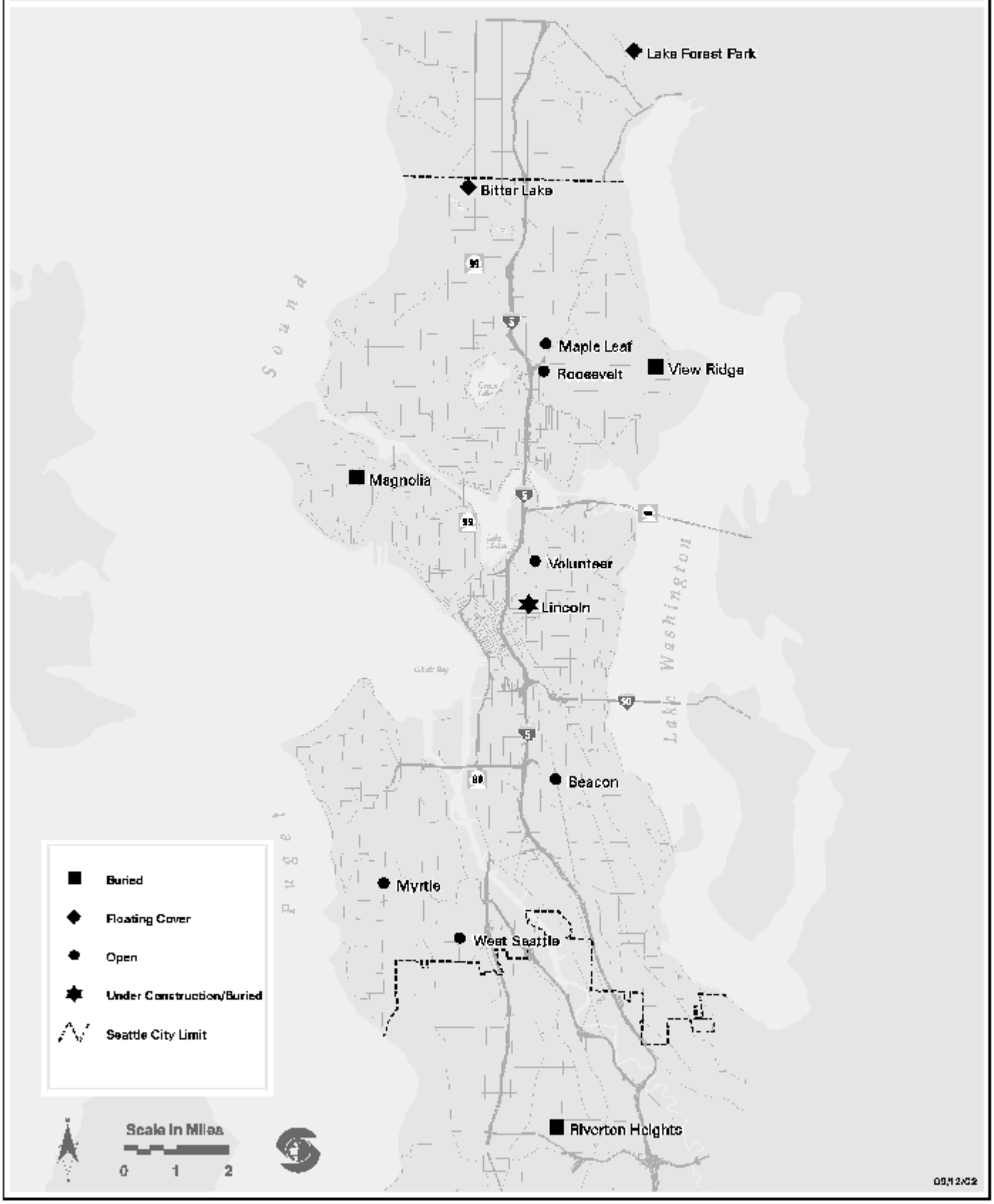
SPU - WATER

Seattle Public Utilities
Water Division
Reservoir Program



Overview of Facilities and Programs

Seattle Public Utilities (SPU) operates the City-owned water system serving a population of approximately 1.3 million people in a 450 square mile area. The system extends from Edmonds to Des Moines and from Puget Sound to Lake Joy near Duvall. SPU sells water directly in Seattle and immediately adjacent areas, and sells wholesale to nearly 30 suburban water utilities for distribution of water to their customers.

The water system is supplied by three sources. The largest source is the Cedar River Watershed, located south of North Bend and extending to the crest of the Cascade Mountains. The centerpiece of the 90,000-acre watershed is Chester Morse Lake. Water from this reservoir enters the Cedar River and is then fed into the Lake Youngs supply reservoir through a diversion structure at Landsburg. From Lake Youngs, the water enters the transmission pipeline system. The second source, the South Fork Tolt River supply, is located approximately 20 miles north of the Cedar River Watershed and is fed by a 13,400-acre watershed, which drains into the Tolt Reservoir. The third source, the Highline Well Field, is located south of the Seattle City limits near Riverton Heights Reservoir, and consists of three wells. Together these three sources provide an average annual yield of 171 million gallons per day (MGD) of drinking water.

The water system Capital Improvement Program (CIP) is prioritized to support the challenges SPU faces on several fronts. These challenges include meeting increased water quality regulations from federal and state regulatory agencies, covering open distribution system reservoirs to protect water quality, and rehabilitating decades-old infrastructure. Regional growth presents a unique challenge to the Department, as both a water supplier and as a proponent of conservation; two goals that in the short-run can be contradictory, but over the long-run can save millions of dollars by delaying the need for additional water supplies.

Highlights

- **Cedar Treatment Facility**: This facility, which is to be the largest such treatment facility in the world, uses ozonation and ultraviolet light (UV) disinfectant to improve drinking water quality and taste, and ensure continued compliance with increasingly stringent federal and state water quality requirements. The project includes a disinfection facility and clearwell, a new Lake Youngs intake and pump station, and improvements to existing water transmission lines. The cost of the contract negotiated in 2001 was $22 million less than was anticipated in the 2001-2006 Adopted CIP. A total of $40.3 million is included in the 2003-2004 Proposed Budget for the completion of this facility.

- **Open Distribution System Reservoirs**: To comply with water quality regulations, the City plans to cover all of its drinking-water reservoirs over the next several years. Two reservoirs, Bitter Lake and Lake Forest Park, are covered with floating covers, while the other seven will be buried underground. Three reservoir projects, Lincoln, Volunteer, and Beacon, are currently underway, either in the construction phase or planning phase. The remaining four reservoirs at Maple Leaf, Myrtle, Roosevelt, and West Seattle will be buried following the completion of two studies – one which examines funding options and one which examines various construction contracting options including design/build. At this time, per City Council Ordinance 120899, the Water Fund has not allocated resources to fund planning, design or construction of park amenities, including water features. Approximately $26 million is included in the 2003-2004 Adopted Budget for reservoir covering and undergrounding projects. Replacing existing reservoirs with new underground reservoirs, as opposed to simply covering the existing reservoirs with floating covers, creates additional open space in Seattle while protecting water quality.

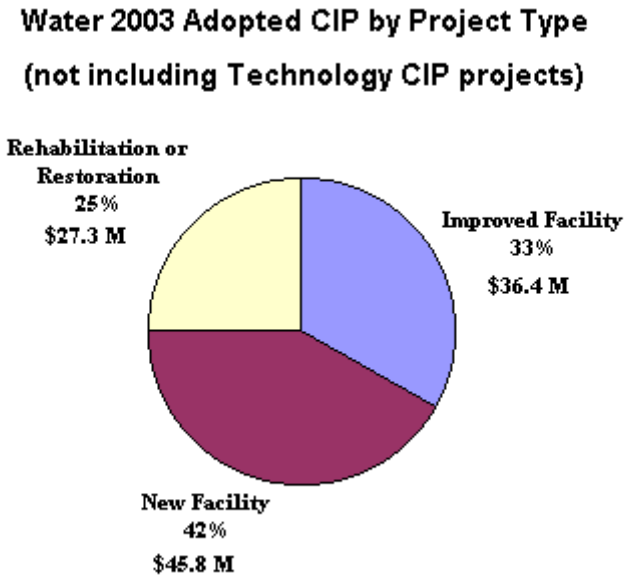
- **Cedar River Watershed Habitat Conservation Plan (HCP)**: In 2000, after seven years of intensive study and negotiation with state, federal, and tribal authorities, the City entered into a 50-year habitat conservation plan on the Cedar River Watershed. This agreement commits the City to certain projects and management practices to mitigate the environmental impact of drinking water diversions. Major HCP components include investments in fisheries enhancement projects such as the Landsburg Fish Passage Improvements and the Cedar Sockeye Hatchery. Within the municipal watershed, projects include culvert improvements and other

stream restoration work, removal of logging roads, and restoration of forestlands. Research and monitoring are also being conducted in association with many of these projects. Approximately $36 million is included in the 2003-2008 CIP for these projects.

- **Endangered Species Act (ESA)**: Seattle Public Utilities is developing projects as part of the City's overall response to the listing of Chinook salmon under the Endangered Species Act, in partnership with Seattle City Light in some instances. Approximately $4 million is included in the 2003-2008 CIP for these projects.

Project Selection Process

The following chart shows how the Seattle Public Utilities' Water CIP allocates funds in 2003 to three types of projects: rehabilitation of existing facilities, improved facilities, and new facilities.



Seattle Public Utilities used a comprehensive approach to develop the 2003-2008 Capital Improvement Program. The Department encouraged wide staff participation throughout the process. The process included the following steps:

Project Identification: In late 2001 and early 2002, staff throughout the Department took part in an effort to outline modifications necessary to existing projects as well as to identify new CIP projects. The general criteria used in identifying new projects were the Department's goals of public health protection, environmental stewardship, customer service, strategic technology implementation, neighborhood benefits, infrastructure maintenance demands, and meeting growing demand. A detailed list of new and existing projects was then compiled.

Project Screening, Prioritization, and Selection: Multiple meetings were held with various sections throughout the Department to gain full understanding and consensus of project drivers, demands, and benefits. The full project list was also compared to expected available funding based on estimated likely rate increases. The projects were then prioritized and a decision was made not to carry forward some lower priority projects. Various alternatives were considered for other projects where possible and the most cost-effective approach was selected based on analyses of demand, risk, cost, and benefit.

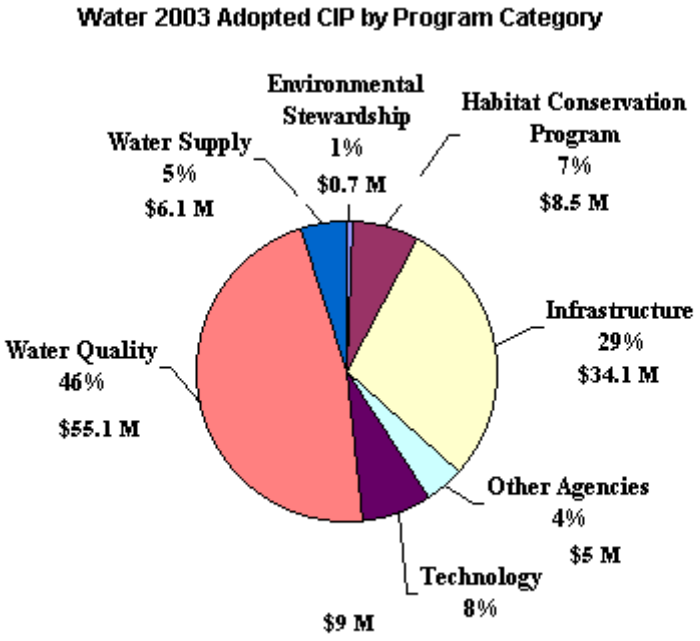
Anticipated Operation Expense Association: After the project selection process was completed, operation staff and CIP project managers discussed the various costs associated with operating newly-constructed capital

facilities. The financial costs and workload impacts were quantified and included in the Department's 2003-2004 operating budget.

Project Budget and Workload Scheduling: As a final step, detailed budget and workload estimates were prepared for the selected projects.

Program Category Summaries

The Water CIP allocates $206 million during the next biennium (including Technology projects funded by the Water Fund) including $118 million in 2003. The CIP is comprised of seven program categories, which are summarized below. The following chart shows how Seattle Public Utilities' Water CIP allocates funding to these program categories in 2003:



Environmental Stewardship: Projects and programs in this program category provide protection, sustain the environment, and enhance environmental quality, both locally and regionally. Several of the projects are implemented in response to the listing of the Chinook salmon as a threatened species under the Endangered Species Act.

Habitat Conservation Program: This program category includes projects and programs directly related to implementation of the Cedar River Watershed Habitat Conservation Plan. Projects are grouped into eight areas of focus: road improvements and decommissioning; stream and riparian restoration; upland forest restoration; Landsburg fish passage improvements; Cedar sockeye hatchery; Ballard Locks improvements; downstream fish habitat; and Cedar permanent dead storage (projects in this area of focus are complete).

Infrastructure: This program category repairs and upgrades the City's water lines, pump stations, and other facilities. Included in this program are projects for seismic upgrades to water tanks and pump stations, water main replacements, road and bridge improvements in the watersheds, and service renewals.

Other Agencies: This program category designs and constructs capital improvements for other agencies, or in response to other agencies' projects, often on a reimbursement basis.

Technology: This program category makes use of recent technology advances to increase efficiency and productivity. Included in this program is an upgrade to the Supervisory Control and Data Acquisition (SCADA)

system that is used to monitor and control the City's water system. Water-supported technology projects are shown grouped with technology projects supported by SPU's other fund sources.

Water Quality: This program category designs and constructs water treatment facilities, performs repairs, and upgrades water reservoirs. This program includes development of the Cedar Treatment Facility project and undergrounding of the City's open water reservoirs.

Water Supply: This program category repairs and upgrades water transmission pipelines and promotes residential and commercial water conservation. Included in this program are substantial improvements to the Tolt II Pipeline. Also included are conservation programs designed to reduce water demand.

Anticipated Operating Expenses Associated with Capital Facilities Projects

The Department has identified operations and maintenance costs. In many cases**,** the operating costs of the project are either insignificant or are offset by cost savings realized by other projects. Total operations and maintenance costs of approximately $106,000 are included in the Department's 2003 operating budget. Projects completed in 2003 that are due to go on-line in 2004 increase the Department's 2004 operating budget by $2.6 million. The Cedar Treatment Facility, due to be substantially completed in 2003, has the most significant impact on operation costs in 2004. The estimated annual cost of running the plant in 2004 is $2.4 million.

