

Appendix L

Programmatic Project Summaries and Estimated Costs

Appendix L- Programmatic Project Summaries and Estimated Costs

ID	Name	Project priority		Staffing needs	Average Annual cost (\$1,000s)	One-time costs (\$1,000s)	Primary Goal	Page #
		Priority 1	Priority 2					
CW-1	TV Inspection of Pipe	✓		✓	\$152.0		Infrastructure	L-1
CW-2	LID Maintenance	✓		✓	\$11.0		Infrastructure	L-2
CW-3	Street Sweeping	✓			\$25.0		Flooding	L-3
CW-4	Ditch Maintenance	✓		✓	\$355.0		Infrastructure	L-4
CW-5	Maintenance on Goat Hill: Equipment Rental	✓			\$3.0		Infrastructure	L-5
CW-6	Development Review Evaluation	✓				\$4.0	WQ-Permit	L-6
CW-7	LID Code Scrub	✓				\$45.0	WQ-Permit	L-7
CW-8	LID Implementation and Manual Adoption	✓			\$18.0		WQ-Permit	L-8
CW-9	Stormwater Facility Inspection	✓		✓	\$40.0		WQ-Permit	L-9
CW-10	Service Truck		✓		\$36.0		Infrastructure	L-10
CW-11	Spill Response Truck		✓		\$29.0		WQ-Permit	L-11
CW-12	Beaver Management Policy		✓		\$5.0		Flooding	L-12
CW-13	Address Prioritized Fish Passage Barriers		✓		\$1.0		Habitat	L-13
CW-14	Evaluation of Incentives and Rebate Programs		✓		\$1.4		Infrastructure	L-14
CW-15	Utility Rate Study		✓			\$36.0	Infrastructure	L-15
CW-16	Proactively Avoid TMDL		✓		\$26.0		Water Quality	L-16
CW-17	City-specific Water Quality Monitoring		✓		\$9.7		Water Quality	L-17
CW-18	Watershed Planning		✓			\$44.0	Water Quality	L-18
CW-19	Develop LID Feasibility Tools	✓				\$68.0	WQ-Permit	L-19
CW-20	Incorporation of LID into City Capital Projects		✓			\$2.7	Infrastructure	L-20
CW-21	Stream Habitat and Fish Monitoring		✓		\$48.0		Habitat	L-21
CW-22	O&M CIP Consultation		✓		\$1.3		Infrastructure	L-22
CW-23	Environmental Permitting for Maintenance		✓		\$18.0		Infrastructure	L-23
CW-24	Property Acquisition Policy and Priority Areas		✓			\$37.0	Habitat	L-24
CW-25	Evaluation of Stream Deltas in Lake Washington		✓			\$7.0	Infrastructure	L-25
CW-26	Urban Forestry and Tree Inventory		✓		\$10.0		Habitat	L-26
CW-27	Climate Change Evaluation		✓			\$55.0	Infrastructure	L-27
CW-28	Streamside Restoration Maintenance		✓		\$30.0		Infrastructure	L-28
CW-29	Noxious Weeds and Invasive Plants		✓		\$4.0		Infrastructure	L-29
CW-30	Juanita Creek Floodplain Mapping		✓			\$11.0	Flooding	L-30
CW-31	Map Areas of Treatment for Existing Stormwater Facilities		✓		\$65.1		Water Quality	L-31
CW-32	Stormwater System Rehabilitation Catch-up		✓		\$24.0		Infrastructure	L-32
CW-33	Retrofit Opportunities		✓			\$6.0	Water Quality	L-33
CW-34	Leaf Pick-up Program		✓			\$11.0	Flooding	L-34
CW-35	Private Streambank Stabilization Program		✓			\$5.7	Habitat	L-35
CW-36	Scoop Law Evaluation		✓			\$6.5	Water Quality	L-36
CW-37	Volunteer Involvement		✓			\$4.3	Habitat	L-37
CW-38	Neighborhood Drainage Assistance		✓			\$4.2	Flooding	L-38
CW-39	Residential Stormwater Audit Program		✓	✓	\$0		Infrastructure	L-39
CW-40	Neighborhood Rain Garden Program		✓	✓	\$0		Infrastructure	L-40

Project: TV Inspection of Pipes							ID: CW-1	
Project Type:		<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding				Preliminary Proposed Average Annual Project Cost:		\$151,526
Problem:		Not enough capacity (staff or equipment) to video inspect pipes ahead of pavement overlay program				Priority:		Required (minimum level of service)
Description	<p>O&M inspects and repairs stormwater infrastructure ahead of paving. Prior to any of the maintenance work, O&M videos and cleans pipes to ensure that everything is ready prior to the overlay program schedule.</p> <p>Approximately 60% of the stormwater O&M budget is used for the overlay program. The workload is anticipated to double because of the recent street preservation program levy. Within the recent push to overlay the main arterials, work days are sometimes shorter due to traffic control issues, and the inability to leave excavations open/unfinished for completion the next day.</p> <p>The only video inspection truck owned by the city is divided between surface water and sanitary groups. The time to complete video inspections along with sanitary inspections is in excess of full time capacity of one truck. Removing months of inspections due to inspecting systems within the overlay projects, reduces the availability of the video truck for inspecting the remaining system.</p>				Project Status	Augmentation of Existing Work		
					Work Group	Operation and Maintenance		
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • Two new staff (Sr. maintenance worker, and utility worker), shared by wastewater and surface water. • One new CCTV truck shared by wastewater and surface water. • This will be an on-going, annual cost starting in 2015. • Ongoing expenses for CCTV equipment include O&M, software updates, maintenance and replacement 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total average annual costs*
Sr. Maintenance Worker (0.5 FTE)	\$0	\$ 40,859	\$ 40,859	\$ 40,859	\$ 40,859	\$ 40,859	\$ 40,859	\$ 40,859
Utility Worker (0.5FTE)	\$0	\$35,191	\$35,191	\$35,191	\$35,191	\$35,191	\$35,191	\$35,191
CCTV Truck with camera and software (shared)	\$0	\$181,080	\$54,356	\$54,356	\$54,356	\$54,356	\$54,356	\$75,476
Subtotal								\$ 151,526
Consultant Management (if consultants are used)							10%	\$0
Washington State Sales Tax (equipment only)							9.5%	Included
Subtotal								\$151,526
Contingency							30%	NA
Total cost								\$ 151,526

*Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: LID Maintenance							ID: CW-2	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$10,960
Problem:	LID Maintenance requires different skills and tools					Priority:		Required (NPDES)
Description	<p>City LID facilities are currently maintained by Public Works grounds crews who are also responsible for all City facilities including City Hall, parks and street landscaping. At full staff, there are 7 people (4 FTEs, and 3 seasonal employees).</p> <p>LID facilities require a different kind of maintenance (weeding and pruning vs. mowing) that takes more time. An example of the required maintenance on one rain garden was 4 people for 4 days. Also, crews have been known to weed whack an entire rain garden not knowing the good plants from the weeds.</p> <p>This programmatic strategy is for additional funds for maintenance to be built into the O&M budget as part of the CIP process.</p>					Project Status	New	
						Work Group	Operations and Maintenance	
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • Twenty LID sites will need to be maintained in the first year, with ten new sites added each year. • Each site requires 40 hours of total labor. • Grounds Crew Laborer is the category of staff that will complete maintenance work. • New equipment will be required (assumed \$10,000 as a one-time cost) • Approximately 20 hours of training will be required annually. • This programmatic program addition would be needed beginning in 2017. 							
Project Partners	Volunteers could potentially be used to assist with maintenance adjacent to private parcels, however, the Utility has an obligation to maintain capital improvements.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual costs*
Grounds crew labor	\$0	\$0	\$0	\$13,600	\$13,600	\$13,600	\$13,600	\$9,067
Training	\$0	\$0	\$0	\$340	\$340	\$340	\$340	\$226
Equipment and Tools	\$0	\$0	\$0	\$10,000	\$0	\$0	\$0	\$1,667
Subtotal							\$10,960	
Consultant Management (If consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal						\$10,960		
Contingency						30%	NA	
Total cost						\$ 10,960		

*Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Expand Fall Street Sweeping							ID: CW-3	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input checked="" type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$25,500
Problem:	Localized flooding, clogged catch basins in the fall					Priority:		Required (minimum level of service)
Description	During the fall, street sweeping is needed more intensely because of the amount of debris and leaves on the road and there is a need for 24-hour sweeping. Sweepers currently operate between 6:30 am and 3:00 pm. With additional funding, extra street sweeping would occur in the fall using existing staff and overtime funding.					Project Status	Augmentation of Existing Work	
						Work Group	Operations and Maintenance	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Overtime pay for two senior maintenance workers. • No new staff are needed. • This will be an on-going, annual cost starting in 2015. • No new equipment is needed. • Approximately 500 hours of staff time per year is required. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed additional average annual costs*
Fall Street Sweeping	\$ 226,630	\$25,500	\$ 25,500	\$ 25,500	\$ 25,500	\$ 25,500	\$ 25,500	\$25,500
							Subtotal	\$ 25,500
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$25,500	
Contingency						30%	NA	
Total cost							\$ 25,500	

*Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Ditch Maintenance							ID: CW-4	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:	\$355,621	
Problem:	Insufficient capacity to conduct ditch maintenance					Priority:	Required (minimum level of service)	
Description	Large increase in the length of ditches with annexation and with acquisition of the Cross Kirkland Corridor. Do not have sufficient crew or equipment to conduct maintenance that prevents flooding and protects water quality.					Project Status	Augmentation of Existing Work	
	Juanita/Finn Hill/Evergreen neighborhoods (annexation area) has more ditches than estimated, CKC has added 10 miles of ditches. Investigate ditch enhancements such as compost amendment that could improve water quality.					Work Group	Operations and Maintenance (2017 onward) Contractor (2015-2016)	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Contract ditch work is assumed for 2015-2016 for a one-time cost of \$100,000. Future years (2017 and beyond) would require additional staff (1 senior maintenance worker and 3 utility workers) Equipment needs include a multi-purpose dumptruck, backhoe and trailer. Annual equipment costs include O&M and replacement. Total proposed additional annual costs are assumed to be averages over a 5-year period. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual additional costs*
Current Ditching expenditures	\$22,277	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contract ditching (2015-2016)	\$0	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$33,333
Sr. Maintenance Worker (starting in 2017)	\$0	\$0	\$0	\$90,093	\$90,093	\$90,093	\$90,093	\$60,062
Three utility workers (2017)	\$0	\$0	\$0	\$232,788	\$232,788	\$232,788	\$232,788	\$155,192
Multi-use dumptruck (2017)	\$0	\$0	\$0	\$271,568	\$33,044	\$33,044	\$33,044	\$61,783
Backhoe (2017)	\$0	\$0	\$0	\$137,250	\$25,704	\$25,704	\$25,704	\$35,727
Traller (2017)	\$0	\$0	\$0	\$38,430	\$6,236	\$6,236	\$6,236	\$9,523
							Subtotal	\$ 355,621
Consultant Management (if consultants are used)						10%		\$0
Washington State Sales Tax (equipment only)						9.5%		Included
Subtotal								\$355,621
Contingency						30%		NA
Total cost								\$355,621

*Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Maintenance on Goat Hill							ID: CW-5	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$3,000
Problem:	City equipment and trucks can't access Goat Hill area where there are on-going erosion problems.					Priority:		Required
Description	This programmatic alternative is to rent equipment in order to access Goat Hill that is otherwise not accessible by standard size equipment.					Project Status	Augmentation	
						Work Group	Operations and Maintenance	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Equipment rental is \$3,000 per year. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*
Equipment rental	\$0	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
							Subtotal	\$ 3,000
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	Included	
Subtotal							\$3,000	
Contingency						30%	NA	
Total cost							\$ 3,000	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Development Review NPDES Analysis							ID: CW-6	
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding				Preliminary Proposed Project Cost:		\$4,140
Problem:		New NPDES requirements may increase staff permit review time				Priority:		Required (NPDES)
Description	<p>There is a potential increase in the number of development applications that will need to be reviewed because of the NPDES permit changes that require stormwater measures on all properties (not limited to 1-acre threshold).</p> <p>As the economy has picked up, there has been an increase in the number of applications requiring stormwater review.</p> <p>This programmatic project is a one-time cost to evaluate current permitting trends, time commitments to review applications, staffing needs and permit fees.</p>				Project Status	New		
					Work Group	Surface Water Engineering		
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • Analysis will be conducted by surface water staff. • Analysis will include a review of numbers of permit applications processed, sizes of projects (number under 1 acre?), and anticipated future permit review needs based on NPDES permit requirements. • 60 hours of staff time are assumed, with a 30% contingency to account for additional hours, if needed. • Project will be completed in 2014. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total Proposed Cost
Development review permit analysis	\$0	\$4,140	\$0	\$0	\$0	\$0	\$0	\$4,140
Subtotal								\$ 4,140
Consultant Management (if consultants are used)						10%		\$0
Washington State Sales Tax (equipment only)						9.5%		\$0
Subtotal								\$4,140
Contingency						30%		Not applied
Total cost								\$ 4,140

Project: LID Code Review							ID: CW-7	
Project Type:	<input checked="" type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Project Cost:		\$45,540
Problem:	New NPDES requirements to make LID preferred and commonly used surface water management approach.					Priority:		Required (NPDES)
Description	<p>NPDES 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.”</p> <p>This one-time programmatic project will complete the code review, revisions, and public outreach necessary for the City to meet the NPDES requirement.</p>					Project Status	New	
							Work Groups	Surface Water Engineering Planning and Building
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • LID code scrub will be conducted by surface water staff. • Tasks to be conducted include: <ul style="list-style-type: none"> ○ Compile list of development-related codes for review and revision. ○ Assemble a committee of City staff (5 members) from cross-section of departments whose codes/standards could be modified as a result of this permit conditions. Assume this group will meet 6 times over the course of 2 years ○ Review up to twenty codes and develop preliminary list of revisions designed to minimize impervious surfaces, reduce native vegetation loss and reduce stormwater runoff in all types of developments. Assume 20 codes/standards. ○ Conduct internal and external meetings to solicit input on code and/or standard changes. Assume 4 meetings consisting of committee members and invited staff/public ○ Present recommendations to City Council and adopt changes. • 660 hours of staff time are assumed, with a 30% contingency to account for additional hours, if needed. • This programmatic project will be conducted between 2014 and 2016 (NPDES deadline is Dec. 31, 2016) 							
Project Partners	Planning and Building will participate in project and will share costs through staff participation.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed cost
LID Code Scrub	\$0	\$22,770	\$22,770	\$0	\$0	\$0	\$0	\$45,540
Subtotal							\$ 45,540	
Consultant Management (If consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal						\$45,540		
Contingency						30%	Not applied	
Total cost						\$ 45,540		

