

Appendix E

**SURFACE WATER CAPITAL IMPROVEMENT PROGRAM
2008-2012**

Surface Water Capital Improvement Program (2008-2012)

Flood Control Projects	2008	2009	2010	2011	2012	Total	Project Description/Justification
Stadium Way (N. 4th to Borough Road)	\$1,000,000					\$1,000,000	Ongoing problem, requires about 1,500 linear feet of collection system upsizing and road restoration. Existing collection system is undersized and problems with existing surface elevations do not allow many of the existing catch basins to function effectively. Additional work to redirect existing flows to an alternate system will be part of this work.
Leach Creek Holding Basin Maintenance		\$1,439,900				\$1,439,900	Work on the holding basin includes excavation of forebay and sed trap areas and some mitigation. Project will include construction of a bypass ditch from the 60" trunk main into the forebay.
56th and Cushman - Phase 1			\$2,125,000			\$2,125,000	Wapato needs to be upgraded as well as a segment in 56th and in M st. Preliminary model completed which shows some capacity problems in larger pipes south of 56th. This first project includes upgrade of the trunk between Wapato Lake and 56th only (2000 ft of 48"). SW is running down gutters during a storm although no real property damage. Subsequent project will address flooding SE of 56th and Cushman.
Flood Control Projects Annual Totals & 5-Year Total:	\$1,000,000	\$1,439,900	\$2,125,000	\$0	\$0	\$4,564,900	
Rehab/Repair Projects	2008	2009	2010	2011	2012	Total	Project Description/Justification
Downtown Storm Sewer Repairs (S. 9th to S. 12th)	\$1,000,000					\$1,000,000	Replacement and abandonment of approximately 1,500 linear feet of existing storm system to account for upsizing and structural deficiencies in the existing main. Tentative scope of work to include storm main between S. 9th to S. 12th in Ct. 'A'.
Orchard Street (N. 9th to N. 15th)	\$1,500,000					\$1,500,000	Removal and replacement of approximately 1,500 linear feet of existing storm system to account for upsizing and structural deficiencies in the existing main. Tentative scope of work to include existing storm main in Orchard Street between N. 9th and N. 15th.
Totem Marina Outfall Replacement Project (Outfalls 222 & 223)		\$242,550				\$242,550	Outfall into the Foss. Replacing outfalls waterward of the existing seawall.
Cleveland Way Pump Station Upgrades		\$677,600				\$677,600	Sediment is a problem in the Pump station. Working on options to improve sediment removal or install upstream treatment. Per operations, this station needs a small pump added to run during the summer months to save wear on the 4 more expensive pumps and a rock sump added before the station to remove rock sand and debris before it can wear out the existing pumps.
38th Street Pipe Abandonment			\$277,200			\$277,200	Pipe is 50 feet deep, near buildings. Not a simple filling project... filling must occur from downstream and can't install vent at break which makes verification of "full pipe filling" difficult. City has investigated sonar location and bore holes to locate pipe. Nothing done to date.
S. 23rd, Ainsworth to Cushman - Pipe Replacement Project		\$256,650				\$256,650	Small project, already video inspected, bottom of pipe is failing. This is in 12-inch pipe at the end of a storm branch, should be added onto another project in the area.
Ongoing Downtown Investigation and Rehab	\$1,316,400	\$1,562,600	\$1,608,800	\$1,655,000		\$6,142,800	Old WPA lines, being evaluated for potential source of recontamination for Foss. Highest priority in storm criticality analysis due to age and location. Project consists of TV inspection of storm pipe, identification of failing pipes and repair or replacment. Specific projects not identified at this time, but already has generated the A Street project (constructed in 2007). Eminent failures apparent. This budget allows for replacement of 1500 feet of 24-inch pipe per year. More in later years.
Unanticipated/Emergency Projects	\$1,212,750	\$1,270,500	\$1,328,250	\$1,386,000	\$1,300,000	\$6,497,500	As our system ages, we are encountering more of these projects each year... some are emergencies and some must be completed within the construction season. Assuming \$750,000/year with contingency.
Rehab/Repair Projects Annual Totals & 5-Year Total:	\$5,029,150	\$4,009,900	\$3,214,250	\$3,041,000	\$1,300,000	\$16,594,300	
Special Projects	2008	2009	2010	2011	2012	Total	Project Description/Justification
Vactor Waste Project	\$156,000					\$156,000	
Foss Cleanup	\$500,000	\$200,000				\$700,000	
Special Projects Annual Totals & 5-Year Total:	\$656,000	\$200,000	\$0	\$0	\$0	\$856,000	
Ongoing LID/Extension Projects	2008	2009	2010	2011	2012	Total	Project Description/Justification
Ongoing storm sewer extensions associated with LID projects	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,000,000	Various future projects that are unidentified. As budgeted year is closer, budgeted amount is adjusted due to identification of specific projects and assignment of funds.
St. Helens Improvements	\$1,000,000					\$1,000,000	Design by Engineering Div. need support for design flows. Project approved by council.
LID/Extension Projects Annual Totals & 5-Year Total:	\$2,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$6,000,000	
Grand Total (All Stormwater Capital Improvement Projects)	\$8,685,150	\$6,649,800	\$6,339,250	\$4,041,000	\$2,300,000	\$28,015,200	

