

**Update to Structural Stormwater  
Control Program**

**2009-2013 Surface Water Capital  
Improvement Program**

**Attachment B4**

# Surface Water 2009-2013 Capital Improvement Projects

\*Highlighted cells indicate projects worked on or completed in 2008

Item	Priority	Project Description and Comments	Proposed Construction	Estimated Pollutant Load Reduction	Flow Control Outcome	Other Environmental Benefits	Monitoring
<b>Flood Control Projects</b>							
S. 38th & Cedar Extension	High	This project will upgrade existing storm sewer pipe to remedy flooding at the Schucks along 38th. Improvements extend down Cedar from 38th to Nalley Valley. The project will include the replacement of approximately 2700 linear feet of existing storm sewer pipe with new 36-inch diameter pipe.	2008	N/A	N/A	Sediment/Pollutant removal associated with pipe cleaning. Removal of point sources for contaminated groundwater inflow and infiltration.	N/A
Burroughs and Stadium (N4th & Burroughs)	High	This project will upgrade existing storm sewer pipe to remedy localized flooding at various locations within the project limits. This work will consist of the replacement of approximately 2,125 linear feet of existing pipe of various diameters with larger diameter pipe. This work will include a new/replaced storm main to be constructed using horizontal direction drill technologies to the bottom of Garfield Gulch (to be constructed in 2009). This work will go out under a cooperative project with a Tacoma Public Water Department project.	2008/2009	N/A	N/A	Sediment/Pollutant removal associated with pipe cleaning. Removal of point sources for contaminated groundwater inflow and infiltration.	N/A
Varco Road Improvements	High	Ongoing flooding problem in NE Tacoma exacerbated by Public Works' Slayden Road project. One resident has water through his backyard and occasional flooding of his basement. This project will relieve localized flooding on private property and provide relief to undersized drainage ditches currently collecting stormwater.	2009				
Leach Creek Hldg Bsn Improvements	High	Work on the holding basin includes construction of a bypass ditch, excavation of forebay and sed trap areas and some mitigation plus some work on pumps and old force main line.	2009				
<b>Rehabilitation/Replacement Projects</b>							
Downtown Earnest S Brazil Street surface water improvement project	High	This project will replace severely degraded storm sewer pipe in Earnest Brazil Street from 'L' Street to Ainsworth. This work will consist of the replacement of approximately 1500-lf of 12-inch and 15-inch pipe.	2008	N/A	N/A	Sediment/Pollutant removal associated with pipe cleaning. Removal of point sources for contaminated groundwater inflow and infiltration.	N/A
Stormwater Pipe Retrofit Project - Foss Watershed includes \$1million Ecology grant	High	This project has a \$1million Ecology grant associated with it. The City will rehabilitate deteriorated stormwater pipe in the downtown area with cured-in-place pipe(CIPP) technology. Retrofitting the aged system with CIPP will reduce inflow and infiltration which is a suspected source of contamination/recontamination of the The Foss Waterway.	2009				
L Street - S 11th to S 14th Rehab	High	This project will replace severely degraded storm sewer pipe in 'L' Street from S. 11th Street to S. 14th Street. This work will consist of the replacement of approximately 1,000-lf of 10-inch and 12-inch pipe.		N/A	N/A	Sediment/Pollutant removal associated with pipe cleaning. Removal of point sources for contaminated groundwater inflow and infiltration.	N/A
56th and Cushman	High	Located north of Wapato Lake. During due diligence work to locate cross-connections these pipes were identified as decayed and failing. There are also capacity issues in this area, which may be remedied by repairing pipe to eliminate gw inflow.	2008				
Ongoing Investigation and Rehab	High	2007/2008 Focus will be in Foss Watershed, early in planning period and elsewhere later. Old WPA lines, are being evaluated for potential source of recontamination for Foss. This area is of the highest priority in the stormwater collection system criticality analysis due to age and location. Project consists of cleaning and inspecting (internal CCTV) existing stormwater mains.	Ongoing	N/A	N/A	Sediment/Pollutant removal associated with pipe cleaning. Removal of point sources for contaminated groundwater inflow and infiltration.	N/A
Unanticipated/Emergency Projects	High	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.	Ongoing				
<b>Treatment and Low Impact Projects</b>							
Regional WQ Treatment Projects	High	Initial group of projects focusing on known problem areas. Intention is to build one regional treatment facility per watershed then bank treatment for City projects. This would avoid the need for many small treatment units all over the city.	2010				
Cleveland Way Pump Station - Sediment removal	High	Sediment is a problem in the Pump station. Need to figure out the options to improve sediment removal and install upstream treatment. Per operations, previously this station needed a small pump added to run during the summer months to save on wear and tear.	2010				
Snake Lake WQ project	High	Sediment is collecting at the North end of Snake Lake. This project would construct a sediment removal device on the storm line in 19th to remove a large percentage of sediment and slow the filling of the north end of the lake.	2009				