Project: LID Implementation and Surface Water Manual Adoption							ID: CW-8	
Project Type:	<input checked="" type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Project Cost:		\$17,991
Problem:	New NPDES requirements to adopt equivalent 2012 Ecology Stormwater Management Manual for Western Washington and implement LID					Priority:		Required (NPDES)
Description	NPDES permit requires permittees to adopt the new 2012 Ecology Stormwater Management Manual for Western Washington, or equivalent, and implement LID techniques. This one-time programmatic project will develop a plan to implement LID city-wide, update codes and standards according to new stormwater management manual, and educate the public about changes.					Project Status		New
						Work Group		Surface Water Engineering
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Manual adoption and LID implementation plan will be conducted by surface water staff. Tasks to be conducted include: <ul style="list-style-type: none"> Development of overall plan to implement city-wide LID including increase in education and outreach, partnering with FHNA to leverage resources, and construction of visible City projects. Compilation of a list of LID resources and current outreach program Revision of development standards and compilation of education and outreach material for development community Identification of LID projects and completion of pre-designs in order to compete for grants Incorporation of "visibility" as prioritization criteria into City capital projects 950 hours of staff time are assumed. This programmatic project will be conducted between 2014 and 2016 (NPDES deadline is Dec. 31, 2016) Annual costs are for grant applications and grant administration associated with LID implementation. 							
Project Partners	Planning and Building will participate in project and will share costs through staff participation. Finn Hill Neighborhood Association for LID implementation.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*
LID Implementation and Stormwater Management Manual Adoption	\$0	\$33,975	\$33,975	\$10,000	\$10,000	\$10,000	\$10,000	\$17,991
						Subtotal		\$ 17,991
Consultant Management (if consultants are used)						10%		\$0
Washington State Sales Tax (equipment only)						9.5%		\$0
Subtotal								\$17,991
Contingency						30%		Not applied
Total cost								\$ 17,991

*Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Stormwater Facility Inspection							ID: CW-9	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input checked="" type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$40,000
Problem:	Annexation area has increased the number of stormwater facilities needing inspection after major storm events.					Priority:		Augmentation
Description	A large portion of stormwater facilities in the annexation area require inspection after major storm events and staff have difficulty managing the increased workload. This programmatic project is to add staff to handle the increased workload. The staff person would be shared with wastewater.					Project Status	Augmentation of Existing Work	
						Work Group	Operations and Maintenance (shared with wastewater)	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • One new staff (Sr. maintenance worker) to be shared with wastewater (0.5 FTE dedicated to stormwater). • The new staff will be added in 2015. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost
Sr. Maintenance Worker (0.5 FTE)	\$0	\$40,000	\$40,000	\$40,000	\$ 40,000	\$40,000	\$ 40,000	\$40,000
						Subtotal	\$ 40,000	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$40,000	
Contingency						30%	NA	
Total cost							\$ 40,000	

Project: Service Truck							ID: CW-10	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:	\$36,190	
Problem:	Additional service truck is needed for stormwater maintenance activities to haul heavy gear, including pumps, generators, and a small crane.					Priority:	Augmentation	
Description	There are three dedicated service trucks used for surface water operations and maintenance. With increased workloads, including operations and maintenance associated with the annexation area and new NPDES requirements, and additional service truck is needed.					Project Status	Augmentation of Existing Work	
	This programmatic project is to add a service truck to the surface water fleet that is capable of hauling heavy gear and a small crane.					Work Group	Operations and Maintenance	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Service truck will be large enough to haul heavy gear legally, including a small crane. • Service truck would be purchased in 2015. • On-going annual costs include maintenance and replacement. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*
Service Truck	\$0	\$109,800	\$21,468	\$21,468	\$ 21,468	\$21,468	\$ 21,468	\$36,190
						Subtotal	\$ 36,190	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	Included	
Subtotal							\$36,190	
Contingency						30%	NA	
Total cost							\$ 36,190	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Spill Response Vehicle							ID: CW-11	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Average Annual Project Cost:		\$29,356
Problem:	City staff could respond to spills more efficiently if a dedicated vehicle were available with supplies					Priority:		Augmentation
Description	This programmatic project is to purchase a F150 truck with supplies to respond to spills as necessary.					Project Status	Augmentation of Existing Work	
						Work Group	Operations and Maintenance	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Purchase F150 truck in 2016. Annual costs include operations and maintenance and replacement. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual project cost*
F150 Spill Control Truck	\$0	\$0	\$104,265	\$17,968	\$17,968	\$17,968	\$17,968	\$29,356
							Subtotal	\$ 29,356
						Consultant Management (if consultants are used)	10%	\$0
						Washington State Sales Tax (equipment only)	9.5%	Included
						Subtotal		\$29,356
						Contingency	30%	Not applied
						Total cost		\$29,356

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Beaver Management Policy						ID: CW-12		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input checked="" type="checkbox"/> Flooding				Preliminary Proposed Average Annual Project Cost:		\$5,400
Problem:		Beavers can have significant impacts on public surface water facilities and private property contributing to flooding.				Priority:		Augmentation
Description		The City currently attempts to manage beaver activity where public infrastructure is impacted. A broader policy may be needed to determine how and when beavers are removed and whether on-going management should include areas where large numbers of private properties are affected.				Project Status	Augmentation of Existing Work	
		This programmatic project is to evaluate the need for a formal policy of how and when to manage beavers that impact public facilities, including trapping and relocation, destruction of beaver-built structures (dams, houses), installation of beaver-deceivers to prevent damming, etc. and also includes budget for on-going trap and relocate costs and beaver deceiver devices.						
Considerations and Assumptions		The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Surface water engineering staff will evaluate and/or develop a policy (40 hours are assumed). • On-going costs for beaver trap and relocate, and installation of beaver deceiver devices is included. • Project begins in 2014. 						
Project Partners		None.						
Project Cost Estimate								
Tasks	Current 2014 Budget		One-time additional cost		Annual additional costs		Total proposed cost	Total proposed average annual cost*
Develop Policy	\$0	\$2,400	\$0	\$0	\$0	\$0	\$0	\$400
Trap and relocate and beaver deceivers	\$0	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Subtotal							\$ 5,400	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$5,400	
Contingency						30%	Not applied	
Total cost							\$ 5,400	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Address Prioritized Fish Passage Barriers							ID: CW-13	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$700
Problem:	Barriers to fish passage reduce the amount of habitat available to anadromous salmon.					Priority:		Augmentation
Description	Barrier removal is often requested/required by Native Indian Tribes as part of SEPA review on a project-by-project basis and/or through lawsuits. Having a prioritized list of culverts that should be replaced based on available habitat, and severity of the barrier to fish passage will help in the implementation of fish barrier removal projects or mitigation opportunities for planned projects within the City.					Project Status	New	
	Culverts were evaluated for fish passage as part of this Surface Water Master Plan, and a prioritized list of culvert replacements has been prepared. This programmatic project is to conduct an internal City campaign to inform other departments and programs about fish barrier removal opportunities and to implement a removal program within the Utility.					Work Group	Surface Water Engineering	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Surface water engineering staff will implement the barrier removal program and conduct internal informational campaign (60 hours are assumed) • Project begins in 2015. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*
Implement fish passage barrier removal program	\$0	\$4,200	\$0	\$0	\$0	\$0	\$0	\$700
							Subtotal	\$ 700
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$700	
Contingency						30%	Not applied	
Total cost							\$700	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Evaluation Incentives and Rebate Programs							ID: CW-14	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$1,400
Problem:	Incentives, rebates and assistance could facilitate desirable voluntary actions that accelerate stormwater retrofit.					Priority:		Augmentation
Description	Incentives, rebates and assistance could facilitate desirable voluntary actions by residents and businesses, accelerating stormwater retrofit throughout the City and provide a positive benefit to the public stormwater system. This programmatic project is to evaluate existing incentive and rebate programs for financial impacts and effectiveness at achieving desired outcomes.					Project Status	New	
						Work Group	Surface Water Engineering Finance	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Surface water engineering and finance staff (120 hours are assumed) would conduct a review of programs upon Council direction. • Project begins in 2015. • The evaluation would include the following tasks: <ul style="list-style-type: none"> ○ Review of existing programs ○ Evaluation of potential changes ○ Develop preliminary list of existing program modifications and financial impacts. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*
Evaluation of Incentive and rebate programs	\$0	\$8,400	\$0	\$0	\$0	\$0	\$0	\$1,400
							Subtotal	\$ 1,400
Consultant Management (If consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$1,400	
Contingency						30%	Not applied	
Total cost							\$ 1,400	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Utility Rate Study							ID: CW-15	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input checked="" type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$36,124
Problem:	New permit requirements and additional program needs necessitate the need for a Utility rate study					Priority:		Augmentation
Description	Programmatic and capital needs identified in this Surface Water Master Plan, plus an evaluation of existing funding for programs and staff requires an updated utility rate study to determine future program funding. The programmatic project is to conduct a new rate study and to also evaluate incentive and rebate programs, assess short-term and longer-term program revenue needs, and evaluate partitioning of funds between Operations and Capital projects.					Project Status	New	
						Work Group	Consultant and Surface Water Engineering and Finance	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • A consultant will conduct the rate study with oversight by Surface Water Engineering and Finance staff. • Project would be funded in 2014. • Surface water engineering staff and finance staff will compare partition of funds to other cities. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Utility rate study	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$30,000
Compare partitioning of funds	\$2,840	\$0	\$0	\$0	\$0	\$0	\$0	\$2,840
							Subtotal	\$ 32,840
Consultant Management (if consultants are used)						10%	\$3,284	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$36,124	
Contingency						30%	Not applied	
Total cost							\$ 36,124	

