support the Beaver Lake Management District.
- ◆ City beach areas will continue to be monitored for water quality.
- ◆ Ebright Creek will continue to be monitored for water quality.

Item	Total
Regional Stormwater Monitoring Program (opt in NPDES Phase 2 Permit)	\$35,000 annually
Lake Stewardship for Pine and Beaver Lakes	\$26,000 annually
Interlocal Agreement with King County for beach water quality monitoring	\$9,000 annually
Professional Services contract for Ebright Creek monitoring (estimate does not subtract reimbursement from Crossings at Pine Lake and Chestnut Lane HOA)	\$100,000 annually
Total	\$170,000

Planning-level Cost Estimate:

Action G.2.1.A

Basin Planning

Description: Basin plans provide comprehensive analysis of surface water characteristics, issues and solutions to identified problems within the framework of the area where water naturally drains (i.e., the drainage basin). The East Lake Sammamish Basin Plan was completed by King County in the early 1990s and Sammamish updated two of the basin included in that plan (Inglewood and Thompson) in 2009. Additional plans are needed to update conditions that have changed since the 1990s to provide new analysis and recommendations to protect natural resources and improve water quality and drainage concerns.

The basin plans would include assessment of stormwater conveyance pipes that are primarily belowground. Using CCTV tools, the City would assess the condition of stormwater pipes and develop a repair, replacement, or maintenance schedule based on the results of the assessment. The data gathered during a CCTV assessment can be used for other purposes, such as evaluation of illicit discharges or connections to the stormwater system.

Assumptions:

- Basin planning would include description of physical and biological conditions and problem areas, and recommendations to address identified issues. Hydrologic and hydraulic modeling may also be conducted depending on basin conditions and whether modeling is needed for identification of problems or development of solutions.
- Lengths of pipes for condition assessment are assumed, based on an estimated average per basin.

Item	Total
Basin plan and recommendations for solutions to identified problems.	\$150K to \$300K
CCTV inspection and review (assume 40,000 linear feet at \$2.50/LF for CCTV, cleaning, and disposal)	\$100,000
Total	\$150K to \$400K per basin plan

Action G.2.1.B

Establish Criteria to Help Guide Land Acquisitions

Description: Establish criteria to help guide land use acquisition to facilitate the City's storm and surface water program goals or to meet regulatory requirements. Criteria should include alignment with the City's priorities, mission and vision; and cost benefit analysis for leveraging other resources, costs of development, operation and maintenance, and benefit to the environment.

Planning-level Cost Estimate:

This work will be completed by existing staff.

Action G.2.1.C

Property Acquisition Fund

Description: The City is fortunate to have high-quality natural resources that provide value to the residents of Sammamish and the region in multiple ways. Many of the City's natural resources are complementary to the surface water network, providing beneficial aspects including temperature regulation, slope stability, flow attenuation, water filtration, and other functions. Occasionally, properties that would be beneficial to the functionality of the system become available for purchase. This fund would be used to purchase properties that preserve natural resources that provide a surface water benefit.

Assumptions:

- ◆ Biannual placeholder fund.

Planning-level Cost Estimate:

Item	Total
Placeholder per biannual	\$250K to \$1,000,000
	Total \$250K to \$1,000,000

Action G.3.1.A Education and Outreach

Description: The City conducts education and outreach as required by its NPDES Phase II Permit. Currently, a consultant is hired to assist in providing outreach services, as requested by the City. The outreach and education program targets K-12 as the target audience in order to educate and track behavior changes. The general public is reached through two educational booths per year. This outreach should continue at the current funding level.

Assumptions:

- ◆ Continued consultant at the current funding level.
- ◆ The King Conservation District grant should continue to be used for funding.

Planning-level Cost Estimate:

Item	Total
Assume consultant is hired at the current funding level to provide the range of public outreach and education services currently offered. Budget is assumed to be \$30,000/year.	\$30,000
Total	\$30,000

Action G.3.1.B

Leadership Role in Regional Stormwater Outreach

Description: This project is to assume a leadership role in the Stormwater Outreach Group (SOGGIES) regional forum. This group is a subgroup of Stormwater Outreach for Regional Municipalities (STORM) who recently hired a full time coordinator through grants. The City has been an active participant in both outreach forums for several years. By assuming a leadership role in the SOGGIES group, the City will establish itself as a leader in stormwater public education and outreach and establish a stronger regional presence. Each year, these groups sponsor and organize a Stormwater Symposium that brings stormwater educators together to share local and region education and outreach efforts.