City Council CIP Changes

The City Council adopted a budget proviso which specifies that none of the money appropriated in 2003 for the Water Fund can be spent to pay for any planning or designing for undergrounding Maple Leaf, Roosevelt, Myrtle, or West Seattle reservoirs until the Council explicitly authorizes such expenditures by ordinance. Also, for 2003, the Council reduced the overall proposed SPU Technology CIP by a total of $2.2 million. The Water Fund's share of this reduction is $980,000. As part of this reduction, the Seattle Department of Transportation Mobility Project (an information technology project) will receive additional analysis of scope, costs and benefits before the project is proposed for implementation.

Project Summary

Program/Project	Project ID	LTD	2002	2003	2004	2005	2006	2007	2008	Total
Environmental Stewardship										
Cedar River Watershed - Northridge Trail	C102022	0	4	82	0	0	0	0	0	**86**
Endangered Species Act - Chinook Research & Monitoring	C101048	102	200	200	200	217	223	230	236	**1,608**
Endangered Species Act - Snohomish River Basin	C101003	1	361	360	360	391	402	413	425	**2,713**
Rock Creek Fishway	C101008	10	32	52	340	0	0	0	0	**434**
Tolt Fisheries Mitigation	WFNEW385	0	0	0	210	0	0	0	0	**210**
Environmental Stewardship Total		**113**	**597**	**694**	**1,110**	**608**	**625**	**643**	**661**	**5,051**
Habitat Conservation Program										
Ballard Locks Improvements	WFHCP6	181	201	185	187	163	168	173	1,121	**2,379**
Cedar Sockeye Hatchery	WFHCP5	676	896	1,218	4,369	4,799	22	0	0	**11,980**
Downstream Fish Habitat and Restoration	WFHCP7	34	1,209	964	1,763	1,825	11	0	0	**5,806**
Landsburg Fish Passage Improvements	WFHCP4	1,284	3,873	3,749	153	16	17	17	18	**9,127**
Road Improvements/Decommissioning	WFHCP1	797	864	965	966	927	953	979	1,007	**7,458**
Stream and Riparian Restoration	WFHCP2	769	709	742	746	772	794	816	839	**6,187**
Upland Forest Restoration	WFHCP3	620	672	698	706	730	750	771	793	**5,740**
Habitat Conservation Program Total		**4,361**	**8,424**	**8,521**	**8,890**	**9,232**	**2,715**	**2,756**	**3,778**	**48,677**

Amounts in thousands of dollars

Project Summary

Program/Project	Project ID	LTD	2002	2003	2004	2005	2006	2007	2008	Total
Infrastructure										
430 Pipeline Rehabilitation	WFNEW122	0	0	0	0	272	279	5,740	0	**6,291**
Asset Management	WNFEW655	0	90	3,000	6,000	9,000	12,000	12,000	12,000	**54,090**
Augusta Gatehouse Rehabilitation	C197004	4	0	0	0	60	257	158	0	**479**
Broadway Transmission Line Replacement	C100076	541	300	7	0	0	0	0	0	**848**
Burien Feeder Upgrade	CFP1	0	0	0	0	0	0	293	2,006	**2,299**
Cathodic - Phase V	C100063	0	120	661	466	0	0	0	0	**1,247**
Cathodic Protection - Phase VI	WFNEW112	0	0	53	170	652	0	0	0	**875**
Cathodic Protection - Phase VII	WFNEW120	23	0	0	54	163	670	0	0	**910**
Cedar Bridge Replacement - Cedar 50 RD and NF Taylor	WFNEW024	0	0	0	0	0	134	1,061	0	**1,195**
Cedar Bridge Replacement - Goat Creek and Cedar 600 RD	C102017	567	40	698	0	0	0	0	0	**1,305**
Cedar Bridge Replacement - MF Taylor 60 RD	C199067	3	0	0	100	760	17	0	0	**880**
Cedar Bridge Replacement - NF Cedar 500 RD and Pine Creek	C198010	927	0	698	0	0	0	0	0	**1,625**
Cedar Bridge Replacement - NF Cedar 560 RD and Taylor Creek	WFNEW027	0	0	0	0	130	1,086	0	0	**1,216**
Cedar Bridge Replacement - Rex 300 RD/Tinkham 560 RD	WFNEW023	0	0	0	0	130	1,005	0	0	**1,135**
Cedar Bridge Replacement - Upper and Lower Cedar RR Bridges	WFNEW026	0	0	0	0	0	0	459	472	**931**
Cedar Falls - Storage Building Construction	C194019	378	18	22	6	9	1,787	0	0	**2,220**
Cedar Moraine Improvements	C197009	309	112	362	330	124	83	85	41	**1,446**
Cedar River Watershed - Headquarters Major Maintenance	C100051	686	153	50	50	54	56	57	59	**1,165**

Amounts in thousands of dollars

Project Summary

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Infrastructure										
Cedar River Watershed - Non-HCP Road Improvements	C191001	3,766	612	726	856	852	898	895	921	**9,526**
Chamber Ring and Cover Replacements	WFNEW590	0	0	219	127	163	168	172	177	**1,026**
Control Works Upgrade	CFP2	0	0	0	0	0	0	610	627	**1,237**
Distribution System Fireflow & Pressure Improvements	WFNEW420	0	0	500	507	2,173	6,701	6,888	7,081	**23,850**
Distribution System In-Line Gate Valves Replacement	C199012	194	60	62	62	65	67	69	71	**650**
Duvall Shop Facility Improvements	WFNEW610	0	0	250	0	0	0	0	0	**250**
Heavy Equipment Purchases- Water	C199068	4,275	1,840	2,315	2,210	2,347	2,468	2,606	2,738	**20,799**
Hydrant Program - New Installations	C154000	93	10	12	12	11	11	11	12	**172**
Hydrant Program - Replacement & Relocation	C1110	1,754	200	421	317	326	335	344	354	**4,051**
Lake Youngs - Outlet Dam Rehabilitation	C1020136	0	15	130	208	0	0	0	0	**353**
Lake Youngs - Outlet Dam Warning System	C101006	58	84	695	43	27	28	29	30	**994**
Lake Youngs - Perimeter Drainage Improvements	C197013	25	4	96	100	0	0	0	0	**225**
Lake Youngs - Tunnel Sinkhole	C101068	81	77	17	13	0	0	0	0	**188**
Landsburg Dam - Emergency Spillway Improvement	WFNEW013	0	0	20	383	592	4,914	0	0	**5,909**
Landsburg Dam - Safety Improvements	C101019	5	26	7	0	0	0	0	0	**38**
Landsburg Improvements - Non-HCP	C199073	665	3,489	912	83	0	0	0	0	**5,149**
Maple Leaf Gatehouse Pipe Refurbishing	C195001	7	100	475	212	5	0	0	0	**799**
Metering - Demand Metering Improvements	C101021	31	30	30	30	131	135	139	143	**669**

Amounts in thousands of dollars

Project Summary

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Infrastructure										
Metering - Direct Service Meter Replacement	C1108	5,770	750	811	813	940	966	993	1,021	**12,064**
Metering - Purveyor Meter Program	C1107	2,280	598	462	460	847	871	895	921	**7,334**
N/NE 80th Street Feeder Rehabilitation	C196022	288	4	37	4,795	0	0	0	0	**5,124**
Painting Program - Beverly Park Tank	WFNEW116	0	0	0	0	137	447	0	0	**584**
Painting Program - Maple Leaf Tank	WFNEW117	0	0	0	0	0	28	574	0	**602**
Painting Program - Myrtle Tank	WFNEW110	0	0	0	0	137	893	0	0	**1,030**
Pump Station - Maple Leaf #2	C1AA003	170	0	0	0	543	2,792	0	0	**3,505**
Pump Station - Phinney Ridge	C1AA004	788	135	120	3,415	22	0	0	0	**4,480**
Pump Station - Queen Anne	C1AA005	1,042	0	3	90	4,079	0	0	0	**5,214**
Pump Station Improvements - Install Station Motors	C199052	192	50	0	0	10	11	11	12	**286**
Replace Air Valve Chambers	C199060	173	60	60	60	65	67	69	71	**625**
Seismic Upgrade - Beverly Park Tank	C194008	143	0	33	460	869	11	0	0	**1,516**
Seismic Upgrade - Building Package 6E	C194015	3	0	0	0	49	179	161	0	**392**
Seismic Upgrade - Cedar River Pipeline at Ginger Creek	C197032	121	36	433	46	0	0	0	0	**636**
Seismic Upgrade - Lake Youngs Upgrade Package 6D	C194014	0	0	0	26	163	0	0	0	**189**
Seismic Upgrade - Landsburg Tank	C194005	65	0	0	0	0	112	224	6	**407**
Seismic Upgrade - Maple Leaf Tank	C194007	168	7	662	828	0	0	0	0	**1,665**
Seismic Upgrade - Myrtle Tanks #1 and #2	C194006	693	286	1,757	368	0	0	0	0	**3,104**
Seismic Upgrade - Pipeline Backbone System	C101038	3	150	164	0	0	0	0	0	**317**

Amounts in thousands of dollars

Project Summary

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Infrastructure										
Seismic Upgrade - Pump Station Building 6-B	C194012	67	0	42	376	347	11	0	0	**843**
Seismic Upgrade - Pump Station Building 6-C	C194013	48	0	0	0	81	374	75	0	**578**
Seismic Upgrade - Queen Anne Replacement #1 and #2	C194004	502	170	707	1,407	1,027	11	0	0	**3,824**
Seismic Upgrade - Tolt Screenhouse	C199051	0	0	0	0	81	374	75	0	**530**
Seismic Upgrade - Volunteer Park Standpipe	C194009	204	275	0	0	0	34	763	1,599	**2,875**
Seismic Upgrade - West Seattle Pipeline	C197034	105	342	393	0	0	0	0	0	**840**
Seismic Upgrade and Painting - Barton Standpipe	C194001	172	0	217	449	5	0	0	0	**843**
Seismic Upgrade and Painting - Foy Standpipe	C194003	248	0	253	532	5	0	0	0	**1,038**
Seismic Upgrade and Painting - Woodland Park	C194002	163	95	459	5	0	0	0	0	**722**
Service Renewals - Customer- Requested Renewals	C121004	116	50	55	55	54	56	57	59	**502**
Service Renewals and Retirements Program	C1109	27,671	3,500	4,078	4,122	4,237	4,355	4,477	4,603	**57,043**
System Deficiencies Analysis	C100038	706	200	100	0	0	0	0	0	**1,006**
System Dewatering Program	C1105	1,147	182	592	331	970	1,453	1,493	1,535	**7,703**
Tank Site Remediation Program	C1114	1,005	250	442	446	489	503	517	531	**4,183**
Taps Program - New (Installation)	C1113	22,058	4,000	4,250	4,229	4,345	4,467	4,592	4,721	**52,662**
Tolt Bridge Replacement - Chuck Judd Creek	WFNEW480	0	0	0	0	80	700	0	0	**780**
Tolt Bridge Replacement - Dorothy Creek	WFNEW665	0	0	69	601	0	0	0	0	**670**

Amounts in thousands of dollars

Project Summary

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Infrastructure										
Tolt Bridge Replacement - Siwash Creek	C197029	54	0	0	131	869	0	0	0	**1,054**
Tolt Dam Safety Improvements	C198002	1,004	85	10	0	0	0	0	0	**1,099**
Tolt Eastside Supply Line Upgrade, Phase I	CFP4	0	0	0	0	0	0	1,068	1,879	**2,947**
Tolt Instrument and Warning System Upgrade	C1AA012	1,853	25	33	34	38	39	40	41	**2,103**
Tolt Pipeline II - Phase VI-A	C192003	10,167	0	371	0	0	0	0	0	**10,538**
Tolt River Watershed Road Improvement Program	C196007	1,368	130	207	171	185	190	195	201	**2,647**
Transmission Pipeline Analysis	C101043	11	120	112	115	0	0	0	0	**358**
Walsh Lake Ditch Phase III	WFNEW206	0	0	0	0	143	149	155	59	**506**
Water Design Standards & Guidelines Program	C102028	0	70	329	372	217	223	287	295	**1,793**
Watermain Extension Program	C153000	5,115	750	767	754	815	838	861	885	**10,785**
Watermain Rehabilitation Planning and Inspection	C115000	669	300	539	0	0	0	0	0	**1,508**
Watermain Rehabilitation Program	WFNEW455	0	0	0	4,529	4,889	5,026	5,166	5,311	**24,921**
Watermain Replacement Program	C1104	10,902	888	2,849	0	0	0	0	0	**14,639**
West Seattle Gatehouse - Valve & Inlet Pipe Rehabilitation	C197016	194	50	205	5	0	0	0	0	**454**
Infrastructure Total		**111,840**	**20,938**	**34,059**	**42,364**	**44,784**	**58,279**	**54,364**	**50,482**	**417,110**

Amounts in thousands of dollars

Project Summary

Program/Project	Project ID	LTD	2002	2003	2004	2005	2006	2007	2008	Total
Other Agencies										
Alaskan Way Viaduct & Seawall - Water	C502001	0	0	52	66	165	165	41	0	**489**
Cedar Eastside Supply Line Improvements - East Creek	C145007	118	403	468	5	0	0	0	0	**994**
Civic Projects	WFNEW390	275	0	240	0	0	0	0	0	**515**
Denny Combined Sewer Overflow	C145002	59	80	36	5	0	0	0	0	**180**
Henderson Combined Sewer Overflow	C199069	31	426	192	12	0	0	0	0	**661**
Holgate/Amtrak Water Relocation	C101009	15	70	20	125	424	8	0	0	**662**
Marine View/Des Moines Creek Transmission Line Relocation	C197021	183	18	397	5	0	0	0	0	**603**
Other Agency - Multiple Utility Relocation Program	C1201	5,841	650	803	802	702	726	746	767	**11,037**
Renton Franchise/Line Valve along Cedar River Pipeline	C102030	0	5	737	1,481	255	0	0	0	**2,478**
SeaTac Third Runway Pipeline Relocation	C199075	216	25	468	35	7	6	0	0	**757**
Snoqualmie River Bank Stabilization	WFNEW019	0	5	20	55	468	0	0	0	**548**
Sound Transit Light Rail - Water	C1NW005	0	258	894	949	869	782	689	590	**5,031**
University Way NE - The Ave	C101037	23	745	711	141	11	0	0	0	**1,631**
Other Agencies Total		**6,761**	**2,685**	**5,038**	**3,681**	**2,901**	**1,687**	**1,476**	**1,357**	**25,586**