Project: Proactively Avoid TMDL							ID: CW-16	
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding			Preliminary Average Annual Project Cost:		\$26,200	
Problem:		Several City streams do not meet State water quality standards for fecal coliform bacteria, temperature and dissolved oxygen			Priority:		Augmentation	
Description	Several City streams are on the Ecology's 303(d) list for not meeting State water quality standards for fecal coliform bacteria, temperature and dissolved oxygen. Ecology is under court order to write a Total Maximum Daily Load (TMDL) limit for watersheds that have 303(d) listings, including Juanita Creek.			Project Status	New			
	This programmatic project is to proactively begin implementation measures to reduce fecal coliform loading and stream temperatures that will also affect dissolved oxygen in a positive way. Monitoring water quality will be a component of this program to track progress. Through active measures to improve water quality and testing, the City will attempt to avoid the issuance of a TMDL for Juanita Creek.			Work Group	Surface Water Engineering Consultant and Lab Fees			
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Consultant time would be needed to develop implementation plan (one-time cost). • Surface water engineering staff in coordination with Parks and Transportation would implement water quality improvement projects and monitor progress in subsequent years (assume 40 hours per year) • Laboratory and equipment fees are assumed to be \$20,000 annually for fecal coliform testing. • Project begins in 2014. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016		Annual additional costs		Total proposed cost	Total proposed average annual cost*
Develop implementation plan	\$0	\$22,000	\$0	\$0	\$0	\$0	\$0	\$3,667
Fecal coliform testing and equipment	\$0	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$20,000	\$ 20,000	\$20,000
Staff time to implement program	\$0	\$ 2,480	\$ 2,480	\$ 2,480	\$ 2,480	\$ 2,480	\$ 2,480	\$2,480
						Subtotal	\$ 26,147	
Consultant Management (If consultants are used)						10%	Not Included	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$26,200	
Contingency						30%	Not applied	
Total cost							\$ 26,200	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: City-Specific Water Quality Monitoring							ID: CW-17	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$9,727
Problem:	Water quality monitoring at City-specific locations is needed to evaluate trends and outcomes of City-wide water quality programs and initiatives					Priority:		Augmentation
Description	<p>The City currently conducts water quality monitoring at Forbes Lake, and water level monitoring at Totem Lake. Additionally, fecal coliform bacteria monitoring occurs at various stream locations throughout the City.</p> <p>This programmatic project is to expand the lake monitoring to include Totem Lake in order to establish a baseline to measure future conditions against as the watershed is retrofit and economic development initiatives are implemented.</p> <p>The project also includes an evaluation and pilot implementation of water quality data collection to establish a Water Quality Index (WQI) for select Kirkland stream systems.</p>					Project Status	Augmentation of Existing Work	
						Work Group	Surface Water Engineering	
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> Funding begins in 2014. Surface water engineering staff will evaluate whether to collect WQI data (40 hours are assumed) Surface water engineering staff would implement a pilot program to collect WQI data (60 hours assumed annually) WQI data would be collected at 3 locations and would require monthly measurements (1 hour per site), and lab costs of approximately \$2,000 per year. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual project cost*
Monitor Water Quality In Totem Lake	\$0	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000
Evaluate WQI program	\$0	\$2,640	\$0	\$0	\$0	\$0	\$0	\$440
Pilot WQI implementation program	\$0	\$3,720	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,287
							Subtotal	\$ 9,727
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$9,727	
Contingency						30%	Not applied	
Total cost							\$ 9,727	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Watershed Planning for Retrofit							ID: CW-18	
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding				Preliminary Proposed Project Cost:		\$44,000
Problem:		Retrofit opportunities are often discovered too late in the development review process to effectively partner for mutually beneficial projects.				Priority:		Augmentation
Description	In order to effectively identify locations where stormwater retrofit should be focused, this programmatic project is to study and prioritize retrofits on a watershed basis where development and redevelopment are most likely to occur and where potential flow control and water quality benefits are greatest.				Project Status	Augmentation of Existing Work		
	The outcome of this study would be specific retrofits that could be acted upon with "opportunity fund" in the CIP to allow for partnering with private developers where it makes the most sense.				Work Group	Consultant with oversight by Surface Water Engineering		
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Funding begins in 2015. • A consultant would evaluate different options for stormwater retrofit on a watershed basis, including: <ul style="list-style-type: none"> ○ Opportunities to build regional facilities that promote redevelopment while preserving or enhancing ecological functions. ○ Opportunities to treat public run-off through contribution of funds for planned adjacent private facilities that are sized to accommodate public run-off. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Study of retrofit opportunities City-wide	\$0	\$40,000	\$0	\$0	\$0	\$0	\$0	\$44,000
						Subtotal		\$ 40,000
Consultant Management (if consultants are used)						10%		\$4,000
Washington State Sales Tax (equipment only)						9.5%		\$0
Subtotal								\$44,000
Contingency						30%		Not applied
Total cost								\$ 44,000