Assumptions:

- ◆ Leadership role will require attendance at all STORM and SOGGIES meetings, as well as meeting preparation and follow-up time (e.g., lining up speakers, preparing agendas).
- ◆ Assume 50—100 additional hours per year will be necessary for one City staff person to assume a leadership role in SOGGIES.

Planning-level Cost Estimate:

Item	Total
Prepare meeting agendas, line up speakers, and attend meetings. For budgeting purposes assume \$100/hr.	\$5,000- \$10,000/year
Total	\$5,000- \$10,000/year

Action G.3.1.C

Update Stormwater Webpage

Description: There are a number of significant changes that will be occurring in the City's stormwater management program, including revised codes and standards and adoption of a new Surface Water Design Manual. A revamped webpage would be useful to present online resources, such as education and outreach materials, to the public. The website would include a dashboard for each Stormwater Management program element that would provide current project status.

Assumptions:

- ◆ City staff will update the webpage.
- ◆ This is a one-time update, however, the webpage will need to be periodically refreshed with new information.

Planning-level Cost Estimate:

Item	Total
Assume City staff will update the webpage with readily available content. Assumed any new content (such as educational materials) would be developed in other tasks. Level of effort is assumed to be 100 hrs. For budgeting purposes assume \$100/hr.	\$10,000
Total	\$10,000

Action G.3.1.D

Develop LID and Revised Stormwater Standard Educational Materials

Description: New LID standards, a new Surface Water Design Manual, and revised City design standards could result in some confusion for those who need to implement, guide, or enforce the standards. Educational materials that explain the changes and what they mean for residents and builders in Sammamish would be helpful during the transition.

Assumptions:

- ◆ Education and outreach materials would be developed from publically available materials, but tailored to Sammamish-specific codes, rules, and standards.
- ◆ Outreach materials would be made available online.
- ◆ Anticipated one-page fact sheets include (1) development code changes (then vs. now), (2) new stormwater requirements, and (3) summary of which City stormwater design standards have changed.

Planning-level Cost Estimate:

Item	Total
Preparation of up to 3 fact sheets outlining changes resulting from code updates and revisions, and adoption of a new Surface Water Design Manual (City staff or consultant). Level of effort is assumed to be 80 hours. Consultant at \$150/hr. is assumed in planning-level cost estimate.	\$12,000
Coordination time with City IT staff to make fact sheets available online. Level of effort is assumed to be 30 hours (City staff time). For budgeting purposes \$100/hour is assumed.	\$3,000
Total	\$15,000

Action G.3.2.A

Education and Outreach to Support Community Volunteer Groups

Description: Provide education, outreach and support to community volunteer groups such as the Boy Scouts to promote Drain Ranger program.

Planning-level Cost Estimate:

This work will be completed by existing staff.

Action G.4.1.A Support Kokanee Work Group

Description: Lake Sammamish kokanee salmon are an important aquatic species that are celebrated by the community and region. The City has actively participated in the Kokanee Work Group, and should continue to do so through both meeting attendance, and support initiatives to improve access to spawning habitat.

Assumptions:

- ◆ The City of Sammamish has three of the four primary kokanee spawning streams in Lake Sammamish: Ebright, Laughing Jacobs, and Pine Lake Creeks. There are opportunities for fish passage and habitat improvement on all of these stream systems.
- ◆ Staff from multiple departments are needed to support the goals of the Kokanee Work Group.

Planning-level Cost Estimate:

Item	Total
Attend up to 4 half a day meetings per year with Kokanee Work G. Assume City staff. Level of effort is assumed to be 20 hours. For budgeting purposes assume average \$100/hr.	\$2,000
Coordinate Kokanee Work Group initiatives with internal City staff. Assume City staff. Level of effort is assumed to be 80 hours. For budgeting purposes assume average \$100/hr.	\$8,000
Total	\$2,000 to \$10,000

Action G.4.1.B

Support WRIA 8

Description: Chinook salmon is listed as a threatened species under the Federal Endangered Species Act. Provide active staff membership to support the WRIA 8 in its efforts to improve habitat for Chinook salmon.

