

Overview of Facilities and Programs

Seattle Public Utilities (SPU) is responsible for maintaining the network of sewer and drainage systems throughout the City of Seattle. The system includes approximately:

- 530 miles of sanitary sewers
- 500 miles of storm drains
- 1,020 miles of combined sewers
- 73 pump stations
- 113 combined sewer and pump station outfalls
- 277 storm drain outfalls
- 43 combined sewer overflow control detention tanks/pipes.

Seattle Public Utilities' Capital Improvement Program (CIP) is the vehicle for maintaining, upgrading, and expanding this infrastructure, as well as constructing projects that protect, conserve, and enhance our region's environmental resources. The overriding goal of the CIP is to ensure that facilities are properly constructed and maintained, and regulatory requirements are met. Projects in the CIP are also guided by various federal regulations, City policies, and long-term plan documents. Many Drainage and Wastewater CIP projects are outlined in the Combined Sewer Overflow Reduction Plan and the Comprehensive Drainage Plan.

Historically, the Drainage and Wastewater (DWF) CIP has been funded primarily by revenue bonds. However, new DWF financial policies adopted in 2003 gradually increase cash contributions from the Utility to the CIP to 25% of total CIP costs, by 2007. Overhead costs for the CIP are budgeted in the Seattle Public Utilities operating fund and then repaid as CIP project expenditures are incurred.

Highlights

- **Combined Sewer Overflow (CSO) Program:** Approximately \$29 million is included in the 2005-2010 Proposed CIP for the Combined Sewer Overflow Program. In many parts of Seattle, sewage and stormwater flow together in pipes through a Combined Sewer System. Heavy rains may cause these pipes to fill, causing overflows through outfalls into Lake Union, Lake Washington, or Puget Sound. Projects in the 2005-2010 Proposed CIP respond to federal regulations requiring that the City monitor and reduce CSOs. The Denny Way/Lake Union project, coordinated and jointly funded by the City and King County, is scheduled to be completed in 2005. Other large construction projects identified in the 2001 CSO Reduction Plan (Plan) are being delayed to realize savings through optimization of the existing facilities prior to construction of large storage projects.
- **Flood Control, Local Drainage and Water Quality:** The City's Comprehensive Drainage Plan, originally written in 1988, was updated in 2004 to address flooding and water quality needs in a systematic manner citywide, and to establish a long-term schedule of both capital improvements and operating programs. This work is also intended to comply with the requirements of the pending renewal of Seattle's Federal Stormwater Permit. The CIP includes projects to implement both the CDP and the Mayor's Restore Our Waters Strategy to protect Seattle's aquatic environment.
- **Habitat and Sediments:** The City of Seattle is named as a potentially responsible party (PRP) for the Duwamish River Superfund Site because of alleged contamination of sediments in the river from CSO and storm drain discharges. The City continues to work with the Washington State Department of Ecology, King County, and other PRPs on an assessment of contaminants and sources. Funding for this work is included in two Sediment Remediation projects, which also include funding for other preliminary studies and analysis for cleanup of other contaminated sites in which the City is a participant.

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- **General Wastewater:** The General Wastewater Program Category includes several new initiatives. A Comprehensive Wastewater Plan will be developed for the first time to establish levels of services, define policies, and coordinate and set priorities among SPU's various wastewater programs. The Other Agency Opportunity Program is established to devote staff resources to coordinate with projects such as the Alaska Way Viaduct/Seawall, Sound Transit, the Seattle Monorail Project, and South Lake Union development. Utility relocation, flow control, and water quality treatment options associated with each of these projects will affect SPU's infrastructure. There will be opportunities for joint projects with other agencies in some instances. The Intergovernmental Shares project provides funding for partnerships with other City departments on code compliance for transportation projects in areas with combined sewer systems. The Pump Station Improvements program designs and constructs projects identified in the Pump Station Rehabilitation Study. For the 2005-2010 Proposed CIP, this program has been moved from Sewer Rehabilitation to General Wastewater. This is done to better link design and management of pump stations improvements to system capacity and CSO issues.
- **Sewer Rehabilitation Program:** The Department is continuing a major program to rehabilitate and replace failed sewers. Through the use of asset management principles, the emphasis is shifting from full-line reconstruction to relining and point repairs, with priority for inspection and repair given to critical pipelines. Approximately \$53 million is to be spent on this program in 2005-2010.
- **Capital Planning:** Several capital planning projects in the 2005-2010 Proposed Drainage and Wastewater CIP provide funding for CIP project development work. Funding is used to develop scopes, budgets and schedules for new projects to be included in subsequent CIP proposals. For projects that cannot wait until the next funding cycle, SPU uses these funds to prepare documentation to seek Council approval for project design and construction for those projects not in the current CIP. New projects that are developed from these funds are reviewed and approved by SPU's Asset Management Committee (AMC).