Project: Develop LID Feasibility Tools							ID: CW-19	
Project Type:	<input checked="" type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$68,200
Problem:	NPDES permit requires LID BMPs unless techniques are proven to be infeasible.					Priority:		Augmentation
Description	<p>The requirement to prove that LID techniques are infeasible could create a burden for developers, and City staff that review permit applications.</p> <p>Information is available for much of the City that indicates infiltrative LID techniques might not be appropriate and that these techniques might be infeasible to implement. This programmatic project is to develop tools that can assist with the LID feasibility analysis that will need to be conducted starting in 2017.</p>					Project Status	New	
						Work Group	Consultant with Surface Water Engineering oversight	
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> Project would be funded in 2016. LID feasibility tools to be developed include: <ul style="list-style-type: none"> Infiltration potential map based on geology, slopes, and assumed groundwater elevations. Infiltration potential map would show areas where shallow infiltration is (1) not allowed, (2) poor, (3) good, or (4) very good. If bioretention guidelines are changed, create maps that show where (1) bioretention facilities must not have under-drains, (2) bioretention is not allowed (within 100 feet of groundwater wells used for domestic consumption, and (3) more detailed groundwater and water quality analysis is needed. Maps developed would be posted to the City's web-site to aid as a first step for developers in determining stormwater treatment requirements. It is assumed that these tasks would be conducted by a consultant. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total project cost
Develop Infiltration potential map	\$0	\$0	\$40,000	\$0	\$0	\$0	\$0	\$40,000
Develop bioretention requirement map	\$0	\$0	\$11,000	\$0	\$0	\$0	\$0	\$11,000
Post maps to website with instructional materials	\$0	\$0	\$11,000	\$0	\$0	\$0	\$0	\$11,000
							Subtotal	\$ 62,000
						Consultant Management (if consultants are used)	10%	\$6,200
						Washington State Sales Tax (equipment only)	9.5%	\$0
						Subtotal		\$68,200
						Contingency	30%	Not applied
						Total cost		\$ 68,200

Project: Incorporation of LID into City Capital Projects							ID: CW-20	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$2,760
Problem:	City should lead by example and incorporate LID on capital projects, if possible					Priority:		Augmentation
Description	The City encourages developers to use LID techniques on new projects, and where there is an opportunity to incorporate LID on City projects, the City should lead by example. Although, it is may not be required now, public projects could showcase LID as examples of utilizing these newer stormwater management techniques that will be required starting in 2017.					Project Status		New
	This programmatic project is to develop a preliminary policy for supporting capital project engineers in the use of LID on City projects, even where it might increase short-term costs.					Work Group		Surface Water Engineering Capital Project Engineering City Green Team
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Project would be funded in 2016. Surface water engineering staff would develop a preliminary policy to take to City Council that outlines support for inclusion of LID stormwater management techniques on City projects (40 staff hours are assumed). 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total project cost
Develop policy	\$0	\$0	\$2,760	\$0	\$0	\$0	\$0	\$2,760
							Subtotal	\$ 2,760
Consultant Management (if consultants are used)							10%	\$0
Washington State Sales Tax (equipment only)							9.5%	\$0
Subtotal								\$2,760
Contingency							30%	Not applied
Total cost								\$ 2,760

Project: Stream Habitat and Fish Monitoring							ID: CW-21	
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input checked="" type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding			Preliminary Proposed Average Annual Project Cost:		\$47,667	
Problem:		Understanding fish populations and habitat conditions is useful to prioritize capital projects Inform regional discussions about preservation/restoration of urban streams.			Priority:		Augmentation	
Description	Performing full habitat assessments on segments of Kirkland's streams provides valuable water quality data. The last full scale assessment was on Juanita Creek in 2000 (in partnership with King County. Items to measure include: <ul style="list-style-type: none"> o Water temperature o Dissolved oxygen o pH o length and number of pools, riffles, glides o Noted outfall pipes (possible illicit connections) o Fish passage barriers o Presence or absence of macroinvertebrates This programmatic project will also include cataloging information about fish counts on Kirkland streams (through both development and maintenance operations).				Project Status	New		
					Work Group	Consultant with oversight by Surface Water Engineering		
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Funding begins in 2016. • A consultant would conduct the following with oversight by surface water engineering staff: <ul style="list-style-type: none"> o Annual fish surveys at 3 locations. Assumes 1 day each, electrofishing equipment and permits. o Annual stream channel cross sections at 3 locations. Assumes 2 days per cross section, and 2 staff to conduct the field work. o Biannual habitat surveys on 3 stream reaches. Assumes 2 days per reach, and 2 staff to conduct the field work. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual project cost*
Electrofishing	\$0	\$0	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$18,333
Channel cross sections	\$0	\$0	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$18,333
Habitat surveys	\$0	\$0	\$22,000	\$0	\$22,000	\$0	\$22,000	\$11,000
							Subtotal	\$ 47,667
Consultant Management (if consultants are used)						10%	Included above	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$47,667	
Contingency						30%	Not applied	
Total cost							\$ 47,667	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Operations and Maintenance CIP Consultation							ID: CW-22		
Project Type:		<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input checked="" type="checkbox"/> Administration and Support				Preliminary Proposed Average Annual Project Cost:		\$1,270	
Problem:		Surface water capital projects could be designed and constructed in a manner that is more conducive to effective long-term maintenance if O&M staff had more input into designs.				Priority:		Augmentation	
Description	<p>Currently there is not a formal consultation process for O&M staff to review and provide input on new surface water capital projects and some projects are constructed that are very difficult to operate and maintain in the long-term.</p> <p>This programmatic project is to develop a more formal consultation process to allow more input from O&M staff prior to final design and construction of capital projects that will eventually be maintained by O&M staff.</p>				Project Status	Augmentation of Existing Work			
					Work Group	Operations and Maintenance Capital Projects Engineering			
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> Funding begins in 2015. Operations and maintenance staff would work with capital projects engineering staff to develop review procedures to facilitate timely and effective input to long-term operations and maintenance of new capital facilities and infrastructure (80 staff hours are assumed). Five projects per year would require O&M review (2 hours per project) 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*	
O&M CIP consultation procedures	\$0	\$4,320	\$0	\$0	\$0	\$0	\$0	\$720	
O&M Staff time to review projects	\$0	\$550	\$550	\$550	\$550	\$550	\$550	\$550	
							Subtotal	\$ 1,270	
Consultant Management (if consultants are used)						10%		\$0	
Washington State Sales Tax (equipment only)						9.5%		\$0	
Subtotal								\$1,270	
Contingency						30%		NA	
Total cost								\$ 1,270	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Environmental Permitting for Maintenance							ID: CW-23	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Average Annual Project Cost:		\$18,000
Problem:	Work load to research and obtain permits for environmental work has increased with annexation					Priority:		Augmentation
Description	Currently surface water engineering staff assist in obtaining necessary environmental permits for required maintenance work. Annexation has increased the number and type of permits required for maintenance as many of the stormwater facilities are in line with streams or have the potential to impact natural resources.					Project Status		Augmentation of Existing Work
	This programmatic project is to hire staff or set aside budget for consultant to obtain permits and track and report per permit requirements.					Work Group		Surface Water Engineering or Consultant
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> Funding would begin in 2015. Ten permits will be required annually, and 20 hours of staff or consultant time are needed per permit. The total cost would be shared with streets (50% assigned to each), and only ½ of the estimated cost is included in this budget estimate. Ten permit reports will be submitted annually, with 10 hours of staff or consultant time needed for each report. Total cost is shared with streets (50% assigned to each), and only ½ of the estimated cost is included in the budget estimate. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*
Obtain permits for maintenance activities	\$0	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Prepare reports documenting maintenance activities as required by permits.	\$0	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000
Subtotal							\$ 18,000	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal						\$18,000		
Contingency						30%	Not applied	
Total cost						\$ 18,000		