Surface Water Capital Improvement Program (2008-2012)

Potential "Add-On" Capital Improvement Projects

Regional Holding Basins	2008	2009	2010	2011	2012	Total	Project Description/Justification
Leach Creek Holding Basin Efficiency Improvements			\$2,156,000			\$2,156,000	includes extension of 60-inch outfall into the holding basin... (1400 ft of 60-inch HDPE)
Gravel Pit Expansion		\$2,125,200		\$2,402,400		\$4,527,600	Project consists of excavating the bottom of the gravel pit an additional 5 to 6 feet. Total project includes removal of up to 120,000 cy of material and will add 60 ac-ft of live storage and some dead storage. This project could be phased and to some extent supported by in-lieu fees. Project is necessary to continue to offer in-lieu program in Flett.
Flett Creek Basins and Pump Maintenance			\$5,082,000			\$5,082,000	Project consists of dredging or excavating sediment from the bottom of four holding basins and repair and maintenance of the pump station. Ponds cover almost 14 acres... 1 ft avg excavation=22,500cy of sediment. This price reflects full cleaning and assumes sediment must be disposed at landfill (\$100/cy).
Collection System Flooding/Capacity	2008	2009	2010	2011	2012	Total	Project Description/Justification
56th and Cushman - Phase 2				\$2,887,500		\$2,887,500	Wapato needs to be upgraded as well as a segment in 56th and in M st. Preliminary model completed which shows some capacity problems in larger pipes south of 56th. This second project includes upgrade SE of 56th and Cushman. SW is running down gutters during a storm although no real property damage.
Connect 24" Storm Sewer to Hosmer and GP System		\$1,062,600				\$1,062,600	The City has an opportunity to utilize an existing 24 inch SS I5 crossing for storm. The 24 inch pipe will be abandoned as part of the Phase III SS project, the valuable I5 crossing can be used to convey stormwater from the east side of I5 upstream of the Hosmer basin, to the new 48 inch pipe downstream of the Gravel Pit. Once converted to storm and connected to the system, this pipe will act as high flow bypass to divert stormwater around the holding basins (Hosmer, Wards, Gravel Pit), thereby preserving capacity and reducing flood occurrence. 1500 feet of 24" PVC
Nalley Valley Phase 2 - Extension of Force Main			\$2,217,600			\$2,217,600	Continues the extension of the force main to Cushman. 2000 more feet of 48-inch FM
40th and Howe/Portland		\$1,151,150				\$1,151,150	Project to provide capacity and relocate pipe (from under a residence), discharge is to T-Street gulch. Project starts at E N st and 40th, and ends at Howe and 40th. Extent is about 1300 feet of 30-inch pipe.
Agnes Road Stormwater Improvements			\$1,355,200			\$1,355,200	Erosion problems and storm drainage solution. Also failing septic tanks. Began design of sanitary sewer plus pump station. Preliminary plans have been completed. This project was mothballed, no work has been accomplished in several years. Sanitary is pursuing a project here. Storm will proceed if sanitary sewer Local Improvement District (LID) goes forward. Currently repairing 10" outfall.
21st from Pearl to Proctor		\$759,000				\$759,000	Project partnering with other utilities to improve the street corridor. Looking for grant funding. Storm project would provide some of the matching funds. Storm portion would include LID elements such as center swales or street trees. Project is for 6000 feet of ex 4 lane road with center median. contact Greg Clark
21st from Highland and Pearl				\$2,406,250		\$2,406,250	Upgrade of 1/2 mile of 30 inch SD, currently has a temporary fix. Needs to be studied for the best solution, has a difficult alignment.
Water Quality	2008	2009	2010	2011	2012	Total	Project Description/Justification
Regional Water Quality Treatment Projects		\$5,097,950	\$10,810,800	\$7,696,150		\$23,604,900	Initial group of projects established for Foss Watershed, focusing on known problem areas.
Snake Lake Treatment Facility		\$500,000				\$500,000	Facility to collect gravel and sediment. Would be constructed upstream of Snake Lake. Project would provide a convenient portal for cleaning and reducing sedimentation of lake.