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Item	Priority	Project Description and Comments	Proposed Construction	Estimated Pollutant Load Reduction	Flow Control Outcome	Other Environmental Benefits	Monitoring
<b>Ongoing LID/Extension Projects</b>							
On-going arterial extensions program	High	Various future projects that are unidentified. As budgeted year is closer, budgeted amount decreases due to identification of specific projects and assignment of funds.	ongoing				
On-going Local Improvement District (LID) program	High	Projects Constructed in 2008 1 - Puget Sound Avenue LID (LD8646) - Street improvements to include the construction of 4 filterra treatment devices intended to treat 32,000-sf replaced + new asphalt street.	Dependant on individual project's construction schedules	TSS Removal 82% - 87% Phosphorous Removal 52% - 60% Nitrogen Removal 42% - 45% Heavy Metal Removal 33% - 82% Predicted Oil & Grease > 85%	N/A	N/A	N/A
Broadway LID	High		2008 - 2009				

**Surface Water  
Amended 2008 & 2009-2013  
Capital Improvement Projects - Unfunded**

Item	Priority	Amended 2008	2009	2010	2011	2012	2013	Total	Project/Program Comments
<b>Flood Control Projects</b>									
40th and Howe/Portland	Medium		\$1,438,938					\$1,438,938	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.
56th and Cushman	Medium					\$3,753,750		\$3,753,750	Located north of Wapato Lake. During due diligence work to locate cross-connections these pipes were identified as decayed and failing. There are also capacity issues in this area, which may be remedied by repairing pipe to eliminate gw inflow. Second phase is included here, a first phase to complete work is on the funded list.
Gravel Pit Expansion	Medium				\$1,260,000		\$1,365,000	\$2,625,000	Project consists of excavating the bottom of the gravel pit an additional 5 to 6 feet. Maximum project could include removal of up to 120,000 cy of material and could add 60 ac-ft of live storage and some dead storage. This project would remove about 20 acre-feet of material and provide that much additional SW storage.
Flett Creek Basins and Pump - maintenance	Medium				\$1,785,000			\$1,785,000	Maximum 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 project reflects cleaning of first pond only ( 5000 cy) and assumes sediment must be disposed at landfill (\$100/cy). However, may be able to place at least some at cemetery for fill and could reduce scope by continuing to remove sediment at outfalls only.
Connect 24" SS to Hosmer and GP system	Low						\$1,476,533	\$1,476,533	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
Flooding 21st St - bet Highland and Pearl	Low						\$2,646,875	\$2,646,875	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.
<b>Flood Control Projects - Total</b>		<b>\$0</b>	<b>\$1,438,938</b>	<b>\$0</b>	<b>\$3,045,000</b>	<b>\$3,753,750</b>	<b>\$5,488,408</b>	<b>\$13,726,096</b>	
<b>Rehabilitation/Replacement Projects</b>									
222 & 223 Outfall Repl Project - Totem Marina	Medium			\$420,000				\$420,000	Outfall into the Foss. Replacing outfalls waterward of the existing seawall. Still need a BA. Plans are started. Work is needed because of commitment to development project. Developer is upgrading landside and we agreed to upgrade waterward.
38th Street Pipe Abandonment	Medium			\$315,000				\$315,000	Failure in the storm at Park and G, between 38th and 40th. Storm was rerouted, but the old storm was never filled and abandoned. TV showed that backfill material was lost inside the pipe. Pipe is 50 feet deep, near buildings. Not a simple filling project... can't locate break exactly, filling must occur from downstream and can't install vent at break so we won't know when the pipe is full.
23rd - Ainsworth to Cushman	Low		\$301,875					\$301,875	Small project, already video inspected, bottom of pipe is gone. This is in 12-inch pipe at the end of a storm branch, should be added onto another project in the area.
<b>Rehabilitation/Replacement Projects - Total</b>		<b>\$0</b>	<b>\$301,875</b>	<b>\$735,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,036,875</b>	
<b>Treatment and Low Impact Projects</b>									
<b>Treatment and Low Impact Projects</b>									
Regional WQ Treatment Projects	High		\$2,377,266		\$2,603,672	\$2,716,875	\$2,830,078	\$10,527,891	Initial group of projects focusing on known problem areas. Intention is to build one regional treatment facility per watershed then bank treatment for City projects. This would avoid the need for many small treatment units all over the city.
Low Impact Project - demonstration block	Medium				\$920,000			\$920,000	Hoping to find a neighborhood to partner with that is interested in a Local Improvement District improvement project. Storm utility could partner and install Low impact elements in place of a storm extension.
Low impact Projects - rain gardens etc.	Medium		\$500,000	\$525,000	\$551,250	\$578,812	\$607,753	\$2,762,815	Assuming a raingarden costs \$50k/each. Program to begin to support construction of raingardens at location identified by staff and the public through out the city. Goal is 10 raingardens per year.
<b>Treatment and Low Impact Projects - Total</b>		<b>\$0</b>	<b>\$2,877,266</b>	<b>\$525,000</b>	<b>\$4,074,922</b>	<b>\$3,295,687</b>	<b>\$3,437,831</b>	<b>\$14,210,706</b>	
<b>Surface Water Unfunded Capital Improvement Projects - Grand Total</b>		<b>\$0</b>	<b>\$4,618,079</b>	<b>\$1,260,000</b>	<b>\$7,119,922</b>	<b>\$7,049,437</b>	<b>\$8,926,239</b>	<b>\$26,973,677</b>	