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Property Acquisition and Priority Map							ID: CW-24	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Project Cost:		\$37,260
Problem:	Opportunities for preservation of open space and natural resources is sometimes missed because City isn't positioned to acquire beneficial properties as they come on the market.					Priority:		Augmentation
Description	<p>Preservation of streams and forested areas could be the most effective strategy for protecting a watershed, rather than trying to restore after degradation has occurred. This programmatic project is to develop a property acquisition policy that would allow the Utility to purchase property where there would be a surface water benefit in doing so.</p> <p>Additionally, this project would evaluate undeveloped properties that provide unique or valuable ecologic functions for which preservation would benefit surface water and develop a map for internal use of areas that should be prioritized for potential acquisition.</p>					Project Status	New	
						Work Group	Consultant with oversight by Surface Water Engineering	
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • Property acquisition policy would be developed by surface water engineering staff (60 hours staff time are assumed). • A consultant would develop an evaluation procedure for determining the types of properties that should be considered for acquisition based on surface water benefit (300 hours are assumed). • If a map is developed, it would be for internal use only. • Project would be funded in 2015. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Develop property acquisition policy	\$0	\$4,260	\$0	\$0	\$0	\$0	\$0	\$4,260
Develop procedures for identifying property for acquisition and/or a map of priority areas	\$0	\$30,000	\$0	\$0	\$0	\$0	\$0	\$30,000
							Subtotal	\$ 34,260
Consultant Management (if consultants are used)						10%	\$3,000	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$37,260	
Contingency						30%	Not applied	
Total cost							\$ 37,260	

Project: Evaluation of Stream Deltas in Lake Washington							ID: CW-25	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$7,100
Problem:	Sediment deposition at the outlets of stormwater outfalls in Lake Washington and other locations can impact marinas and boat launches by reducing water depths and access for boats.					Priority:		Augmentation
Description	This programmatic project is to evaluate whether a policy needs to be developed for if or when the surface water utility would choose to conduct dredging for the purpose of maintaining the functionality of marinas and boat launches.					Project Status		New
						Work Group		Surface Water Engineering
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Surface water engineering staff would conduct the evaluation of need for dredging, including short- and long-term costs and implications (40 staff hours are assumed) • Project would be funded in 2015. • Surface water engineering staff would draft a policy, if it is determined that there is a need (60 staff hours are assumed). 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Evaluate need for dredging policy	\$0	\$2,840	\$0	\$0	\$0	\$0	\$0	\$2,840
Draft policy	\$0	\$4,260	\$0	\$0	\$0	\$0	\$0	\$4,260
Subtotal							\$ 7,100	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal						\$7,100		
Contingency						30%	Not applied	
Total cost						\$7,100		

Project: Urban Forestry and Tree Inventory							ID: CW-26		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Average Annual Project Cost:		\$10,137	
Problem:		Urban forests provide a tangible surface water benefit as well as other City-wide benefits.				Priority:		Augmentation	
Description	This programmatic project is to evaluate the benefit of the urban forester position to the Utility, and how the position could be used to optimize surface water benefits. An evaluation of potential cost-sharing with other departments, and development of a tree-inventory and treebate program are also included in this project.					Project Status		Augmentation of Existing Work	
						Work Group		Surface Water Engineering Consultant with oversight by surface water engineering staff	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Surface water engineering staff would conduct the evaluation of surface water benefit from the urban forestry position (20 staff hours are assumed). Surface water engineering staff would develop the framework for a treebate program (20 staff hours are assumed). Surface water engineering staff would identify cost-sharing opportunities within the City (20 staff hours are assumed). Project would be funded in 2015. A consultant would conduct a tree inventory with oversight by surface water engineering staff. The inventory would include only trees within the public right-of-way, and annual follow-up (by City staff) would be required for some trees to keep the inventory current. 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual project cost*	
Evaluate surface water benefit from urban forestry position	\$0	\$1,140	\$0	\$0	\$0	\$0	\$0	\$190	
Develop Treebate program	\$0	\$1,140	\$0	\$0	\$0	\$0	\$0	\$190	
Identify cost-sharing opportunities	\$0	\$1,140	\$0	\$0	\$0	\$0	\$0	\$190	
Conduct tree inventory	\$0	\$46,000	\$2,280	\$2,280	\$2,280	\$2,280	\$2,280	\$9,567	
							Subtotal		\$ 10,137
Consultant Management (if consultants are used)						10%		\$4,600 (Incl. above)	
Washington State Sales Tax (equipment only)						9.5%		\$0	
Subtotal								\$10,137	
Contingency						30%		Not applied	
Total cost								\$10,137	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Climate Change Evaluation							ID: CW-27	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input checked="" type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$55,000
Problem:	Climate change has the potential to impact Utility operations					Priority:		Augmentation
Description	Climate change has the potential to impact the Utility through increased flooding and summer droughts. This programmatic project is to evaluate potential effects of climate change and to develop a policy that addresses future infrastructure needs, planning, and adaptive management.					Project Status	New	
						Work Group	Consultant with oversight from Surface Water Engineering	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • An initial adaptation study would be conducted with specific recommendations for how climate should be considered in daily business (including factors of safety depending on expected life of infrastructure). • The study would be conducted by a consultant with oversight by surface water engineering staff. • A climate change policy would be developed that would require the Utility to consider climate change when determining plantings, facility sizing and impacts of programs. • Project would be funded in 2015. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Climate change adaptation study	\$0	\$40,000	\$0	\$0	\$0	\$0	\$0	\$40,000
Develop climate change policy	\$0	\$10,000	\$0	\$0	\$0	\$0	\$0	\$10,000
Subtotal							\$ 50,000	
Consultant Management (if consultants are used)						10%	\$5,000	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$55,000	
Contingency						30%	Not applied	
Total cost							\$55,000	

Project: Streamside Restoration Maintenance							ID: CW-28		
Project Type:		<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Average Annual Project Cost:		\$30,360	
Problem:		Streamside restoration plantings require long-term maintenance for successful establishment and growth				Priority:		Augmentation	
Description	<p>Streamside restoration consisting of removal of invasive species and planting of native vegetation is done both as education/outreach and to provide shade and food that benefits habitat. Projects include volunteer events, work by grant-funded groups such as the Washington Conservation Corps, and stream restoration capital improvement projects. Projects are on both public and private property. Maintenance, especially in the first few years after planting, is crucial to survival of plants in restored areas.</p> <p>Clarifying maintenance responsibility within the City and dedicating funds will help to support the long-term viability of these projects.</p> <p>This programmatic project provides funding to hire a landscaping group (EarthCorps has been used in the past) to maintain stream restoration sites in City parks and sites on private property that were restored using grant funds.</p>				Project Status	Augmentation of Existing Work			
					Work Group	Surface Water Engineering Green Kirkland (Coordination) Capital Projects Group (Coordination)			
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • The Utility would provide \$30,000 per year for a landscape group to conduct maintenance on stream restoration sites. • Surface water engineering staff would also conduct an evaluation of responsibility for maintaining stream capital projects, including length of time and whether additional easements are needed (40 staff hours assumed). • Project would be funded in 2015. 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual project cost*	
Funding to Green Kirkland	\$0	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	
Evaluate stream restoration maintenance	\$0	\$2,160	\$0	\$0	\$0	\$0	\$0	\$360	
Subtotal							\$ 30,360		
Consultant Management (if consultants are used)						10%	\$0		
Washington State Sales Tax (equipment only)						9.5%	\$0		
Subtotal							\$30,360		
Contingency						30%	Not applied		
Total cost							\$30,360		