Planning-level Cost Estimate:

Item	Total
Attend up to 4 half a day meetings per year. Assume City staff. Level of effort is assumed to be 20 hours. For budgeting purposes assume average \$100/hr.	\$2,000
	Total \$2,000

Action G.4.2.A

Map and Prioritize Culverts for Repair and Replacement and Implementation

Description: The recent “Culvert Case” related to treaty rights has prompted the Washington State Department of Transportation and other jurisdictions to review their culverts for fish passage and begin the process of prioritizing culverts for replacement. The City would benefit from reviewing its culvert crossings for streams that are presumed to have fish habitat according to the Washington Department of Natural Resources (DNR). A prioritized list would be prepared for culverts to be replaced or modified as resources are available or other projects are conducted in the vicinity.

Assumptions:

- ◆ A consultant with fisheries expertise would conduct this task.
- ◆ Up to 20 culverts would be evaluated in the field.
- ◆ A report would be developed documenting findings and prioritizing culverts for modification or replacement based on fish passage improvements needed and upstream habitat potential.

Planning-level Cost Estimate:

Item	Total
Review DNR data and City GIS layer for fish-bearing F-type streams, conduct field evaluation, prioritize culverts, and prepare report. Assume consultant. Level of effort is assumed to be 360 hours. For budgeting purposes assume average \$150/hr.	\$54,000 one time cost
Design and construct to remove fish passage barriers	\$500K to \$1M, annually
Total	\$54,000, one time cost + \$500,000 to \$1M annually

Action G.4.2.B

Support Kokanee Work Group Blueprint and WRIA8 Implementation Plan Projects

Description: As City budget allows, include When KWG Blueprint and/or WRIA 8 projects in the 6 Year Stormwater Capital Project List. Otherwise, support projects

Planning-level Cost Estimate:

varies

Action G.5.1.A

Pursue Grants

Description: Ecology solicits proposals from municipalities to fund projects that support watershed protection and restoration; prevention, reduction and control of toxic and nutrients; and implementation of stormwater retrofit projects. In the past, Ecology has offers non-competitive capacity building grants to implement the stormwater municipal permit program. However, this funding (\$50,000 annually) is not expected to continue. Other grant applications take a significant amount of time and effort to prepare, however, the reward of a successfully funded project can be worth the time and money. Time should be allocated for City staff to identify appropriate grant opportunities and prepare grant applications.

Assumptions:

- ◆ City staff would develop a list of projects that would be appropriate for grant funding, should the opportunity become available.
- ◆ City staff would develop up to two grant application submittals per year.

Planning-level Cost Estimate:

Item	Total
Develop list of potentially grant-eligible projects, including list of typical information needs for grant applications. Assume City staff. Level of effort is assumed to be 50 hours. For budgeting purposes assume \$100/hr.	\$5,000
Develop 2 grant application per year. Assume City staff. Level of effort is assumed to be 50 hours. For budgeting purposes assume \$100/hr.	\$5,000
Total	\$5,000 to \$10,000

Action G.5.1.B Stormwater Opportunity Fund

Description: Projects that replace or construct new pollution-generating impervious surfaces, such as transportation improvements are required to install water quality treatment for certain portions of the project. This project would establish a fund to provide additional water quality beyond the minimum requirements for already planned City transportation projects, or other projects being implemented by regional partners, such as neighboring jurisdictions or other governmental organizations (e.g., Sammamish Plateau Water and Sewer District). This fund would provide additional benefits to projects, while minimizing construction costs and disruptions.

Assumptions:

- ◆ Fund would only be used for additional water quality improvements, not for water quality improvements that are required as part of the base project.
- ◆ Surface water staff in conjunction with transportation engineering staff would jointly determine most appropriate use of funds for City projects.

Planning-level Cost Estimate:

Item	Total
Opportunity fund to be established at \$250,000 to \$1,000,000 per biannual.	\$250K - \$500K
	Total \$250K - \$500K, biannual

Action G.5.2.A

Ditch and Culvert Maintenance

Description: Ditch and culvert maintenance work is not required by the City's current NPDES Phase II Permit, however, it is essential to the functionality of the stormwater conveyance system. The City has over X miles of open water ditches that are integral to the stormwater conveyance system. In addition to conveyance, these ditches can provide other functions such as water quality treatment through vegetative growth in the ditches (e.g., filtering pollutants and sediment). However, the ditches require maintenance when they become overgrown with vegetation, filled with sediment or debris, or experience erosion. This project is to conduct ditching activities to clean out sediment, mow vegetation, and otherwise re-establish ditches to their original functions. Culvert maintenance (e.g., cleaning, removing debris) is also included.