Amounts in thousands of dollars

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Program/Project	Project ID	LTD	2002	2003	2004	2005	2006	2007	2008	Total
Water Quality										
Cedar Falls - Railroad Hazardous Material Remediation	C100078	35	65	66	229	0	0	0	0	**395**
Cedar River Watershed - Boundary Land Acquisition	C198008	2,143	384	132	114	109	112	115	118	**3,227**
Cedar Treatment Facility	C196015	21,140	36,095	38,320	1,918	0	0	0	0	**97,473**
Lake Youngs - Management/Protection Plan	C102030	0	37	208	0	0	0	0	0	**245**
Landsburg Treatment Building	WFNEW270	0	0	0	0	0	112	0	0	**112**
Reservoir Covering - Beacon	C101062	158	206	2,467	3,170	14,959	22,314	4,248	0	**47,522**
Reservoir Covering - Lake Forest Park	C196011	842	6,720	208	0	0	0	0	0	**7,770**
Reservoir Covering - Lincoln	C196012	4,869	1,620	8,738	7,746	0	0	0	0	**22,973**
Reservoir Covering - Volunteer	C101059	2	75	1,439	1,585	6,102	8,865	1,688	0	**19,756**
Reservoir Fence Improvements - Bitter Lake	WFNEW395	0	0	108	0	0	0	0	0	**108**
Reservoir Fence Improvements - Maple Leaf/Roosevelt/Myrtle	WFNEW280	0	0	278	0	0	0	0	0	**278**
Reservoir Remote Outlet Valve - Myrtle	C101014	0	0	191	0	0	0	0	0	**191**
Reservoir Undergrounding	C1402	0	586	0	528	2,281	4,132	18,178	24,992	**50,697**
Tolt Treatment Decommissioning	WFNEW345	0	0	0	0	189	0	0	0	**189**
Water System Security Improvements	C102015	0	540	2,963	65	0	0	0	0	**3,568**
Water Quality Total		**29,189**	**46,328**	**55,118**	**15,355**	**23,640**	**35,535**	**24,229**	**25,110**	**254,504**

Amounts in thousands of dollars

Project Summary

Program/Project	Project ID	LTD	2002	2003	2004	2005	2006	2007	2008	Total
Water Supply										
Cedar River Pipeline #4 Upgrade	CFP3	0	0	0	0	0	0	0	151	**151**
Comprehensive Water System Plan	C199022	1,069	0	42	138	519	632	53	0	**2,453**
Morse Lake Pump Plant - Pipeline Number One Corrosion	WFNEW265	0	0	0	93	0	0	0	0	**93**
Regional Water Conservation Program	C199032	6,006	4,050	4,141	4,202	4,345	4,691	5,281	5,665	**38,381**
Seattle Direct Service Additional Conservation	C102010	0	700	1,422	1,423	1,522	1,563	1,951	2,006	**10,587**
Tolt Pipeline I - Phase III-B	C199003	119	82	350	3,783	8	0	0	0	**4,342**
Tolt Pipeline II - Phase II and Phase III	C101083	61,956	882	95	82	43	45	23	0	**63,126**
Tolt Pipeline II - Phase VI-B	WFNEW118	0	0	0	0	109	558	643	0	**1,310**
Water Supply Total		**69,150**	**5,714**	**6,050**	**9,721**	**6,546**	**7,489**	**7,951**	**7,822**	**120,443**
Department Total		**221,414**	**84,686**	**109,480**	**81,121**	**87,711**	**106,330**	**91,419**	**89,210**	**871,371**

Amounts in thousands of dollars

Fund Source Summary

Funding Source	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	221,414	84,686	109,480	81,121	87,711	106,330	91,419	89,210	**871,371**
Department Total	**221,414**	**84,686**	**109,480**	**81,121**	**87,711**	**106,330**	**91,419**	**89,210**	**871,371**

Amounts in thousands of dollars

430 Pipeline Rehabilitation

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: WFNEW122
Start Date: 1st Quarter 2005
End Date: 4th Quarter 2007

Location: 7TH AV NE and NE 47TH ST

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project rehabilitates an 88 year-old 42-inch riveted steel feeder main that is corroded in some locations. The pipeline extends from Volunteer Park to the Maple Leaf neighborhood and crosses the Ship Canal in a tunnel. It is part of the planned seismically-hardened backbone of the Seattle distribution system; timely rehabilitation results in less disruption to water service after a major earthquake, and eliminates the risk of property damage associated with a major leak or pipeline failure. The parameters of the replacement are determined during the planning phase of the project.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**272**	**279**	**5,740**	**0**	**6,291**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Alaskan Way Viaduct & Seawall - Water

Program: Other Agencies
Type: New Facility
Project ID: C502001
Start Date: 1st Quarter 2003
End Date: 4th Quarter 2007

Location: ALASKAN WY VI NB

Neighborhood District: Downtown **Neighborhood Plan:** DUCPG (Downtown Urban Center Planning Group)

This project funds planning, preliminary engineering, and design costs associated with replacing the Alaskan Way Viaduct and seawall with a new transportation facility. See also the Drainage and Wastewater CIP (projects C33NW301 and C33NW201). The Washington State Department of Transportation, in conjunction with the Seattle Department of Transportation (project TC366050), is conducting a plan and study for demolition and replacement of the existing facility. At this early stage, a number of options are being evaluated. This project provides general estimates of the costs of those improvements, which are to be refined as the project scope is further developed.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**52**	**66**	**165**	**165**	**41**	**0**	**489**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Asset Management

Program: Infrastructure
Start Date: 4th Quarter 2002
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: WNFEW655

Location: Citywide

The Asset Management Program provides additional funding for replacement, rehabilitation, and improvement of the City's water system, and develops an innovative approach to addressing the backlog of infrastructure renewal in a way that maximizes customer benefit while minimizing life cycle costs. The program formally establishes a broad array of measurable customer and environmental service levels, and develops decision-making models to prioritize infrastructure projects based on sound economic principles. These models are used to determine a priority list for watermain replacement and rehabilitation, as well as to develop and expand programs to replace or improve other types of water system assets, including service meters and service lines, isolation valves, and larger pipelines. Funding is allocated from the Asset Management Program to these various programs once they are clearly defined. The program also includes evaluating SPU's current operating and maintenance practices and processes, and comparing them to other large water utilities in order to identify opportunities for efficiency improvements.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**90**	**3,000**	**6,000**	**9,000**	**12,000**	**12,000**	**12,000**	**54,090**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Augusta Gatehouse Rehabilitation

Program: Infrastructure
Start Date: 1st Quarter 1997
Type: Improved Facility
End Date: 3rd Quarter 2007
Project ID: C197004

Location: BEACON AV S and S AUGUSTA ST

Neighborhood District: Southeast
Neighborhood Plan: Not in a Neighborhood Plan

This project installs new valves to allow remote control of the flows into and out of the West Seattle pipeline via Augusta Gatehouse. It also allows for control of the intertie of the Cedar River Pipes and the West Seattle Pipeline during earthquakes. This project is on hold until 2005.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**4**	**0**	**0**	**0**	**60**	**257**	**158**	**0**	**479**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Ballard Locks Improvements

Program: Habitat Conservation Program
Start Date: 1st Quarter 2000
Type: Improved Facility
End Date: Ongoing
Project ID: WFHCP6

Location: 3015 NW 54TH ST
Neighborhood District: Ballard
Neighborhood Plan: Crown Hill/Ballard

This project is a sub-element of the Cedar River Habitat Conservation Plan and associated Cedar River Instream Flow Agreement. Improvements include the planning, design, and construction of freshwater conservation and smolt passage facilities at the Ballard Locks to improve fish passage and survival at the Locks. This project is part of a comprehensive instream flow management program for the Cedar River that protects the City's continued ability to divert adequate amounts of high quality water for regional use while protecting instream resources and the U.S. Army Corps of Engineers' ability to provide adequate flows for operating the Locks.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**181**	**201**	**185**	**187**	**163**	**168**	**173**	**1,121**	**2,379**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Broadway Transmission Line Replacement

Program: Infrastructure
Start Date: 1st Quarter 2000
Type: New Facility
End Date: 4th Quarter 2003
Project ID: C100076

Location: 16TH AV E and E. Denny Way
Neighborhood District: Central
Neighborhood Plan: Capitol Hill

This project improves the fire flow in the Capitol Hill neighborhood by installing a new 16-inch feeder main on E. Denny Way, from Broadway to 16th Avenue E., and by replacing the main in the 15th Avenue E. and 16th Avenue E. from E. Denny Way to E. Thomas Street, and from E. Denny Way to E. John Street, respectively.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**541**	**300**	**7**	**0**	**0**	**0**	**0**	**0**	**848**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Burien Feeder Upgrade

Program: Infrastructure
Start Date: 1st Quarter 2007
Type: Rehabilitation or Restoration
End Date: TBD
Project ID: CFP1

Location: S146 St, between 24 Ave S and 8 Ave S.

This project includes re-lining, joint repairs, sliplining, and cathodic protection to prolong the life span of the Burien Feeder. The feeder pipeline provides water for drinking, sanitation and fighting fires in the Burien area.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**0**	**293**	**2,006**	**2,299**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Cathodic - Phase V

Program: Infrastructure
Type: Improved Facility
Project ID: C100063
Location: Regional
Start Date: 1st Quarter 2000
End Date: 4th Quarter 2004
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project funds the planning, study, design and construction of new cathodic protection systems on pipelines 30 inches or larger. Cathodic protection systems are installed to protect new pipelines and help rehabilitate existing pipelines.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**120**	**661**	**466**	**0**	**0**	**0**	**0**	**1,247**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Cathodic Protection - Phase VI

Program: Infrastructure
Type: Improved Facility
Project ID: WFNEW112
Location: Regional
Start Date: 1st Quarter 2003
End Date: 4th Quarter 2005

This project focuses on the portion of existing Tolt Pipeline I in the area around the Lake Forest Reservoir. This project makes the pipeline electrically continuous and installs cathodic protection, which shifts the electric potential of the pipeline so that normal corrosion processes of the steel cylinder and reinforcing rod are inhibited. This work slows normal corrosion processes until pipeline rehabilitation or replacement is studied and recommendations are made in the years following completion of the parallel Tolt Pipeline II Phase IV.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**53**	**170**	**652**	**0**	**0**	**0**	**875**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Cathodic Protection - Phase VII

Program: Infrastructure
Type: Improved Facility
Project ID: WFNEW120
Location: Landsburg and Lake Young
Start Date: 2nd Quarter 2001
End Date: 4th Quarter 2006

This project focuses on installation of cathodic protection for the existing Lake Youngs Supply Lines 4 and 5 (LYSL 4,5). The work was identified when LYSL 4 was replaced in 1992, and corrosive soils were encountered along the pipe alignment. This project makes the LYSL 5 pipeline electrically continuous and installs cathodic protection which shifts the electric potential of both pipelines so that normal corrosion processes of the steel cylinder and reinforcing rod are inhibited. Depending upon the coverage results of the installed system, additional anode bed installations may be handled in future phases of this project. This work provides additional life expectancy for both pipelines. This project is on hold until 2004.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**23**	**0**	**0**	**54**	**163**	**670**	**0**	**0**	**910**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Cedar Bridge Replacement - Cedar 50 RD and NF Taylor

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: WFNEW024
Location: Cedar Watershed
Start Date: 2nd Quarter 2006
End Date: 4th Quarter 2007

This project replaces the Cedar 50 Road bridge and Taylor Creek 51 Road bridge with permanent concrete structures.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**134**	**1,061**	**0**	**1,195**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Cedar Bridge Replacement - Goat Creek and Cedar 600 RD

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C102017
Location: Cedar River Watershed
Start Date: 2nd Quarter 2001
End Date: 4th Quarter 2003

This project replaces the Cedar River 600 Road bridge and Goat Creek 600 Road bridge with permanent concrete structures.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**567**	**40**	**698**	**0**	**0**	**0**	**0**	**0**	**1,305**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Cedar Bridge Replacement - MF Taylor 60 RD

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C199067
Location: Cedar Watershed
Start Date: 1st Quarter 1999
End Date: 3rd Quarter 2006

This project replaces the Middle Fork Taylor Creek 60 Road bridge with a permanent concrete structure. This project is on hold until 2004.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**3**	**0**	**0**	**100**	**760**	**17**	**0**	**0**	**880**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Cedar Bridge Replacement - NF Cedar 500 RD and Pine Creek

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C198010
Location: Cedar River Watershed

Start Date: 3rd Quarter 1998
End Date: 4th Quarter 2003

This project replaces the Pine Creek bridge and North Fork Cedar 500 Road bridge with permanent concrete structures.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**927**	**0**	**698**	**0**	**0**	**0**	**0**	**0**	**1,625**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Cedar Bridge Replacement - NF Cedar 560 RD and Taylor Creek

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: WFNEW027
Location: Cedar River Watershed

Start Date: 1st Quarter 2005
End Date: 4th Quarter 2006

This project replaces the deteriorating and failing North Fork Cedar Creek 560 Road bridge and the Taylor 51 Road bridge with a permanent concrete structure.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**130**	**1,086**	**0**	**0**	**1,216**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Cedar Bridge Replacement - Rex 300 RD/Tinkham 560 RD

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: WFNEW023
Location: Cedar Watershed

Start Date: 3rd Quarter 2005
End Date: 4th Quarter 2006

This project replaces the deteriorating and failing Rex 300 Road and Tinkham Creek bridges with permanent concrete structures.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**130**	**1,005**	**0**	**0**	**1,135**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Cedar Bridge Replacement - Upper and Lower Cedar RR Bridges

Program: Infrastructure
Start Date: 1st Quarter 2007
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2008
Project ID: WFNEW026
Location: Cedar Watershed

This project cleans and paints two metal railroad bridges over the lower Cedar River.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**0**	**459**	**472**	**931**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Cedar Eastside Supply Line Improvements - East Creek