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Noxious Weeds and Invasive Plants							ID: CW-29		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Average Annual Project Cost:		\$4,140	
Problem:		There is a need for a comprehensive noxious weed program in order to successfully reduce proliferation on capital projects and throughout the City				Priority:		Augmentation	
Description	<p>The City invests in capital projects that have vegetative components that require control of weeds and invasive plants. Budget is spent controlling weeds on project sites, but weed proliferation from adjacent properties sometimes occurs negating the initial effort.</p> <p>This programmatic project will develop a plan to control noxious weeds in Kirkland, using examples from other jurisdictions.</p>				Project Status	Augmentation of Existing Work			
					Work Group	Surface Water Engineering Green Kirkland Parks Volunteers			
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • Surface water engineering staff would review noxious weed programs for applicability in Kirkland (20 staff hours are assumed). • Surface water engineering staff would work with Green Kirkland and Parks to jointly develop a noxious weed program for Kirkland (100 staff hours are assumed). • Surface water engineering staff would develop priority eradication areas and develop an implementation plan (100 staff hours are assumed) • Noxious weed program implementation would involve the use of volunteers with oversight by City surface water engineering staff (40 staff hours are assumed per year). • Project would be funded in 2015. 								
Project Partners	Green Kirkland, Parks, and Volunteers.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual project cost*	
Evaluate and develop a noxious weed program plan	\$0	\$11,880	\$0	\$0	\$0	\$0	\$0	\$1,980	
On-going program implementation	\$0	\$2,160	\$2,160	\$2,160	\$2,160	\$2,160	\$2,160	\$2,160	
							Subtotal	\$ 4,140	
Consultant Management (if consultants are used)						10%		\$0	
Washington State Sales Tax (equipment only)						9.5%		\$0	
Subtotal								\$4,140	
Contingency						30%		Not applied	
Total cost								\$4,140	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Juanita Creek Floodplain Mapping							ID: CW-30		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input checked="" type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Project Cost:		\$11,000	
Problem:		Juanita Creek floodplain may require updated mapping				Priority:		Augmentation	
Description	This programmatic project is to evaluate the need to map the Juanita Creek floodplain.					Project Status		New	
						Work Group		Consultant with oversight by Surface Water Engineering	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Budget assumption below is the base cost for what might be needed to map the Juanita Creek floodplain and go through a FEMA map revision. Prior to pursuing floodplain mapping, goals and level of effort needed should be determined. A consultant would conduct the mapping exercise with oversight by surface water engineering staff. Project would be funded in 2017. 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost	
Conduct floodplain mapping on Juanita Creek	\$0	\$0	\$0	\$10,000	\$0	\$0	\$0	\$10,000	
							Subtotal	\$ 10,000	
Consultant Management (if consultants are used)							10%	\$1,000	
Washington State Sales Tax (equipment only)							9.5%	\$0	
Subtotal								\$11,000	
Contingency							30%	Not applied	
Total cost								\$11,000	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project:		Map areas of treatment for existing stormwater facilities						ID: CW-31	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding					Preliminary Proposed Average Annual Project Cost:		\$65,063	
Problem:	City equipment and trucks can't access Goat Hill area where there are on-going erosion problems.					Priority:		Augmentation	
Description	This programmatic alternative is to complete mapping of drainage areas that drain to existing flow control and water quality treatment facilities. The purpose of this mapping exercise is to understand the areas of the city and impervious surfaces that are currently treated so that retrofit possibilities can be identified.					Project Status		New	
						Work Group		Surface Water Engineering or Consultant	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Existing as-built documents will be used to the extent possible to map treatment areas, however, treatment areas may be identified using knowledge of existing infrastructure and tributary drainage area if necessary. 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*	
Review as-builts and drainage infrastructure to determine tributary treatment areas.	\$0	\$275,000	\$23,076	\$23,076	\$ 23,076	\$23,076	\$23,076	\$65,063	
							Subtotal	\$ 65,063	
							10%	\$0	
							9.5%	Included	
								\$65,063	
							30%	NA	
								\$ 65,063	

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Stormwater System Rehabilitation Catch-up							ID: CW-32		
Project Type:		<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Average Annual Project Cost:		\$24,834	
Problem:		Pipe rehabilitation needs are greater than ability of O&M crew to conduct the work				Priority:		Augmentation	
Description	<p>The annexation area has increased the amount of rehabilitation work needing to be accomplished, in addition to downtown rehabilitation needs. At the same time, additional pipes are being identified for rehabilitation through the CCTV pipe inspection work.</p> <p>This programmatic project is to hire temporary staff and rent equipment to conduct rehabilitation in order to catch-up on the current workload.</p>				Project Status	Augmentation of Existing Work			
					Work Group	Temporary staff Operations and Maintenance			
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> Funding would occur in 2015. Four temporary maintenance workers would be needed for approximately 6 months to conduct rehabilitation on existing pipes. Equipment rental (up to \$10,000 is included in the estimate) 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed average annual cost*	
Four temporary maintenance workers	\$0	\$139,000	\$0	\$0	\$0	\$0	\$0	\$23,167	
Equipment	\$0	\$10,000	\$0	\$0	\$0	\$0	\$0	\$1,667	
							Subtotal	\$ 24,834	
Consultant Management (if consultants are used)						10%	\$0		
Washington State Sales Tax (equipment only)						9.5%	\$0		
Subtotal							\$24,834		
Contingency						30%	Not applied		
Total cost							\$ 24,834		

* Annual proposed additional costs include annual cost plus one-time additional cost divided by six (number of years assumed for SWMP implementation).

Project: Retrofit Opportunities							ID: CW-33	
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding				Preliminary Proposed Project Cost:		\$6,000
Problem:		Retrofit opportunities are often discovered too late in the development review process to effectively partner for mutually beneficial projects.				Priority:		Augmentation
Description	This programmatic project is to identify retrofit opportunities for development projects.					Project Status	Augmentation of Existing Work	
						Work Group	Surface Water Engineering	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> Funding begins in 2016. This project is a one-time cost for surface water engineering staff to review development projects for potential opportunities. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Review development projects for retrofit opportunities	\$0	\$0	\$6,000	\$0	\$0	\$0	\$0	\$6,000
						Subtotal	\$ 6,000	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal						\$6,000		
Contingency						30%	Not applied	
Total cost						\$ 6,000		

Project: Leaf Pickup Program Evaluation							ID: CW-34	
Project Type:	<input type="checkbox"/> NPDES Compliance <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$11,000
Problem:	Leaf pick-up programs could reduce street sweeping needs in the fall					Priority:		Augmentation
Description	This programmatic project is to evaluate the potential for a leaf pick up program, and whether similar programs in other jurisdictions help alleviate local flooding in the fall.					Project Status	New	
						Work Group	Consultant with oversight by surface water engineering staff	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Evaluation would be conducted by a consultant with oversight by surface water engineering staff. • Project would be funded in 2015. 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Evaluation of leaf pick-up program	\$0	\$10,000	\$0	\$0	\$0	\$0	\$0	\$10,000
							Subtotal	\$ 10,000
Consultant Management (if consultants are used)						10%	\$1,000	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$11,000	
Contingency						30%	Not applied	
Total cost							\$11,000	