Assumptions:

- ◆ This work would be contracted out.
- ◆ It is assumed that 2 miles of ditches and/or culverts is maintained per year.
- ◆ Culvert repair or replacement is not included in the planning level cost estimate.
- ◆ The first two phases of ditch maintenance will be:
 - ◇ Phase 1: Sammamish Landing to north end of ELSP project Phase 1b
 - ◇ Phase 2: Louis Thompson to Snake Hill

Planning-level Cost Estimate:

Item	Total
Conduct maintenance activities on 2 miles of ditches and/or culverts per year. Assume \$10 per linear foot.	\$100,000
Total	\$100,000

Action G.6.1.A

Adopt New Surface Water Design Manual and Revise City Standards

Description: The City's NPDES Phase II Permit requires permittees to adopt a new Surface Water Design Manual that is equivalent to Ecology's 2014 *Stormwater Management Manual for Western Washington*. Sammamish has typically used King County's Surface Water Design Manual, rather than the Ecology Manual. King County recently updated their 2009 KCSWDM, and has issued the 2016 King County Surface Water Design Manual to replace the 2009 KCSWDM. The 2016 Manual will be effective April 24, 2016, and is equivalent to the 2014 Ecology Manual.

Assumptions:

- ◆ City staff will conduct this task.
- ◆ The new Surface Water Design Manual will need to be adopted by December 31, 2016, according to the City's Phase II NPDES Permit.
- ◆ It is anticipated that up to four meetings will be held with the Planning Commission and/or City Council leading up to final adoption and approval of the manual and updated standards.

Planning-level Cost Estimate:

Item	Total
Determine which design manual the City wants to use, and review changes relative to 2009 KCSWDM. Level of effort is assumed to be 100 hours. For budgeting purposes \$100/hr is assumed.	\$10,000
Determine which City design standards will need to be revised based on new Surface Water Design Manual criteria, and make revisions. Level of effort is assumed to be 250 hours. For budgeting purposes \$100/hr is assumed.	\$25,000
Brief the Planning Commission and City Council. Assume up to four meetings, with preparation. Level of effort is assumed to be 100 hours. For budgeting purposes \$100/hr is assumed.	\$10,000
Total	\$45,000

Action G.6.1.B

Conduct City-wide Development Code Review and Revision

Description: The City’s NPDES Phase II Permit requires permittees to “review, revise, and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs.” The Puget Sound Partnership, in collaboration with Ecology, has developed a guidebook, *Integrating LID into Local Codes: A Guidebook for Local Governments* (AHBL 2012), to help assist in this task. Additionally, Ecology has been conducting training sessions throughout western Washington. This task will involve staff across multiple departments, but primarily from Public Works and Planning.

Assumptions:

- ◆ City staff will conduct this task.
- ◆ Codes, rules, standards, and enforceable documents must be reviewed, revised, and made effective by December 31, 2016.
- ◆ It is anticipated that up to four meetings will be held with the Planning Commission and/or City Council leading up to final adoption and approval of revised or updated codes.

Planning-level Cost Estimate:

Item	Total
Review City codes, rules, and standards for compatibility with LID. Level of effort is assumed to be 80 hours. For budgeting purposes \$100/hr is assumed.	\$8,000
Coordinate revisions, updates, and changes. Level of effort is assumed to be 200 hours. For budgeting purposes \$100/hr is assumed.	\$20,000
Brief Planning Commission and City Council. Assume up to 4 meetings, with preparation. Level of effort is assumed to be 220 hours. For budgeting purposes \$100/hr. is assumed.	\$22,000
Total	\$50,000

Action G.6.1.C

Develop Enforcement Policy for Commercial Properties and Implementation

Description: The City is responsible for the entire drainage system under its NDPEs Phase II MS4 Permit, including commercial properties that drain to the City's system. The City inspects the facilities that are privately owned and operated by commercial properties, and informs the businesses of what types of maintenance are required, and when the maintenance should be accomplished. Many businesses are not following through with their maintenance obligations, and as a result, their stormwater facilities are not functioning as intended and may be contributing pollutants to the City's system. The City needs to clarify its enforcement policy for commercial properties, including when it might be appropriate for the City to conduct the maintenance activity needed and bill the business for the work.

Assumptions:

- ◆ City staff would clarify enforcement policy for commercially owned and operated stormwater facility maintenance.
- ◆ Any change to the existing policy would need to be approved by the Planning Commission or City Council.