Program: Other Agencies
Start Date: 2nd Quarter 2001
Type: Improved Facility
End Date: 3rd Quarter 2004
Project ID: C145007
Location: East Creek and Kamber Road
Neighborhood District: East District
Neighborhood Plan: Not in a Neighborhood Plan

This project is in response to improvements initiated by the City of Bellevue to the Kamber Road crossing of East Creek in the Factoria area. The Cedar Eastside Supply Line, located in the Kamber Road roadway, is lowered and encased in concrete to accommodate the creek crossing improvements.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**118**	**403**	**468**	**5**	**0**	**0**	**0**	**0**	**994**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Cedar Falls - Railroad Hazardous Material Remediation

Program: Water Quality
Start Date: 3rd Quarter 2000
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2004
Project ID: C100078
Location: Cedar Falls

Phase I of this project assesses all possible impacts to the Cedar River because of railroad ties discarded by Burlington Northern along 12 miles of right-of-way near Landsburg. At the end of the study, the City is seeking a quit claim deed from Burlington Northern. Phase II is an environmental management and assessment of possible contamination of City property adjacent to the Cedar Falls railroad switch yard and depot site. (An earlier environmental assessment detected significant soil contamination of the railroad property). Future actions are determined once the assessments are completed.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**35**	**65**	**66**	**229**	**0**	**0**	**0**	**0**	**395**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Cedar Falls - Storage Building Construction

Program: Infrastructure
Type: Improved Facility
Project ID: C194019
Location: Cedar Falls

Start Date: 1st Quarter 1994
End Date: 4th Quarter 2006

This project constructs a 10,000 square foot storage building at Cedar Falls to store spare pumps and related equipment for the Morse Lake floating pump stations. It also serves to store vehicles and equipment used by Watershed staff for road maintenance and forest management in the Cedar River Watershed. This project was developed from the Master Development Plan for Cedar Falls and is part of the Cedar River Watershed Infrastructure Improvements Program.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**378**	**18**	**22**	**6**	**9**	**1,787**	**0**	**0**	**2,220**
O&M Costs (Savings)			0	0	0	0	24	31	**55**

Cedar Moraine Improvements

Program: Infrastructure
Type: Improved Facility
Project ID: C197009
Location: Cedar Watershed

Start Date: 1st Quarter 1997
End Date: Ongoing

Cedar Moraine is a porous, glacial deposit abutting Chester Morse Lake. In December 1918, during the initial filling of the reservoir, a massive landslide occurred as a result of high groundwater. Subsequently, a network of observation wells was installed so that the level of groundwater could be recorded. Over time, some of the wells became blocked. This project began in 1997 to evaluate the conditions of the network, provide rehabilitation, and recommend further improvements. Based on a 1999 dam safety study, the project focus is shifting slightly to improve monitoring capabilities along the northwest slopes of the moraine, and to drill additional wells.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**309**	**112**	**362**	**330**	**124**	**83**	**85**	**41**	**1,446**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Cedar River Pipeline #4 Upgrade

Program: Water Supply
Type: Improved Facility
Project ID: CFP3
Location: Cedar River Pipeline

Start Date: 1st Quarter 2008
End Date: TBD

This project replaces a 2,300 foot long section of deteriorating pre-stressed concrete cylinder pipe of Cedar River Pipeline No. 4 in the Duwamish River valley. Replacing the pipe section reduces the risk of significant flood damage and a major disruption to water supply in Southwest Seattle.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**151**	**151**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Cedar River Watershed - Boundary Land Acquisition

Program: Water Quality
Type: New Facility
Project ID: C198008
Location: Cedar River Watershed

Start Date: 1st Quarter 1998
End Date: Ongoing

This project involves efforts to protect water quality and valuable habitat at or near the boundary of the Cedar Watershed, as necessary. This program may involve land exchanges as well as land purchases at or near the boundary.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**2,143**	**384**	**132**	**114**	**109**	**112**	**115**	**118**	**3,227**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Cedar River Watershed - Headquarters Major Maintenance

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C100051
Location: Cedar Watershed

Start Date: 2nd Quarter 2000
End Date: Ongoing

This project replaces leaky roofs, repairs plumbing, and paints existing facilities at Cedar Falls.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**686**	**153**	**50**	**50**	**54**	**56**	**57**	**59**	**1,165**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Cedar River Watershed - Non-HCP Road Improvements

Program: Infrastructure
Type: Improved Facility
Project ID: C191001
Location: Cedar Watershed

Start Date: Ongoing
End Date: Ongoing

The Cedar River Watershed contains over 615 miles of forest roads. This project funds major improvements (beyond routine maintenance) on roads designated as having long-term purpose for forest fire suppression, fish and wildlife management, forest management, security, and public education. Roads not deemed to be of long-term necessity are "deconstructed" by removing potentially unstable sidecast and fill material, constructing frequent waterbars, and reestablishing stream crossings. This work is designed to provide long-term stability, to approximate the drainage flows that existed prior to management activities, and to be complementary to road improvement and decommissioning projects included in the Habitat Conservation Plan (HCP). HCP commitment assumes these projects are completed.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**3,766**	**612**	**726**	**856**	**852**	**898**	**895**	**921**	**9,526**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Cedar River Watershed - Northridge Trail

Program: Environmental Stewardship
Type: New Facility
Project ID: C102022
Start Date: 1st Quarter 2002
End Date: 4th Quarter 2003

Location: Northern boundary of Cedar River Watershed

This project involves planning and implementation of an alternative trail connection along the northern ridge boundary of Cedar River Watershed. Planning, public process, construction, and management are done in cooperation with the Washington State Parks Department, the US Forest Service, other agencies, and adjacent landowners.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**4**	**82**	**0**	**0**	**0**	**0**	**0**	**86**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Cedar Sockeye Hatchery

Program: Habitat Conservation Program
Type: New Facility
Project ID: WFHCP5
Start Date: 1st Quarter 2000
End Date: 1st Quarter 2006

Location: Cedar River

This project, a component of the Cedar River Habitat Conservation Plan, implements measures to mitigate impacts on sockeye salmon caused by the migration barrier formed by the Landsburg Diversion Dam. The project consists of constructing a spring water supply, broodstock holding facilities, an incubation facility capable of producing 34 million "swim-up" fry, housing for the on-site hatchery manager, a broodstock collection trap in the lower river, and a fry acclimation facility. The project is expected to be an essential component in mid-Puget Sound salmon recovery efforts that are being developed in response to current and future inclusion of various salmonid fish species under the federal Endangered Species Act.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**676**	**896**	**1,218**	**4,369**	**4,799**	**22**	**0**	**0**	**11,980**
O&M Costs (Savings)			0	0	379	387	391	N/C	**1,157**

Cedar Treatment Facility

Program: Water Quality
Type: New Facility
Project ID: C196015
Start Date: 1st Quarter 1996
End Date: 4th Quarter 2004

Location: Lake Youngs Reservoir

This project develops and implements water treatment improvements on the Cedar River supply to improve water quality, ensure compliance with drinking water regulations, and improve the periodic taste and odor problems that occur on the Cedar source. Under this project, new ozone disinfecting facilities (compatible with filtration) are planned, designed, and constructed near the Lake Youngs Reservoir. SPU is utilizing a design-build-operate contracting method for this project, similar to that used for the new Tolt Water Treatment Facility. Starting in 2004, funding to operate and maintain the new facilities is included in SPU's budget.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**21,140**	**36,095**	**38,320**	**1,918**	**0**	**0**	**0**	**0**	**97,473**
O&M Costs (Savings)			0	2,430	3,110	3,980	5,100	6,520	**21,140**

**Amounts in thousands of dollars*

Chamber Ring and Cover Replacements

Program: Infrastructure **Start Date:** 1st Quarter 2003
Type: Rehabilitation or Restoration **End Date:** Ongoing
Project ID: WFNEW590

This program allows SPU to meet current Occupational Safety and Health Administration (OSHA) and Washington State Health Administration (WSHA) standards for confined space entry by replacing the chamber rings and covers to below-grade chambers.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**219**	**127**	**163**	**168**	**172**	**177**	**1,026**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Civic Projects

Program: Other Agencies **Start Date:** 1st Quarter 2001
Type: New Facility **End Date:** 4th Quarter 2004
Project ID: WFNEW390

Location: TBD
Neighborhood District: In more than one district **Neighborhood Plan:** Martin Luther King, Jr. @ Holly Street

This program provides a standard watermain to serve various low-income housing communities in Seattle.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**275**	**0**	**240**	**0**	**0**	**0**	**0**	**0**	**515**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Comprehensive Water System Plan

Program: Water Supply **Start Date:** 1st Quarter 1999
Type: Rehabilitation or Restoration **End Date:** Ongoing
Project ID: C199022

Location: Regional
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

State regulations require water utilities to submit a new comprehensive water system plan every six years as a condition of state utility operating permit renewal. This project results in an environmental review and updated Comprehensive Water System Plan.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,069**	**0**	**42**	**138**	**519**	**632**	**53**	**0**	**2,453**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Control Works Upgrade

Program: Infrastructure
Type: Improved Facility
Project ID: CFP2
Start Date: 1st Quarter 2007
End Date: TBD

Location: Lake Youngs Reservoir

This project provides redundancy to the Control Works facility at Lake Youngs Reservoir by building a new header structure connecting Cedar River Pipelines 1-4 to Lake Youngs Bypass No. 4.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**0**	**610**	**627**	**1,237**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Denny Combined Sewer Overflow

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C145002
Start Date: 1st Quarter 1998
End Date: 3rd Quarter 2004

Location: Various

The project relocates watermains due to the construction of Combined Sewer Overflow facilities by the City and King County near Myrtle Edwards Park.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**59**	**80**	**36**	**5**	**0**	**0**	**0**	**0**	**180**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Distribution System Fireflow & Pressure Improvements

Program: Infrastructure
Type: Improved Facility
Project ID: WFNEW420
Start Date: 1st Quarter 2003
End Date: Ongoing

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project improves fire flow delivery to portions of the distribution system that are currently serviced inadequately due to undersized or old deteriorated water lines or development that requires more fire flow capacity than the existing water system delivers. The improvements include installation of new feeders and watermains, the replacement of undersized or deteriorated existing water lines, and possible construction of facilities for additional supply to problem areas during fire fighting from higher pressure zones. The specific scope and location of the improvements is currently being defined by the System Deficiencies Analysis project (C100038).

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**500**	**507**	**2,173**	**6,701**	**6,888**	**7,081**	**23,850**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Distribution System In-Line Gate Valves Replacement

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C199012
Start Date: Ongoing
End Date: Ongoing

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project replaces aging in-line gate valves throughout the water distribution system. Many of these valves are more than 50 years old and are obsolete. Spare parts are difficult, and in some cases impossible, to obtain.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**194**	**60**	**62**	**62**	**65**	**67**	**69**	**71**	**650**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Downstream Fish Habitat and Restoration

Program: Habitat Conservation Program
Type: Rehabilitation or Restoration
Project ID: WFHCP7
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2006

Location: Cedar River

This project is a component of the Cedar River Habitat Conservation Plan (HCP). The purpose of this project is to plan, design, and implement downstream habitat protection and restoration measures in the lower 22 miles of the mainstem Cedar River. This partially mitigates the effects of the City's water supply facilities and operations on aquatic resources in the Cedar River. A broad range of mitigation alternatives were examined during the development of the HCP. The exact listing of activities within this project is determined during the first year of the HCP, including restoration work at Walsh Lake.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**34**	**1,209**	**964**	**1,763**	**1,825**	**11**	**0**	**0**	**5,806**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Duvall Shop Facility Improvements

Program: Infrastructure
Type: Improved Facility
Project ID: WFNEW610
Start Date: 1st Quarter 2003
End Date: 4th Quarter 2003

Location: Tolt River Watershed

This project provides building code improvements to the Operations Office in Duvall. The work includes providing a women's bathroom, showers, locker room facilities, and repairing the septic system.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**250**	**0**	**0**	**0**	**0**	**0**	**250**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Endangered Species Act - Chinook Research & Monitoring

Program: Environmental Stewardship
Start Date: Ongoing
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: C101048

Location: Snohomish River system

This program provides funding for research into, and monitoring of, the health of the region's salmon population. This program is part of the City's responsibilities related to the listing of Chinook salmon as a threatened species under the Endangered Species Act.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**102**	**200**	**200**	**200**	**217**	**223**	**230**	**236**	**1,608**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Endangered Species Act - Snohomish River Basin

Program: Environmental Stewardship
Start Date: 2nd Quarter 2000
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: C101003

Location: N/A

This program develops habitat for salmon-beneficial projects in the Snohomish River system. Projects may occur in cooperation with King County, affected Tribes, or other local, state, or federal agencies.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1**	**361**	**360**	**360**	**391**	**402**	**413**	**425**	**2,713**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Heavy Equipment Purchases- Water

Program: Infrastructure
Start Date: 1st Quarter 1999
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: C199068

Location: N/A

This program replaces existing heavy equipment (such as loaders and bulldozers) used at Water Utility facilities. These pieces of equipment have reached the end of their useful lives.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**4,275**	**1,840**	**2,315**	**2,210**	**2,347**	**2,468**	**2,606**	**2,738**	**20,799**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Henderson Combined Sewer Overflow

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C199069
Start Date: 4th Quarter 1998
End Date: 4th Quarter 2004

Location: SEWARD PARK AV S and S HENDERSON ST
Neighborhood District: Southeast
Neighborhood Plan: Rainier Beach

King County is constructing a combined sewer pipeline from the Metro pump station from Seward Park Avenue and Henderson Street to E. Marginal Way and S. Norfolk Street. This project includes relocation of watermains and services to make way for the proposed pipeline, monitoring of pipelines in areas where the pipeline is tunneled, watermain connections, and service work to support King County's project. King County is reimbursing 100% of the City's expenditures.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**31**	**426**	**192**	**12**	**0**	**0**	**0**	**0**	**661**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Holgate/Amtrak Water Relocation

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C101009
Start Date: 4th Quarter 1998
End Date: 4th Quarter 2006

Location: S HOLGATE ST and 4TH AV S to 1ST AV S
Neighborhood District: Greater Duwamish
Neighborhood Plan: Duwamish