Project: Private Streambank Stabilization Program							ID: CW-35	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$5,680
Problem:	Determine how current program is being used and whether it should continue					Priority:		Augmentation
Description	This programmatic project is to evaluate the existing private streambank stabilization program, including the number of projects that have been funded, presumed effectiveness, and future criteria to be implemented.					Project Status	Augmentation of Existing Work	
						Work Group	Surface Water Engineering	
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Project would be funded in 2015. • Surface water engineering staff will conduct the program analysis and make recommendations for future continuation and project criteria (80 staff hours are assumed). 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
F150 Spill Control Truck	\$0	\$5,680	\$0	\$0	\$0	\$0	\$0	\$5,680
Subtotal							\$ 5,680	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$5,680	
Contingency						30%	Not applied	
Total cost							\$5,680	

Project: Scoop Law Evaluation							ID: CW-36		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input checked="" type="checkbox"/> Administration and Support				Preliminary Proposed Project Cost:		\$6,480	
Problem:		Evaluate poop scoop laws				Priority:		Augmentation	
Description	This programmatic project is to evaluate poop scoop laws in other jurisdictions to determine effectiveness and potential applicability to Kirkland. If a law is determined to be viable, an ordinance will be drafted to take to City Council for consideration.				Project Status		Augmentation of Existing Work		
					Work Group		Surface Water Engineering		
Considerations and Assumptions		The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Project would be funded in 2016. • Surface water engineering staff will conduct the analysis and make recommendations for City Council consideration (120 staff hours are assumed). 							
Project Partners		None.							
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost	
Evaluate poop scoop laws, draft ordinance, prepare and attend City Council meetings	\$0	\$0	\$6,480	\$0	\$0	\$0	\$0	\$6,480	
							Subtotal	\$ 6,480	
Consultant Management (If consultants are used)						10%	\$0		
Washington State Sales Tax (equipment only)						9.5%	\$0		
Subtotal							\$6,480		
Contingency						30%	Not applied		
Total cost							\$6,480		

Project: Volunteer Involvement							ID: CW-37	
Project Type:	<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input checked="" type="checkbox"/> Administration and Support					Preliminary Proposed Project Cost:		\$4,320
Problem:	Volunteers are important contributors to the success of many surface water programs and the optimal use and management of volunteers needs to be evaluated					Priority:		Augmentation
Description	This programmatic project is to evaluate the use of volunteers for surface water activities, and whether the volunteer program should be expanded, diminished or abandoned. Costs associated with using volunteers or not using volunteers will be evaluated.					Project Status		Augmentation of Existing Work
						Work Group		Surface Water Engineering
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Project would be funded in 2015. • Surface water engineering staff will conduct the analysis and make recommendations (80 staff hours are assumed). 							
Project Partners	None.							
Project Cost Estimate								
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost
Evaluate use of volunteers in surface water management programs	\$0	\$4,320	\$0	\$0	\$0	\$0	\$0	\$4,320
						Subtotal	\$ 4,320	
Consultant Management (if consultants are used)						10%	\$0	
Washington State Sales Tax (equipment only)						9.5%	\$0	
Subtotal							\$4,320	
Contingency						30%	Not applied	
Total cost							\$4,320	

Project: Neighborhood Drainage Assistance							ID: CW-38		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input checked="" type="checkbox"/> Administration and Support				Preliminary Proposed Project Cost:		\$4,260	
Problem:		The neighborhood drainage assistance program needs a review and evaluation to determine criteria and effectiveness				Priority:		Augmentation	
Description	This programmatic project is to evaluate the current neighborhood drainage assistance program and develop criteria for providing assistance.				Project Status		Augmentation of Existing Work		
					Work Group		Surface Water Engineering		
Considerations and Assumptions	The following assumptions are included in this estimate: <ul style="list-style-type: none"> • Project would be funded in 2016. • Surface water engineering staff will conduct the analysis and make recommendations (60 staff hours are assumed). 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost	
Evaluate neighborhood drainage assistance program	\$0	\$0	\$4,260	\$0	\$0	\$0	\$0	\$4,260	
							Subtotal	\$ 4,260	
Consultant Management (if consultants are used)						1.0%		\$0	
Washington State Sales Tax (equipment only)						9.5%		\$0	
Subtotal								\$4,260	
Contingency						30%		Not applied	
Total cost								\$4,260	

Project: Residential Stormwater Audit Program							ID: CW-39			
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Project Cost:		no cost		
Problem:		Residential stormwater audit program has limited funding.				Priority:		Augmentation		
Description	<p>The Stormwater Audit Pilot Program that is currently underway via King Conservation District and NPDES Municipal Stormwater Capacity grants, seeks to work with homeowners to identify simple and low-cost ways that they can absorb and filter more stormwater on their property. Rebates and incentives will be offered to encourage homeowners to install the identified measures, which could include disconnecting roof downspouts from pipes, installing cisterns, amending soils with compost, or installing rain gardens.</p> <p>This programmatic project is to evaluate the program's success and determine whether future grant funding should be sought, or if the City should continue the program in the future without outside funding support.</p>				Project Status	Augmentation of Existing Work				
					Work Group	Surface Water Engineering				
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • City staff will evaluate program effectiveness upon completion. • If the program is deemed effective, future funding sources will be secured through the Utility or outside sources. • No budget is associated with this project as it is assumed that costs will either be absorbed by the Utility or funded by grants. 									
Project Partners	None.									
Project Cost Estimate										
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost		
Evaluate and fund residential stormwater audit program	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
							Subtotal	\$ 0		
							10%	\$0		
							9.5%	\$0		
							Subtotal	\$0		
							Contingency	30%	Not applied	
							Total cost	\$0		

Project: Neighborhood Rain Garden Program							ID: CW-40		
Project Type:		<input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Maintenance <input checked="" type="checkbox"/> Education and Outreach <input type="checkbox"/> Policy <input type="checkbox"/> Natural Resources <input checked="" type="checkbox"/> Water Quality <input type="checkbox"/> Development & Permitting <input type="checkbox"/> Flooding <input type="checkbox"/> Administration and Support				Preliminary Proposed Project Cost:		no cost	
Problem:		Determine if neighborhood rain garden program should be expanded.				Priority:		Augmentation	
Description	<p>The Neighborhood Rain Garden Program identifies a neighborhood champion who recruits 6-8 neighbors that will have rain gardens constructed in their front yards. Following construction of the gardens by a city contractor, neighbors gather to plant vegetation in each of the gardens. The program has dual benefits of education and stormwater volume reduction. Because the gardens are in front yards and have interpretive signage, they serve as a demonstration for others interested in what rain gardens are and how they can look. As the gardens allow water from pavement and rooftops to soak into the ground rather than running into the city stormwater system, they reduce the volume of stormwater runoff.</p> <p>This programmatic project is to evaluate the program's success and determine whether it should be expanded.</p>				Project Status	Augmentation of Existing Work			
					Work Group	Surface Water Engineering			
Considerations and Assumptions	<p>The following assumptions are included in this estimate:</p> <ul style="list-style-type: none"> • City staff will evaluate program effectiveness. • If the program is deemed effective, the Utility may decide to expand. • No budget is associated with this project as it is assumed that costs will be absorbed by the Utility. 								
Project Partners	None.								
Project Cost Estimate									
Tasks	Current 2014 Budget	2015	2016	2017	2018	2019	2020	Total proposed project cost	
Evaluate potential expansion of neighborhood rain garden program	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
						Subtotal	\$ 0		
Consultant Management (if consultants are used)						10%	\$0		
Washington State Sales Tax (equipment only)						9.5%	\$0		
Subtotal							\$0		
Contingency						30%	Not applied		
Total cost							\$0		