Project Selection Process

The Department used the existing CIP management organizational structure to develop the 2005-2010 Proposed Drainage and Wastewater CIP program. The process included the following steps:

Project Identification, Project Prioritization, and Project Budget and Scheduling: In early 2004, a team of engineers and economists gathered information and reviewed projects identified in the 2004 Comprehensive Drainage Plan Update and selected the highest priority projects for further analysis. They analyzed the benefits and costs of each project and laid out a 6-year CIP using the new projects together with ongoing existing projects. The prioritized list was presented to the Asset Management Committee (AMC) together with an initial analysis of the rate path needed to support the CIP. The AMC gave a preliminary approval of the list with some modifications. Project managers updated the schedules and cash flow projections for all existing Drainage and Wastewater CIP projects. Labor and non-labor costs were assembled using a new BudPrep tool. New Project Narrative Forms were filled out for all new projects, and existing project forms were updated. The CIP Committee and Capital Fund Manager worked with SPU's Finance Division to make adjustments based on available funding, and developed the 2005-2010 Proposed CIP. SPU's Drainage and Wastewater CIP Committee and Asset Management Committee then reviewed the Proposed CIP in May. Finally, the information was assembled and submitted to the Department of Finance in July.

Program Category Summaries

The Drainage and Wastewater CIP totals \$47 million in 2005 (including Technology projects funded by the Drainage and Wastewater Fund, displayed in a separate section in this CIP). It is composed of 10 program categories, summarized below. A detailed listing of all programs for the Drainage and Wastewater CIP follows this overview.

SPU – Drainage & Wastewater

Combined Sewer Overflow (CSO): This program contains projects to plan, design, construct, and monitor facilities to control overflows from the combined and partially separated sewer system areas. Of the 105 identified CSO points, control technologies have been applied to 99. Monitoring the effectiveness of these controls has initiated additional work at a number of locations, as noted in the adopted CSO Plan amendment. The adopted CSO Plan amendment also discusses the plan for control of those CSO locations where work has not yet been completed.

Flood Control and Local Drainage: This program makes improvements to the City's drainage system to address flooding and provide neighborhood drainage systems. The program continues SPU's expanded role in addressing flooding and installing Natural Drainage System projects to reduce runoff and improve water quality in areas without full street improvements. The program provides funds for major drainage projects including the High Point Drainage System, the Pinehurst Natural Drainage System, and the MLK Way/Norfolk St Storm Improvement project. The program also funds projects identified in the City's neighborhood plans, such as flood control projects in the Thornton Creek and Densmore Drainage Basins.

General Wastewater: This program funds significant improvements or major changes to the wastewater system and studies to comply with federal regulations or to assess the need for system improvements. For 2005, a Pump Station Improvements program will begin to design and construct projects identified in the Pump Station Rehab Study. This program was moved from Operations to Resource Management and from the Sewer Rehabilitation BCL to the General Wastewater BCL. This was done to better link design and management of pump station improvements to system capacity and CSO issues.

Habitat and Sediments: This program funds sediment remediation studies and analyses for cleanup of contaminated sediment sites in which the City is a participant.

Other Drainage: This program makes improvements to the City's drainage system through partnerships with other agencies. The program also includes funding for other capital costs, such as heavy equipment, and for projects that improve the efficiency of the overall drainage program. In 2005, the program provides funds for drainage designers for the Seattle Department of Transportation (SDOT) to design the drainage portion of street improvements.

Protection of Beneficial Uses: This program makes improvements to the City's drainage system to reduce the harmful effects of stormwater runoff on creeks and receiving water bodies by improving water quality and protecting or enhancing habitat. The program includes projects to improve water quality, protect creeks, meet regulatory requirements and use best available science to meet community expectations for habitat.

Public Asset Protection: This program makes improvements to the City's drainage system to reduce the risk to City infrastructure (such as roads and utilities) from landslides and to control stormwater runoff on steep hillsides so that stormwater does not contribute to landslides. The program includes funds for projects such as the SW Prescott/Admiral Way and the Burke Gilman/NE 144th landslide mitigation projects.

Sewer Rehabilitation: This program rehabilitates the City's collection system of sewer pipes. The Department establishes priorities for the program primarily based on the results of closed circuit television (CCTV) inspections and an asset management criticality analysis. The program funds full and partial replacement of sewer line segments, point repairs, and lining of pipes, as well as costs for emergency repairs.

Shared Cost Projects: This program includes capital improvement projects that receive funding from multiple SPU funds. In 2005, the program includes \$12 million for projects, including Alaskan Way Viaduct & Seawall, Seattle Monorail Project, Facility Improvements, the City's Joint Training Facility, the SPU Operations Control Center Upgrade, and Sound Transit Light Rail.

Technology: This program makes use of recent technological advances to increase the Department's efficiency and productivity. Drainage and Wastewater-supported technology projects are shown grouped with other technology projects following the Department's three CIP sections.

Anticipated Operating Expenses Associated with Capital Facilities Projects

For most projects in the Drainage and Wastewater CIP, there are no new 2005 operations and maintenance costs, or they have not been calculated (N/C). In these cases, the cost impacts of the project are either insignificant or are offset by cost savings realized by other projects.