This project is necessitated by Amtrak's redevelopment of rail yard facilities at S. Holgate Street between 3rd Avenue S. and 4th Avenue S. As part of this redevelopment, the grade of S. Holgate Street is lowered, reducing the cover over the existing 20-inch feeder main in S. Holgate St. This project replaces the main at a lower depth (at Amtrak's expense) and extends the watermain replacement from 3rd Avenue S. to 1st Avenue S. (at SPU's expense). Additionally, SPU supports Amtrak's project by performing shutdowns, water service relocations and installation of new services.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**15**	**70**	**20**	**125**	**424**	**8**	**0**	**0**	**662**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Hydrant Program - New Installations

Program: Infrastructure
Type: New Facility
Project ID: C154000
Start Date: Ongoing
End Date: Ongoing

Location: City-wide
Neighborhood District: In more than one district
Neighborhood Plan: North Beacon Hill

This program provides new hydrants to neighborhoods to ensure a reliable and adequate supply of water for fire protection.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**93**	**10**	**12**	**12**	**11**	**11**	**11**	**12**	**172**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Hydrant Program - Replacement & Relocation

Program: Infrastructure **Start Date:** Ongoing
Type: Rehabilitation or Restoration **End Date:** Ongoing
Project ID: C1110

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program replaces older and damaged hydrants to ensure a reliable and adequate supply of water for fire protection.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,754**	**200**	**421**	**317**	**326**	**335**	**344**	**354**	**4,051**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Lake Youngs - Management/Protection Plan

Program: Water Quality **Start Date:** 1st Quarter 2002
Type: Rehabilitation or Restoration **End Date:** 4th Quarter 2003
Project ID: C102030

Location: TBD

This project develops a long range management and protection program for the Lake Youngs Reservation, including a resource assessment and inventory. Forest conditions are evaluated and aquatic and terrestrial habitats are inventoried and classified.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**37**	**208**	**0**	**0**	**0**	**0**	**0**	**245**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Lake Youngs - Outlet Dam Rehabilitation

Program: Infrastructure **Start Date:** 2nd Quarter 2002
Type: Rehabilitation or Restoration **End Date:** 4th Quarter 2004
Project ID: C1020136

Location: Lake Youngs Reservoir

This project raises the west portion of the Lake Youngs Outlet Dam to match the existing elevation of the east portion of the dam. Existing trees from the uphill and downhill slopes are removed.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**15**	**130**	**208**	**0**	**0**	**0**	**0**	**353**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Lake Youngs - Outlet Dam Warning System

Program: Infrastructure
Type: Improved Facility
Project ID: C101006
Location: South of Lake Youngs Reservoir
Start Date: Ongoing
End Date: Ongoing

This project improves the warning system at the Lake Youngs Outlet Dam. Operations and maintenance costs listed below are included in the Department's 2003-2004 budget.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**58**	**84**	**695**	**43**	**27**	**28**	**29**	**30**	**994**
O&M Costs (Savings)			7	9	11	15	19	24	**85**

Lake Youngs - Perimeter Drainage Improvements

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C197013
Location: Lake Youngs
Start Date: 2nd Quarter 1997
End Date: 4th Quarter 2004

This project inspects, cleans and performs required repairs to the catch basin and drainage pipeline on the south and southeast sides of Lake Youngs.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**25**	**4**	**96**	**100**	**0**	**0**	**0**	**0**	**225**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Lake Youngs - Tunnel Sinkhole

Program: Infrastructure
Type: Improved Facility
Project ID: C101068
Location: Lake Young Reservoir
Start Date: 3rd Quarter 2001
End Date: 4th Quarter 2004

This project remedies a sinkhole around one of the air vents of the Lake Youngs tunnel and further strengthens the pipeline's air vents. The sinkhole was identified by recent pipeline inspections. The pipeline, which is a lifeline facility, conveys 70% of the City of Seattle's water from Lake Youngs to Control Works, a distance of approximately two miles.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**81**	**77**	**17**	**13**	**0**	**0**	**0**	**0**	**188**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Landsburg Dam - Emergency Spillway Improvement

Program: Infrastructure
Type: Improved Facility
Project ID: WFNEW013
Location: Landsburg Dam
Start Date: 1st Quarter 2003
End Date: 4th Quarter 2006

This project increases the flood passage capacity of the Landsburg Dam through construction of a new 40 foot-wide emergency spillway on the south side of the dam.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**20**	**383**	**592**	**4,914**	**0**	**0**	**5,909**
O&M Costs (Savings)			0	0	0	0	8	10	**18**

Landsburg Dam - Safety Improvements

Program: Infrastructure
Type: Improved Facility
Project ID: C101019
Location: At Landsburg Dam on the Cedar River
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2003

This project designs and implements hard wire system to monitor four piezometers and two river level indicators at the Landsburg Dam.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**5**	**26**	**7**	**0**	**0**	**0**	**0**	**0**	**38**
O&M Costs (Savings)			3	4	5	6	8	10	**36**

Landsburg Fish Passage Improvements

Program: Habitat Conservation Program
Type: Improved Facility
Project ID: WFHCP4
Location: Cedar River
Start Date: 2nd Quarter 1999
End Date: Ongoing

This project plans, designs, and constructs the following improvements for fish passage: Landsburg Fish Screens, to prevent entrapment of salmon in the water supply system; an upstream fish ladder, to provide upstream passage of steelhead trout, coho and Chinook salmon; a downstream fish passage, to allow safe passage of migrating juvenile steelhead trout, coho and Chinook salmon; and pipeline fish passage, to minimize the effects of migration blockage from the aqueduct crossing. Operations and maintenance costs listed below are included in the Department's 2003-2004 budget.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,284**	**3,873**	**3,749**	**153**	**16**	**17**	**17**	**18**	**9,127**
O&M Costs (Savings)			0	9	12	15	19	24	**79**

**Amounts in thousands of dollars*

Landsburg Improvements - Non-HCP

Program: Infrastructure
Type: Improved Facility
Project ID: C199073
Location: Lake Youngs

Start Date: 1st Quarter 1999
End Date: 1st Quarter 2004

This project encompasses the "non-Habitat Conservation Plan" components of the Landsburg Fish Passage Improvements project (WFHCP4). The project scope includes the design, permitting, and construction of stability improvements to the Landsburg Dam (and the Lake Youngs aqueduct crossing), and improvements to Landsburg Park related to mitigation for the construction of a fish ladder in the existing Lake Youngs aqueduct crossing/park area.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**665**	**3,489**	**912**	**83**	**0**	**0**	**0**	**0**	**5,149**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Landsburg Treatment Building

Program: Water Quality
Type: Improved Facility
Project ID: WFNEW270
Location: Landsburg Dam

Start Date: 1st Quarter 2006
End Date: 4th Quarter 2006

This project provides modifications to the Landsburg Treatment Facility consistent with its new role after ozone facilities are built at Lake Youngs. Possible changes include enclosure of the chlorine storage area, ventilation improvements, the addition of a chlorine scrubber, installation of fire sprinklers and a new emergency generator, and improvements to local instrumentation and control.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**112**	**0**	**0**	**112**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Maple Leaf Gatehouse Pipe Refurbishing

Program: Infrastructure
Type: Improved Facility
Project ID: C195001
Location: NE 83RD ST and 12TH AV NE
Neighborhood District: Northeast
Neighborhood Plan: Not in a Neighborhood Plan

Start Date: 2nd Quarter 1995
End Date: 2nd Quarter 2005

This project refurbishes valves and piping to allow water to be pushed from the Tolt system into the areas south of the Ship Canal and to improve circulation in the Maple Leaf Reservoir.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**7**	**100**	**475**	**212**	**5**	**0**	**0**	**0**	**799**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Marine View/Des Moines Creek Transmission Line Relocation

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C197021
Location: MARINE VIEW DR

Start Date: 3rd Quarter 1997
End Date: 1st Quarter 2004

This project relocates approximately 200 linear feet of 24-inch water transmission line at SR 509 (Marine View Drive) where it crosses Des Moines Creek. This work is in response to a City of Des Moines project to replace an existing box culvert and embankment with a bridge. The transmission line currently passes through the existing embankment and is to be relocated to the new bridge.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**183**	**18**	**397**	**5**	**0**	**0**	**0**	**0**	**603**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Metering - Demand Metering Improvements

Program: Infrastructure
Type: Improved Facility
Project ID: C101021
Location: Outside City Limits

Start Date: 1st Quarter 2001
End Date: Ongoing

This project plans, designs, and installs ongoing improvements to the demand metering hardware and software.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**31**	**30**	**30**	**30**	**131**	**135**	**139**	**143**	**669**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Metering - Direct Service Meter Replacement

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C1108
Location: Citywide

Start Date: Ongoing
End Date: Ongoing

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program replaces customer meters that are not performing within the American Water Works Association's standards of accuracy due to obsolescence, incorrect application, or inability to repair. It is currently more cost-effective to replace two-inch and smaller meters than it is to repair them. Three-inch and larger meters are repaired, if possible.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**5,770**	**750**	**811**	**813**	**940**	**966**	**993**	**1,021**	**12,064**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Metering - Purveyor Meter Program

Program: Infrastructure
Start Date: Ongoing
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: C1107

Location: Various Locations

This project replaces obsolete, incorrectly applied, or irreparable purveyor meters that are not performing within the American Water Works Association's standards of accuracy.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**2,280**	**598**	**462**	**460**	**847**	**871**	**895**	**921**	**7,334**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Morse Lake Pump Plant - Pipeline Number One Corrosion

Program: Water Supply
Start Date: 1st Quarter 2004
Type: Improved Facility
End Date: 3rd Quarter 2004
Project ID: WFNEW265

Location: Cedar River Watershed

This project installs anodes on Pipeline Number One to prevent further corrosion. The pipeline is an essential component of the pumping plant facilities at Chester Morse Lake, which provides the City's emergency back-up water supply during periods of water shortage.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**93**	**0**	**0**	**0**	**0**	**93**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

N/NE 80th Street Feeder Rehabilitation

Program: Infrastructure
Start Date: 1st Quarter 1996
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2004
Project ID: C196022

Location: 12TH AV NE and NE 80TH ST
Neighborhood District: Northwest
Neighborhood Plan: Not in a Neighborhood Plan

This project sliplines (inserts smaller pipe into an existing one) approximately 9,000 linear feet of existing pipe on N/NE 80th Street from Greenwood Avenue N. to 12 Avenue NE. In addition, this project replaces an existing line valve, valve chamber, existing blowoffs, and air valves. The existing pipe under the I-5 freeway is not replaced, but connections to it are made on both sides of the freeway.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**288**	**4**	**37**	**4,795**	**0**	**0**	**0**	**0**	**5,124**
O&M Costs (Savings)			0	0	0	0	13	17	**30**

**Amounts in thousands of dollars*

Other Agency - Multiple Utility Relocation Program

Program: Other Agencies
Start Date: Ongoing
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: C1201

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program enables SPU to respond to large projects that are conducted by other agencies and that impact Seattle's water system. Impacts include utility conflicts that require relocations, construction impacts, and coordination to minimize impacts to SPU's customers and supply. Often, these agencies reimburse SPU for some or all of the costs incurred.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**5,841**	**650**	**803**	**802**	**702**	**726**	**746**	**767**	**11,037**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Painting Program - Beverly Park Tank

Program: Infrastructure
Start Date: 1st Quarter 2005
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2006
Project ID: WFNEW116

Location: 11042 4TH AV SW

The Tank Painting program involves interior and exterior surface preparation and painting, minor structural repairs, and safety modifications on a regular maintenance cycle at the City's various tank sites. The Beverly Park project cleans and overcoats the tank exterior. The lining is completely removed and replaced. Minor safety and operational modifications are made and cathodic protection installed.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**137**	**447**	**0**	**0**	**584**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Painting Program - Maple Leaf Tank

Program: Infrastructure
Start Date: 1st Quarter 2006
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2007
Project ID: WFNEW117

Location: 8602 NE 86TH ST and ROOSEVELT WY NE

Neighborhood District: Northeast **Neighborhood Plan:** Not in a Neighborhood Plan

The Tank Painting program involves interior and exterior surface preparation and painting, minor structural repairs, and safety modifications on a regular maintenance cycle at the City's various tank sites. The Maple Leaf project cleans and overcoats the tank exterior. Minor safety and operational modifications are made. As part of the project, SPU works with the Office of Arts and Cultural Affairs to design a mural on the tank.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**28**	**574**	**0**	**602**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Painting Program - Myrtle Tank

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: WFNEW110
Start Date: 1st Quarter 2005
End Date: 4th Quarter 2006

Location: 3600 SW MYRTLE ST
Neighborhood District: Southwest
Neighborhood Plan: Morgan Junction (MOCA)

The Tank Painting program involves interior and exterior surface preparation and painting, minor structural repairs, and safety modifications on a regular maintenance cycle at the City's various tank sites. Myrtle I and II tank exteriors are spot cleaned and receive an overcoat. The lining of Myrtle II is completely removed and replaced. Minor safety and operational modifications are made to both tanks.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**137**	**893**	**0**	**0**	**1,030**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Pump Station - Maple Leaf #2

Program: Infrastructure
Type: Improved Facility
Project ID: C1AA003
Start Date: 2nd Quarter 2005
End Date: 4th Quarter 2006

Location: NE 82ND ST and ROOSEVELT WY NE
Neighborhood District: Northeast
Neighborhood Plan: Not in a Neighborhood Plan

This project modifies and upgrades the existing Roosevelt Way Pump Station with a booster pump station, to accommodate future capacity increases and additional pumps. Distribution system improvements and modifications are made to isolate the low pressure area from the rest of the Maple Leaf distribution system, and to boost the water pressure with the pump station.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**170**	**0**	**0**	**0**	**543**	**2,792**	**0**	**0**	**3,505**
O&M Costs (Savings)			0	0	0	0	13	16	**29**

Pump Station - Phinney Ridge

Program: Infrastructure
Type: Improved Facility
Project ID: C1AA004
Start Date: 1st Quarter 1998
End Date: 3rd Quarter 2005

Location: PHINNEY AV N and N 54TH ST
Neighborhood District: Northwest
Neighborhood Plan: Not in a Neighborhood Plan

This project builds a reinforced concrete underground structure with four booster pumps and approximately 15,000 feet of watermain to improve water pressure for 125 acres in the Phinney Ridge neighborhood.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**788**	**135**	**120**	**3,415**	**22**	**0**	**0**	**0**	**4,480**
O&M Costs (Savings)			0	6	7	10	13	16	**52**