Planning-level Cost Estimate:

Item	Total
Clarify enforcement policy for commercially owned and operated businesses. Assume City staff. Level of effort is assumed to be 200 hours. For budgeting purposes assume \$100/hr.	\$20,000 One time cost
Provide repairs and facility maintenance. Assume small work contract.	\$30,000 annually
	Total \$20,000, one time cost + \$30K annually

Action G.7.1.A

Coordination with Local Jurisdictions

Description: Regularly meet with staff from King County, City of Issaquah, City of Redmond, Sammamish Plateau Water, and NE Sammamish Plateau Sewer and Water District to coordinate development projects, capital improvement projects, maintenance issues, and basin plans and studies related to storm and surface water.

Planning-level Cost Estimate:

Item	Total
Assume 24 half day meetings per year for City staff to attend. Level of effort is assumed to be 50 to 100 hrs. For budgeting purposes assume \$100/hr.	\$5,000 to \$10,000
	Total \$5,000 to \$10,000

Action G.7.1.B

Participate in Regional Work Groups

Description: Managing stormwater involves being a multi-faceted practitioner with knowledge of regulations, engineering principles, aquatic resource and fisheries issues, and treatment technologies. It also involves coordination with multiple agencies and jurisdictions because surface water is not confined to jurisdictional boundaries. The City has taken an active role in regional stormwater and water resource forums, staying current on regulations and partnering where appropriate to reduce costs for elements of the NPDES Phase II Permit. For instance, the STORM group provides education and outreach materials that can be used for the public education and outreach component of the NPDES Phase II Permit. The City should continue to participate in regional coordination efforts.

Assumptions:

- ◆ The City participates in the following regional work groups:
 - ◇ WRIA 8 Planning
 - ◇ APWA Stormwater Manager's Group
 - ◇ STORM
 - ◇ Stormwater Permit Coordinators Group
 - ◇ Local Jurisdiction Stormwater Monitoring Caucus
 - ◇ ROADMAP
- ◆ Assume each group meets quarterly for half a day, and City's role is participatory only (not a leadership role).

Planning-level Cost Estimate:

Item	Total
Assume 24 half day meetings per year for City staff to attend. Level of effort is assumed to be 50 to 100 hrs. For budgeting purposes assume \$100/hr.	\$5,000 to \$10,000
Total	\$5,000 to \$10,000

Action G.8.1.A

Develop Stormwater Asset Management Program

Description: Sammamish recently purchased the City Works™ asset management software program. This GIS-based software will be very useful for tracking the stormwater system inventory, condition, citizen action requests, and maintenance. The City should develop a plan for how it wants to manage its stormwater assets, including assessment of their condition and maintenance frequencies. The City Works™ software is a useful tool to track this information and develop a program that works for City staff.

Assumptions:

- ◆ City staff will conduct this task.
- ◆ It is assumed that data migration from GIS or other sources into City Works™ has already been done, or will have been done before this task begins.
- ◆ Determine what data is available, data gaps (e.g., condition of assets, age of assets, maintenance frequency), and how or if data gaps will be filled.
- ◆ Develop strategy for managing assets (e.g., how often should certain features be maintained, when should replacement be scheduled or planned)

Planning-level Cost Estimate:

Item	Total
Evaluate stormwater asset data. Assume City staff. Level of effort is assumed to be 150 hours. For budgeting purposes assume \$100/hour.	\$15,000
Develop strategy for managing assets. Assume City staff. Level of effort is assumed to be 100 hours. For budgeting purposes assume \$100/hour.	\$10,000
Total	\$25,000

Action G.8.2.A

Stormwater Water Rate Study

Description: The Stormwater Capital Plan proposes several capital projects to be implemented over the next 6 to 10 years. In addition, the City's NPDES Phase II Permit requires inspection and maintenance of the City's catch basins and stormwater facilities, education and outreach and other expenditures that go toward operating and maintaining the City's surface and stormwater system. This project is to conduct a surface water rate study to determine if the existing surface water fees and system development charges are appropriate to cover the current and projected revenue needs.

Assumptions:

- ◆ A consultant is needed to assist with the rate and fee study.

Planning-level Cost Estimate:

Item	Total
Consultant cost to conduct rate study (estimate).	\$75,000
City staff time to coordinate with Consultant and provide required information. Assume 80 hours at \$100/hr.	\$8,000
	Total \$83,000