**Amounts in thousands of dollars*

Pump Station - Queen Anne

Program: Infrastructure
Type: Improved Facility
Project ID: C1AA005
Location: 110 LEE ST
Start Date: 1st Quarter 1996
End Date: 4th Quarter 2005
Neighborhood District: Magnolia/Queen Anne
Neighborhood Plan: Not in a Neighborhood Plan

This project includes installation of a concrete underground booster pump station and improvements and modifications to the distribution system. The distribution system improvements and modifications are made to isolate the area of low water pressure so that the water pressure can be boosted using the pump station.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,042**	**0**	**3**	**90**	**4,079**	**0**	**0**	**0**	**5,214**
O&M Costs (Savings)			0	0	0	10	13	16	**39**

Pump Station Improvements - Install Station Motors

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C199052
Location: Citywide
Start Date: 4th Quarter 1999
End Date: Ongoing
Neighborhood District: In more than one district
Neighborhood Plan: Not in a Neighborhood Plan

This program replaces aging pump station motors throughout the water distribution system with new, more efficient motors. Some of the existing motors were installed 30 or more years ago and are now obsolete, with no replacement parts available. This project is on hold in 2003 and 2004.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**192**	**50**	**0**	**0**	**10**	**11**	**11**	**12**	**286**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Regional Water Conservation Program

Program: Water Supply
Type: Improved Facility
Project ID: C199032
Location: Citywide
Start Date: 1st Quarter 1999
End Date: Ongoing
Neighborhood District: In more than one district
Neighborhood Plan: Not in a Neighborhood Plan

The Regional Water Conservation Program has the goal of reducing personal and commercial water consumption by 1% per year for ten years. If the program is successful and all of the City's wholesale customers participate, it could save approximately 18 million gallons of water per day, equivalent to the demands of 130,000 new households, or the projected level of growth over the next ten years. This enables the City to minimize future water diversions from the Tolt and Cedar Rivers. This program bundles all existing conservation projects except water reuse into a single CIP project. The program is projected to run 8-12 years, until saving goals are obtained.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**6,006**	**4,050**	**4,141**	**4,202**	**4,345**	**4,691**	**5,281**	**5,665**	**38,381**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Renton Franchise/Line Valve along Cedar River Pipeline

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C102030
Start Date: 1st Quarter 2002
End Date: 4th Quarter 2005

Location: Outside City Limits

In 1998, the Cities of Seattle and Renton signed an agreement which addresses Renton's request that SPU add line valves east of downtown Renton to reduce flooding in the event of a pipeline failure. This project responds to that agreement. Project components include improvement or relocation of pipeline blowoffs, improvement or relocation of meters to the Boeing Company, and other miscellaneous work.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**5**	**737**	**1,481**	**255**	**0**	**0**	**0**	**2,478**
O&M Costs (Savings)			0	0	17	21	27	35	**100**

Replace Air Valve Chambers

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C199060
Start Date: Ongoing
End Date: Ongoing

Location: Regional

This program replaces existing air valve chamber tops and access chimneys with larger diameter tops and chimneys. The project provides SPU staff safer access to valves, and complies with industry safety standards.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**173**	**60**	**60**	**60**	**65**	**67**	**69**	**71**	**625**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Reservoir Covering - Beacon

Program: Water Quality
Type: Improved Facility
Project ID: C101062
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2007

Location: S SPOKANE ST and BEACON AV S

Neighborhood District: Greater Duwamish **Neighborhood Plan:** North Beacon Hill

This project abandons and fills with earth the existing 60-million gallon Beacon North Reservoir. The project also replaces the existing 49-million gallon Beacon South Reservoir with an underground reservoir, and installs piping and valving appurtenances. The project helps to protect Seattle's water supply from vandalism and contamination, and improves the quality of life in the surrounding neighborhood by creating approximately eight acres of open space and avoiding the unsightly appearance of other reservoir covering options.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**158**	**206**	**2,467**	**3,170**	**14,959**	**22,314**	**4,248**	**0**	**47,522**
O&M Costs (Savings)			0	0	0	0	0	76	**76**

**Amounts in thousands of dollars*

Reservoir Covering - Lake Forest Park

Program: Water Quality
Type: Improved Facility
Project ID: C196011
Start Date: 1st Quarter 1997
End Date: 1st Quarter 2003

Location: 4510 4510 NE 195th

This project installs a tension floating geomembrane cover system for the Lake Forest Park reservoir, lines the existing reservoir with geomembrane material to eliminate leakage and improve embankment stability, converts the existing disinfecting system from an outlet gas chlorinating system to a re-circulation/ re-chlorinating system using sodium hypochlorite, and replaces existing reservoir infrastructure (e.g., valves and meters) as required.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**842**	**6,720**	**208**	**0**	**0**	**0**	**0**	**0**	**7,770**
O&M Costs (Savings)			22	28	36	46	59	76	**267**

Reservoir Covering - Lincoln

Program: Water Quality
Type: Improved Facility
Project ID: C196012
Start Date: 4th Quarter 1996
End Date: 4th Quarter 2004

Location: NAGLE PL and E DENNY WY to E PINE ST
Neighborhood District: East District
Neighborhood Plan: Capitol Hill

This project demolishes and replaces the existing 21-million gallon reservoir with a new concrete cast-in-place 15.5-million gallon reservoir. It also changes out the existing gas chlorinating system to a sodium hypochlorite system, replaces piping valves and appurtenances, and restores elements of the park site. The project helps to protect drinking water quality, and creates approximately two acres of open space. The Seattle Parks Department is conducting related work under the Lincoln Reservoir Park - Development - 2000 Parks Levy project (K733132).

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**4,869**	**1,620**	**8,738**	**7,746**	**0**	**0**	**0**	**0**	**22,973**
O&M Costs (Savings)			0	0	43	55	71	91	**260**

**Amounts in thousands of dollars*

Reservoir Covering - Volunteer

Program: Water Quality
Type: Improved Facility
Project ID: C101059
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2007

Location: 12TH AV E and E PROSPECT ST

Neighborhood District: East District **Neighborhood Plan:** Not in a Neighborhood Plan

This project demolishes the existing 21-million gallon Volunteer Park reservoir and replaces it with a new concrete underground reservoir. The chlorine gas disinfection system is replaced with hypochlorite system and piping and valving is replaced as required. Per City Council direction in Ordinance 120899, the project costs shown here do not include funds for design and construction of a water feature over the undergrounded reservoir, or for planning, design or construction of park facilities over the undergrounded reservoir beyond providing for passive open space. SPU estimates the cost of a water feature to be $1.4 million for design, and $5.9 million for construction.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**2**	**75**	**1,439**	**1,585**	**6,102**	**8,865**	**1,688**	**0**	**19,756**
O&M Costs (Savings)			0	0	0	0	0	76	**76**

Reservoir Fence Improvements - Bitter Lake

Program: Water Quality
Type: Improved Facility
Project ID: WFNEW395
Start Date: 1st Quarter 2003
End Date: 4th Quarter 2003

Location: 4510 NE 195th ST, Lake Forest Park

This project relocates the perimeter fence along the sides of the Bitter Lake Reservoir site. The remainder of the perimeter fence at the reservoir site is replaced and a concrete mowing strip is constructed to keep burrowing animals out and to preserve water quality.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**108**	**0**	**0**	**0**	**0**	**0**	**108**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Reservoir Fence Improvements - Maple Leaf/Roosevelt/Myrtle

Program: Water Quality
Type: Improved Facility
Project ID: WFNEW280
Start Date: 1st Quarter 2003
End Date: 4th Quarter 2003

Location: Maple Leaf, Roosevelt, & Myrtle Reservoir Sites

Neighborhood District: In more than one district **Neighborhood Plan:** Morgan Junction (MOCA)

This project replaces the perimeter fence around the Myrtle, Roosevelt and Maple Leaf reservoir sites and constructs a concrete mowing strip to keep burrowing animals out and to preserve water quality.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**278**	**0**	**0**	**0**	**0**	**0**	**278**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Reservoir Remote Outlet Valve - Myrtle

Program: Water Quality
Type: Improved Facility
Project ID: C101014
Start Date: 1st Quarter 2003
End Date: 2nd Quarter 2003

Location: SW WILLOW ST and 36TH AV SW

Neighborhood District: Southwest
Neighborhood Plan: Georgetown

This project installs a remotely controlled valve on the Myrtle Reservoir outlet pipeline. The valve is installed in a below grade, precast chamber. A conduit is installed for power and telemetry/control wiring.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**191**	**0**	**0**	**0**	**0**	**0**	**191**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Reservoir Undergrounding

Program: Water Quality
Type: Improved Facility
Project ID: C1402
Start Date: 1st Quarter 2002
End Date: 3rd Quarter 2011

Location: Various

This program replaces existing reservoirs at Maple Leaf, Myrtle, Roosevelt, and West Seattle with underground reservoirs. Consistent with Ordinance 120899, SPU examines a range of funding options for these reservoir undergrounding projects, and studies design-build as a possible contracting option for reservoir undergrounding. Also per Ordinance 120899, the estimated project costs shown here do not include funds for the planning, design, or construction of park facilities or water features at the undergrounded reservoirs, beyond funding capital costs incurred to provide for passive open space. In 2004, funding is allocated for planning at Myrtle and Roosevelt Reservoirs.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**586**	**0**	**528**	**2,281**	**4,132**	**18,178**	**24,992**	**50,697**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Road Improvements/Decommissioning

Program: Habitat Conservation Program
Type: Rehabilitation or Restoration
Project ID: WFHCP1
Start Date: 1st Quarter 2001
End Date: Ongoing

Location: Cedar River

Road improvements and decommissioning are identified as part of the Cedar River Habitat Conservation Plan (HCP) measures to protect stream and riparian habitats, and forest ecosystems. These projects are based on analyses and designs for the control of water flowing on, under, or adjacent to forest roads, and the removal of unstable soils within the road prism. Control of water and unstable soils minimizes sediment delivery to streams from roads, and improves drainage patterns. This project makes ongoing repairs to existing roads and decommissions seven of the ten miles per year required under the HCP.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**797**	**864**	**965**	**966**	**927**	**953**	**979**	**1,007**	**7,458**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Rock Creek Fishway

Program: Environmental Stewardship
Type: Improved Facility
Project ID: C101008
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2004

In 2000, SPU received notification from the Washington Department of Fish and Wildlife that SPU's culvert crossing under the Lake Youngs Aqueduct on Rock Creek approximately 3.5 miles north of Landsburg does not comply with existing fish passage requirements. This project provides the following: an independent consultant assessment of the nature and magnitude of fish passage impairment at the current structure; conceptual development of a range of improvement options for the facility; and design, permitting and construction of the selected improvement option.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**10**	**32**	**52**	**340**	**0**	**0**	**0**	**0**	**434**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

SeaTac Third Runway Pipeline Relocation

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C199075
Start Date: 4th Quarter 1999
End Date: 1st Quarter 2006

Location: S 156TH WY and 24TH AV S

This project provides design, design review, and construction support for the relocation of the Bow Lake Pipeline during the Sea-Tac Third Runway project.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**216**	**25**	**468**	**35**	**7**	**6**	**0**	**0**	**757**
O&M Costs (Savings)			0	0	0	0	3	3	**6**

Seattle Direct Service Additional Conservation

Program: Water Supply
Type: Improved Facility
Project ID: C102010
Start Date: Ongoing
End Date: Ongoing

Location: Regional

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program provides additional funding for measures to reduce personal and commercial water consumption in SPU's Direct Service Area for water supply. The program implements Ordinance 120532, adopted in 2001, and supplements funding provided under SPU's Regional Water Conservation Program (C199032).

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**700**	**1,422**	**1,423**	**1,522**	**1,563**	**1,951**	**2,006**	**10,587**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Seismic Upgrade - Beverly Park Tank

Program: Infrastructure
Type: Improved Facility
Project ID: C194008
Location: 11042 4TH AV SW
Start Date: 3rd Quarter 1995
End Date: 2nd Quarter 2006

This project makes seismic improvements to keep the Beverly Park water storage tank operational after a major earthquake. The tank is critical for drinking water, sanitation, and fighting fires after earthquakes.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**143**	**0**	**33**	**460**	**869**	**11**	**0**	**0**	**1,516**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - Building Package 6E

Program: Infrastructure
Type: Improved Facility
Project ID: C194015
Location: Citywide
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2007
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project makes seismic improvements to the pump stations and treatment buildings at Green Lake, Lake Forest Park, Maple Leaf, and Lincoln Reservoir. These facilities are considered lifelines because they are critical in providing water for drinking, sanitation, and fighting fires. The project is initiated after a consultant seismic reliability study of the water system predicted that the facilities would suffer damage and could become inoperable in case of an earthquake.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**3**	**0**	**0**	**0**	**49**	**179**	**161**	**0**	**392**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Seismic Upgrade - Cedar River Pipeline at Ginger Creek

Program: Infrastructure
Type: Improved Facility
Project ID: C197032
Location: Lake Youngs Way SE and Kirkland Way SE
Start Date: 1st Quarter 1999
End Date: 2nd Quarter 2004

The project designs, retrofits, and improves the foundations of approximately 300 feet of the existing Cedar River Pipelines 1, 2, and 3 near Tiffany Park in southeast Renton. These pipelines are a critical link in the Seattle water system.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**121**	**36**	**433**	**46**	**0**	**0**	**0**	**0**	**636**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Seismic Upgrade - Lake Youngs Upgrade Package 6D

Program: Infrastructure **Start Date:** 1st Quarter 2004
Type: Improved Facility **End Date:** 4th Quarter 2005
Project ID: C194014

This project makes seismic improvements to keep the Lake Youngs Corrosion Building, Lake Youngs Office and Landsburg Gatehouse operational after a major earthquake. This project was initiated after a consultant seismic reliability study of the water system predicted that the facilities would suffer damage and could become inoperable in case of a major earthquake.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**26**	**163**	**0**	**0**	**0**	**189**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Seismic Upgrade - Landsburg Tank

Program: Infrastructure **Start Date:** 4th Quarter 1994
Type: Improved Facility **End Date:** 4th Quarter 2008
Project ID: C194005

Location: 253rd AV SE at Landsburg Road SE

This project makes seismic improvements to the Landsburg water storage tank to keep the tank operational after a major earthquake. The tank is critical for providing drinking water and sanitation, and fighting fires after earthquakes. This project is on hold until 2006.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**65**	**0**	**0**	**0**	**0**	**112**	**224**	**6**	**407**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - Maple Leaf Tank

Program: Infrastructure **Start Date:** 4th Quarter 1994
Type: Improved Facility **End Date:** 4th Quarter 2004
Project ID: C194007

Location: 8602 Roosevelt Way South
Neighborhood District: Northeast **Neighborhood Plan:** Not in a Neighborhood Plan

This project makes seismic improvements to keep the Maple Leaf elevated water storage tank operational after a major earthquake. The tank is critical for drinking water, sanitation, and fighting fires after earthquakes.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**168**	**7**	**662**	**828**	**0**	**0**	**0**	**0**	**1,665**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Seismic Upgrade - Myrtle Tanks #1 and #2

Program: Infrastructure
Type: Improved Facility
Project ID: C194006
Start Date: 4th Quarter 1994
End Date: 4th Quarter 2004

Location: 35TH AV SW and SW MYRTLE ST
Neighborhood District: Southwest
Neighborhood Plan: Morgan Junction (MOCA)

This project makes seismic improvements to keep the Myrtle elevated water storage tanks operational after a major earthquake. These tanks are critical for drinking water, sanitation, and fighting fires after earthquakes. Additional work includes improving drain lines that do not meet current codes and improving a circulation system to improve water quality.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**693**	**286**	**1,757**	**368**	**0**	**0**	**0**	**0**	**3,104**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - Pipeline Backbone System

Program: Infrastructure
Type: Improved Facility
Project ID: C101038
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2003

Location: Citywide
Neighborhood District: In more than one district
Neighborhood Plan: Not in a Neighborhood Plan

This program makes seismic improvements to keep the essential components of the Pipeline Backbone System's transmission and feeder system operational during and after a major earthquake. These components are critical for drinking water, sanitation, and fighting fires. The project includes the evaluation, design, and upgrade/replacement of transmission and major distribution system feeders that are vulnerable to earthquake damage.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**3**	**150**	**164**	**0**	**0**	**0**	**0**	**0**	**317**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - Pump Station Building 6-B

Program: Infrastructure
Type: Improved Facility
Project ID: C194012
Start Date: 4th Quarter 1994
End Date: 4th Quarter 2006

Location: Citywide
Neighborhood District: In more than one district
Neighborhood Plan: Not in a Neighborhood Plan

This project upgrades the Fairwood, Broadway, Maplewood, and Spokane Street Pump Stations to better withstand earthquakes. Beacon Gatehouse and Volunteer Pump Station are evaluated to determine whether an upgrade is necessary.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**67**	**0**	**42**	**376**	**347**	**11**	**0**	**0**	**843**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Seismic Upgrade - Pump Station Building 6-C

Program: Infrastructure
Type: Improved Facility
Project ID: C194013
Start Date: 2nd Quarter 1995
End Date: 3rd Quarter 2007

Location: Tolt Reservoir on South Fork Road

This project upgrades and improves the seismic reliability of existing Tolt buildings that remain in use following completion of the Tolt Filtration plant in 2000. This project is on hold until 2005.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**48**	**0**	**0**	**0**	**81**	**374**	**75**	**0**	**578**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - Queen Anne Replacement #1 and #2

Program: Infrastructure
Type: New Facility
Project ID: C194004
Start Date: 4th Quarter 1994
End Date: 4th Quarter 2006

Location: WARREN AV N and LEE ST

Neighborhood District: Magnolia/Queen Anne **Neighborhood Plan:** Not in a Neighborhood Plan

This project replaces the existing aging Queen Anne Standpipes with a larger tank in order to improve seismic reliability, increase water storage, provide for worker safety, and improve water quality. The new tank connects to the Queen Anne Pump Station, currently being designed, which improves the water pressure in the higher elevation areas of the Queen Anne neighborhood.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**502**	**170**	**707**	**1,407**	**1,027**	**11**	**0**	**0**	**3,824**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - Tolt Screenhouse

Program: Infrastructure
Type: Improved Facility
Project ID: C199051
Start Date: 1st Quarter 2005
End Date: 4th Quarter 2007

Location: 12910 Kelly Road NE, Tolt Reservoir

This project makes seismic improvements to keep the Tolt Screenhouse operational after a major earthquake. The enhancements are required to support operation of the Tolt Filtration Plant.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**81**	**374**	**75**	**0**	**530**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Seismic Upgrade - Volunteer Park Standpipe

Program: Infrastructure
Type: Improved Facility
Project ID: C194009
Start Date: 4th Quarter 1994
End Date: 3rd Quarter 2009

Location: 1120 E PROSPECT ST

Neighborhood District: East District
Neighborhood Plan: Not in a Neighborhood Plan

This project improves the seismic reliability of the Volunteer Park Standpipe so that it can remain operational after a major earthquake. Water supply standpipes are critical for drinking water, sanitation, and fighting fires after earthquakes. This project is on hold until 2006.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**204**	**275**	**0**	**0**	**0**	**34**	**763**	**1,599**	**2,875**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade - West Seattle Pipeline

Program: Infrastructure
Type: Improved Facility
Project ID: C197034
Start Date: 4th Quarter 1997
End Date: 4th Quarter 2003

Location: 2ND AV SW and SW 102ND ST

Neighborhood District: Southwest
Neighborhood Plan: Not in a Neighborhood Plan

This project surrounds the 48-inch West Seattle Pipeline with steel and concrete to prevent collapse in a seismic event. This project begins improving the seismic reliability of pipelines so that they remain operational after a major earthquake.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**105**	**342**	**393**	**0**	**0**	**0**	**0**	**0**	**840**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade and Painting - Barton Standpipe

Program: Infrastructure
Type: Improved Facility
Project ID: C194001
Start Date: 4th Quarter 1994
End Date: 1st Quarter 2005

Location: 9051 38TH AV SW

Neighborhood District: Southwest
Neighborhood Plan: Not in a Neighborhood Plan

This project makes seismic improvements to keep the SW Barton Street Standpipe operational after a major earthquake. Standpipes are critical for drinking water, sanitation, and fighting fires after earthquakes. Additional work includes improving drain lines that do not meet current codes, installing a circulation system to improve water quality, and painting the standpipe's exterior.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**172**	**0**	**217**	**449**	**5**	**0**	**0**	**0**	**843**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Seismic Upgrade and Painting - Foy Standpipe

Program: Infrastructure
Type: Improved Facility
Project ID: C194003
Start Date: 4th Quarter 1994
End Date: 1st Quarter 2005

Location: 500 NE 145th ST

This project makes seismic improvements to keep the Foy Standpipe operational after a major earthquake. The standpipe is critical for drinking water, sanitation, and fighting fires after earthquakes. Work includes improving drain lines that do not meet current codes, improving the circulation system to improve water quality, and painting the standpipe's exterior.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**248**	**0**	**253**	**532**	**5**	**0**	**0**	**0**	**1,038**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Seismic Upgrade and Painting - Woodland Park

Program: Infrastructure
Type: Improved Facility
Project ID: C194002
Start Date: 4th Quarter 1994
End Date: 3rd Quarter 2004

Location: 5500 PHINNEY AV N and N 55TH ST

Neighborhood District: Northwest **Neighborhood Plan:** Not in a Neighborhood Plan

This project makes seismic improvements to keep the Woodland Park Standpipe operational after a major earthquake. Standpipes are critical for drinking water, sanitation, and fighting fires after earthquakes. Additional work includes improving drain lines that do not meet current codes, installing a circulation system to improve water quality, and painting the exterior.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**163**	**95**	**459**	**5**	**0**	**0**	**0**	**0**	**722**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Service Renewals - Customer- Requested Renewals

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C121004
Start Date: 1st Quarter 1999
End Date: Ongoing

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program replaces service lines from the City main to the customer at either the same time or after the customer replaces his/her portion of the service line. The goal is to reduce a 10-year backlog of requests caused by a shortage of staff and resources at Water Operations.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**116**	**50**	**55**	**55**	**54**	**56**	**57**	**59**	**502**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Service Renewals and Retirements Program

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C1109
Start Date: Ongoing
End Date: Ongoing

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program replaces water service lines that are substandard, leaking, or have outlived their useful life, and disconnects service lines that are no longer required.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**27,671**	**3,500**	**4,078**	**4,122**	**4,237**	**4,355**	**4,477**	**4,603**	**57,043**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Snoqualmie River Bank Stabilization

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: WFNEW019
Start Date: 4th Quarter 2002
End Date: 4th Quarter 2005

Location: Snoqualmie River near Tolt Pipeline crossing

This project stabilizes the north bank of the Snoqualmie River, near river-mile 13.5, to minimize further erosion. Work takes place on private property. The King County Water and Land Resource Division of the Department of Natural Resources plans to design and construct the project with funding support from SPU.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**5**	**20**	**55**	**468**	**0**	**0**	**0**	**548**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Sound Transit Light Rail - Water

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C1NW005
Start Date: 1st Quarter 2000
End Date: Ongoing

Location: Regional

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project funds costs related to relocation or replacement of watermains, hydrants, water services, transmission lines, and other facilities made necessary by Sound Transit's construction of the Central Link Light Rail system. The project also funds cathodic protection of many parts of the water system that are impacted by light rail. Depending on the routes and construction method, modifications of private plumbing systems and building electrical grounding systems are also required. Sound Transit proposes to construct and operate an electrical light rail transit system which includes over 24 miles of alignment, and which has a wide-ranging impact on the Seattle water system, both in Seattle City limits and in King County. The City of Seattle, including SPU, has an ongoing agreement for reimbursement from Sound Transit. See also Drainage and Wastewater projects C33NW328 and C33NW209.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**258**	**894**	**949**	**869**	**782**	**689**	**590**	**5,031**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Stream and Riparian Restoration

Program: Habitat Conservation Program
Start Date: 2nd Quarter 2000
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: WFHCP2

Location: Cedar River

Stream and Riparian Restoration is a category of projects within the Cedar River Watershed Habitat Conservation Plan (HCP) that involves mitigation related to streams and forests adjacent to streams and other aquatic habitats. Projects include streambank stabilization, streamside revegetation, large woody debris placement, conifer under-planting, restoration thinning, ecological thinning, stream crossing projects to improve flow patterns, and stream crossing improvements to reestablish fish passage.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**769**	**709**	**742**	**746**	**772**	**794**	**816**	**839**	**6,187**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

System Deficiencies Analysis

Program: Infrastructure
Start Date: 2nd Quarter 2000
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2003
Project ID: C100038

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

As part of the Water System Plan, Seattle Public Utilities initiated a comprehensive analysis of the water distribution network that serves the City's retail customers. The System Deficiencies Analysis continues and completes a system-wide survey to the capacity to deliver normal peak hour customer demands, peak day demands, and fire flows. Repairs to the watermain network identified as a result of this analysis are included in future capital improvement projects. See also project WFNEW420.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**706**	**200**	**100**	**0**	**0**	**0**	**0**	**0**	**1,006**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

System Dewatering Program

Program: Infrastructure **Start Date:** Ongoing
Type: Rehabilitation or Restoration **End Date:** Ongoing
Project ID: C1105

Location: Regional
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program improves the configuration and operation of approximately 200 blowoffs. Blowoffs are valves located at low points in water pipelines and are used to drain or flush the line for emergency or maintenance operations. The System Dewatering Program goals include: minimizing flooding damage to downstream private development due to blowoff operations; addressing the discharge of water into sensitive streams; requiring monitoring and treatment for impacts due to chlorine, pH, and turbidity; eliminating possible cross-connections to non-potable water that impact water quality; and addressing improvements to water courses to reduce erosion or other damage caused by blowoff operations.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,147**	**182**	**592**	**331**	**970**	**1,453**	**1,493**	**1,535**	**7,703**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Tank Site Remediation Program

Program: Infrastructure **Start Date:** 4th Quarter 1995
Type: Rehabilitation or Restoration **End Date:** Ongoing
Project ID: C1114

Location: Regional
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program cleans up soil and other contamination at Seattle Public Utilities' steel water tank sites and some adjacent private properties. The contamination is typically due to lead-based paint and arsenic used in prior sand blasting operations.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,005**	**250**	**442**	**446**	**489**	**503**	**517**	**531**	**4,183**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Taps Program - New (Installation)

Program: Infrastructure **Start Date:** Ongoing
Type: New Facility **End Date:** Ongoing
Project ID: C1113

Location: Citywide
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program installs new water service lines (taps) from the City watermain to customers' property lines. Taps are usually installed within an average of six weeks following a customer's request.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**22,058**	**4,000**	**4,250**	**4,229**	**4,345**	**4,467**	**4,592**	**4,721**	**52,662**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Tolt Bridge Replacement - Chuck Judd Creek

Program: Infrastructure
Start Date: 1st Quarter 2005
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2006
Project ID: WFNEW480

This project replaces the old bridge over Chuck Judd Creek in the South Fork Tolt River Watershed with a new concrete bridge.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**80**	**700**	**0**	**0**	**780**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Tolt Bridge Replacement - Dorothy Creek

Program: Infrastructure
Start Date: 2nd Quarter 2003
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2004
Project ID: WFNEW665

Location: Tolt River Watershed

This project replaces the wood bridge at Dorothy Creek - 50 Crossing in the South Fork Tolt River Watershed with a concrete bridge designed to allow a six-foot clearance for debris to pass.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**69**	**601**	**0**	**0**	**0**	**0**	**670**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Tolt Bridge Replacement - Siwash Creek

Program: Infrastructure
Start Date: 3rd Quarter 2001
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2005
Project ID: C197029

Location: Tolt River Watershed

This project replaces the old bridge over Siwash Creek in the South Fork Tolt River Watershed with a new concrete bridge.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**54**	**0**	**0**	**131**	**869**	**0**	**0**	**0**	**1,054**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Tolt Dam Safety Improvements

Program: Infrastructure
Start Date: 3rd Quarter 1998
Type: Rehabilitation or Restoration
End Date: 1st Quarter 2003
Project ID: C198002

Location: 12910 Kelly RD NE, Tolt Reservoir

This project implements corrective measures to dams and associated facilities in the Tolt Watershed as recommended in the November 1997 Independent Consultant Inspection report required by the Federal Energy Regulatory Commission. This work includes: investigating the condition of the 3,700 feet of corrugated metal pipe drains embedded in the Tolt Dam and performing replacements as necessary; replacing the right abutment concrete channel ditch; testing and possibly replacing piezometers; and making improvements to various instruments to meet measurement requirements. Operations and maintenance costs indicated below are included in the Department's 2003-2004 operating budget.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,004**	**85**	**10**	**0**	**0**	**0**	**0**	**0**	**1,099**
O&M Costs (Savings)			14	18	23	29	38	48	**170**

Tolt Eastside Supply Line Upgrade, Phase I

Program: Infrastructure
Start Date: 1st Quarter 2007
Type: Rehabilitation or Restoration
End Date: TBD
Project ID: CFP4

Location: Various

This project is part of a long-term plan to rehabilitate the Tolt Eastside Supply Line. The project replaces 19,495 linear feet of old 48-inch pipe along the Tolt with new 48-inch steel pipe, and replaces an additional 699 linear feet of existing 42-inch pipe with new 48-inch steel pipe. Two sections remain to be rehabilitated in the long-term plan for this pipeline.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**0**	**0**	**1,068**	**1,879**	**2,947**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Tolt Fisheries Mitigation

Program: Environmental Stewardship
Start Date: 1st Quarter 2004
Type: Improved Facility
End Date: 4th Quarter 2004
Project ID: WFNEW385

Location: South Fork Tolt River

This project funds fish habitat conservation efforts on the South Fork Tolt River based on an agreement between the Tolt Fisheries Advisory Groups and the City of Seattle.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**210**	**0**	**0**	**0**	**0**	**210**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Tolt Instrument and Warning System Upgrade

Program: Infrastructure
Type: Improved Facility
Project ID: C1AA012
Location: Tolt Dam
Start Date: 1st Quarter 1999
End Date: Ongoing

This project replaces outmoded equipment and improves the reliability of the required Tolt Instrument and Warning System.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,853**	**25**	**33**	**34**	**38**	**39**	**40**	**41**	**2,103**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Tolt Pipeline I - Phase III-B

Program: Water Supply
Type: Rehabilitation or Restoration
Project ID: C199003
Location: Tolt Pipeline
Start Date: 1st Quarter 1999
End Date: 2nd Quarter 2005

This project is part of a long-term plan to rehabilitate or replace the Tolt Pipeline I. Four sections of the pipeline (approximately 12 miles) have been slip-lined or replaced to date. Another four sections (approximately 11 miles) remain in the long-term plan. This project rehabilitates one of the remaining four sections, which is about one mile long and crosses the Snoqualmie River Valley.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**119**	**82**	**350**	**3,783**	**8**	**0**	**0**	**0**	**4,342**
O&M Costs (Savings)			3	4	5	6	8	10	**36**

Tolt Pipeline II - Phase II and Phase III

Program: Water Supply
Type: Improved Facility
Project ID: C101083
Location: Tolt Pipeline--160th Ave NE
Start Date: 3rd Quarter 1987
End Date: 4th Quarter 2007

Tolt Pipeline II is a 25-mile second regional supply pipeline for the Tolt System, ranging in diameter from 54 to 87 inches. This new pipeline improves the reliability of the Tolt system, allows rehabilitation of remaining portions of Tolt Pipeline I, enhances operational flexibility, increases reliability of the system during a major flood, landslide, or earthquake, and provides increased capacity. Phases II and III include installation of eight miles of 60-, 75- and 81-inch diameter steel-welded joint pipeline. Funding to operate and maintain the pipeline is included in SPU's 2003-2004 operating budget.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**61,956**	**882**	**95**	**82**	**43**	**45**	**23**	**0**	**63,126**
O&M Costs (Savings)			8	10	13	17	21	27	**96**

**Amounts in thousands of dollars*

Tolt Pipeline II - Phase VI-A

Program: Infrastructure
Type: Improved Facility
Project ID: C192003
Start Date: 2nd Quarter 2002
End Date: 4th Quarter 2003

Location: Along the Tolt Pipeline

This project includes installation of a retaining wall to stabilize the ground immediately downslope of the Tolt pipeline road in which Tolt Pipeline II is installed. The retaining wall consists of soldier piles, tiebacks and steel lagging. Slope failure at this location damages the road and the pipeline in it, and disrupts water supply to the Eastside.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**10,167**	**0**	**371**	**0**	**0**	**0**	**0**	**0**	**10,538**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Tolt Pipeline II - Phase VI-B

Program: Water Supply
Type: Improved Facility
Project ID: WFNEW118
Start Date: 1st Quarter 2005
End Date: 1st Quarter 2007

Location: Tolt Pipeline on Kelly Road

This project replaces or installs pipe parallel to Tolt Pipeline I from the Filtration Plant to the end of the previous Tolt Pipeline I Replacement near Kelly Road. The size and placement are determined during the planning, permitting, and design phase, which begins in 2003. Sudden failure of the existing Tolt Pipeline I could interrupt supply and result in a failure to meet purveyor contract requirements during peak demand periods.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**109**	**558**	**643**	**0**	**1,310**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Tolt River Watershed Road Improvement Program

Program: Infrastructure
Type: Improved Facility
Project ID: C196007
Start Date: Ongoing
End Date: Ongoing

Location: Tolt Watershed

This project provides drainage and other road improvements on portions of the 70 miles of forest roads in the South Fork Tolt River Watershed.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**1,368**	**130**	**207**	**171**	**185**	**190**	**195**	**201**	**2,647**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Tolt Treatment Decommissioning

Program: Water Quality
Type: Rehabilitation or Restoration
Project ID: WFNEW345
Start Date: 1st Quarter 2005
End Date: 4th Quarter 2005

Location: Tolt Watershed

This project funds salvage of some equipment and material at the 40 year-old Tolt Treatment Facility, demolition of the old structure, and restoration of the site to match the surrounding area. SPU transferred chemical treatment of water in the Tolt System from the old facility to the newly-built Tolt Treatment Facility in December 2000.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**189**	**0**	**0**	**0**	**189**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Transmission Pipeline Analysis

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C101043
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2004

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project enables pipeline replacement and rehabilitation decisions to be based on improved estimates of the condition and service life of pipelines. The project assesses the condition of transmission pipelines, the environment surrounding them, the total cost of repair, and rehabilitation and maintenance. Condition data along with other parameters are modeled to produce a prioritization for pipeline replacements for the longer-term CIP.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**11**	**120**	**112**	**115**	**0**	**0**	**0**	**0**	**358**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

University Way NE - The Ave

Program: Other Agencies
Type: Rehabilitation or Restoration
Project ID: C101037
Start Date: 2nd Quarter 2001
End Date: 2nd Quarter 2005

Location: UNIVERSITY WY NE and NE CAMPUS PY to NE 45TH ST

Neighborhood District: Northeast **Neighborhood Plan:** University

The Seattle Department of Transportation (SDOT) plans to reconstruct University Way NE from NE Campus Pkwy to NE 45th. The work likely includes new sidewalks, new street surfaces and grades, new trees, street furniture, light poles, and bus zones. SPU's project replaces the watermain, hydrants, and services to avoid utility conflicts, maintain service, reduce damage and claims, and reduce the necessity to perform future maintenance that could require pavement opening. This project is being coordinated with the neighborhood, Sound Transit, SDOT (project TC365420), the University of Washington, and other utilities.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**23**	**745**	**711**	**141**	**11**	**0**	**0**	**0**	**1,631**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Upland Forest Restoration

Program: Habitat Conservation Program
Start Date: 2nd Quarter 2000
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: WFHCP3

Location: Cedar River

The Upland Forest Restoration program within the Cedar River Habitat Conservation Plan mitigates forest not directly associated with aquatic habitats (i.e., upland forest). These projects include restoration planting, and restoration and ecological thinning within previously harvested upland forests. Restoration planting is done in selected areas of forest to promote the development of more natural and diverse ecological communities of vegetation. Restoration thinning reduces the density of trees to encourage tree growth. Ecological thinning accelerates the development of characteristics of mature forests.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**620**	**672**	**698**	**706**	**730**	**750**	**771**	**793**	**5,740**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Walsh Lake Ditch Phase III

Program: Infrastructure
Start Date: 1st Quarter 2005
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2008
Project ID: WFNEW206

Location: Cedar Watershed

This project evaluates alternatives for the long-term improvement and management of the Walsh Lake Ditch levee and channel. The ditch was constructed in the 1920s to divert less pristine runoff from a previously inhabited area around Walsh Lake in the Cedar Watershed, to a point along the Cedar River that is below the drinking water diversion from the river (Landsburg). Over the years the ditch has become established, and now resembles a creek. At the same time, the uphill and downhill slopes of the levee in some areas could incur costly improvements in the long run if the ditch continues to convey runoff. The project may include routing runoff back to its original path into Rock Creek and into the Cedar River above Landsburg.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**0**	**143**	**149**	**155**	**59**	**506**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Water Design Standards & Guidelines Program

Program: Infrastructure
Start Date: 2nd Quarter 2002
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: C102028

Location: Citywide

The project creates detailed design standards for various types of water facilities, to streamline future design efforts, reduce costs, and increase the quality of future new facilities.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**70**	**329**	**372**	**217**	**223**	**287**	**295**	**1,793**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

**Amounts in thousands of dollars*

Water System Security Improvements

Program: Water Quality
Type: Improved Facility
Project ID: C102015
Location: Citywide
Start Date: 1st Quarter 2002
End Date: 4th Quarter 2004
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project responds to a demand for increased security and water quality protection at SPU facilities. The project includes key card installation at all pump stations, water treatment facilities and facility gates, and improving communications systems at various facilities.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**540**	**2,963**	**65**	**0**	**0**	**0**	**0**	**3,568**
O&M Costs (Savings)			N/C	N/C	N/C	N/C	N/C	N/C	**0**

Watermain Extension Program

Program: Infrastructure
Type: New Facility
Project ID: C153000
Location: Citywide
Start Date: Ongoing
End Date: Ongoing
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Watermain Extension Program provides standard watermains and fire hydrants to properties now served by private service lines or non-abutting watermains. Work is partially reimbursed by customers.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**5,115**	**750**	**767**	**754**	**815**	**838**	**861**	**885**	**10,785**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Watermain Rehabilitation Planning and Inspection

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C115000
Location: Citywide
Start Date: 1st Quarter 2001
End Date: 4th Quarter 2003
Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program enables watermain replacement and rehabilitation planning based on improved estimates of the service life of watermains. The project assesses the conditions of watermains, the environment surrounding them, and the total cost of repair, rehabilitation, and maintenance. Condition data along with other parameters such as service criticality, location vulnerability, age, and replacement and/or rehabilitation cost is used to prioritize watermain replacements for the distribution system. This prioritization is also to be used as a planning tool for future CIP projects. In 2004, this program is replaced by the Watermain Rehabilitation Program (WFNEW455).

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**669**	**300**	**539**	**0**	**0**	**0**	**0**	**0**	**1,508**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

Watermain Rehabilitation Program

Program: Infrastructure
Start Date: 1st Quarter 2004
Type: Rehabilitation or Restoration
End Date: Ongoing
Project ID: WFNEW455

Location: Regional

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program takes over the scope of the Watermain Replacement Program (see Project C1104), under which older water distribution pipes are systematically replaced to reduce leakage and watermain breaks and improve water quality and fire protection. In contrast to the Watermain Replacement Program that sunsets in 2003, this new Watermain Rehabilitation Program considers methods other than straight replacement for improving watermains cost effectively, as well as replacement where other methods would not work. Such alternative methods include cleaning and re-lining pipes, and inserting a new smaller pipe in the old one. The Watermain Rehabilitation Program's priorities are guided by the following efforts: the Watermain Rehabilitation Planning and Inspection project ending in 2003, which collects data about the condition of pipes throughout the distribution system; the System Deficiencies Analysis project, also ending in 2003, which identifies all fire flow deficiencies in the City's water distribution system; and the Asset Management Program starting in 2003, which provides decision-making tools to prioritize rehabilitation and improvement projects based on lowest life cycle costs that meet defined service levels.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**0**	**0**	**0**	**4,529**	**4,889**	**5,026**	**5,166**	**5,311**	**24,921**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

Watermain Replacement Program

Program: Infrastructure
Start Date: 1st Quarter 2001
Type: Rehabilitation or Restoration
End Date: 4th Quarter 2003
Project ID: C1104

Location: Citywide

Neighborhood District: In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This program systematically replaces older water distribution pipes to reduce leakage and watermain breaks, and improve water quality and fire protection. Targeted watermains are prioritized and scheduled for replacement in groups to maintain a steady volume of work and to facilitate quality design and construction management. This program typically only considers replacement of the pipes as the way to improve their performance, and ends in its current form in 2003. The Watermain Rehabilitation Program (WFNEW455), which begins in 2004, takes over the scope of the Watermain Replacement Program and implements a broader range of methods for improving pipe performance, including cleaning and re-lining pipes.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**10,902**	**888**	**2,849**	**0**	**0**	**0**	**0**	**0**	**14,639**
O&M Costs (Savings)			0	0	0	0	0	0	**0**

**Amounts in thousands of dollars*

West Seattle Gatehouse - Valve & Inlet Pipe Rehabilitation

Program: Infrastructure
Type: Rehabilitation or Restoration
Project ID: C197016
Start Date: 2nd Quarter 1997
End Date: 2nd Quarter 2004

Location: 8TH AV SW and SW TRENTON ST

Neighborhood District: Southwest
Neighborhood Plan: Not in a Neighborhood Plan

This project rehabilitates the large valves in the West Seattle Gate House (WSGH). The WSGH inlet piping and valves leading into the reservoir are repaired to allow remote control of the water flowing into the reservoir. The reservoir bypass valve is replaced with a remote-controlled ball valve to allow for backing off the reservoir and controlling pressure to the West Seattle turbine house. An additional ball valve is installed at the turbine house near Trenton Tanks.

	LTD	2002	2003	2004	2005	2006	2007	2008	Total
SPU Water Fund	**194**	**50**	**205**	**5**	**0**	**0**	**0**	**0**	**454**
O&M Costs (Savings)			0	0	1	2	2	3	**8**

**Amounts in thousands of dollars*