

**APPENDIX K**  
**STORMWATER**

## **Introduction**

Historically, drainage issues in the City of Poulsbo have been addressed on a case-by-case basis. There was no comprehensive stormwater program to integrate day-to-day drainage-related decisions, projects with watershed management needs, and the necessary strategies for preserving and effectively utilizing the City's natural drainage system. Over time, this approach has resulted in development-related impacts to the natural drainage system, which includes localized flooding, erosion/sedimentation, water quality degradation, loss of habitat, and threats to the region's aquifers.

To comply with regulatory changes at the state level and local concern about the impacts to the local receiving waters of Liberty Bays, the City formed a stormwater utility in 1987. Funding from the stormwater utility, which originally levied \$5.00 per parcel, allowed the City to construct a few of the smaller priority capital projects and conduct a limited amount of annual maintenance. While initiating a stormwater utility was a positive step towards better managing stormwater, the funding generated was not sufficient to fund most of the necessary capital improvement projects.

## **Existing Conditions**

The elevation of the City of Poulsbo and its proposed UGA ranges from sea level to 440 feet above sea level. Due to this fluctuation in elevation and an average annual precipitation of about 37 inches, there are numerous opportunities for surface water runoff along impervious surfaces and into Liberty Bay or other water sources.

Therefore, stormwater facilities are a very necessary capital facility. Although their primary purpose is to transport unnecessary water from one area to another, they also serve to reduce the loss of land and property damage caused by drainage problems. They also protect the public from stormwater runoff and erosion originating on developing land and minimize adverse effects of alterations in groundwater quantities, location, and flow patterns.

The Storm Sewer Department of the City of Poulsbo Public Works Department maintains approximately 15 miles of enclosed storm sewer (stormwater) pipes within the system, several miles of open ditch drainage, six oil separators, and over 1,200 catch basins and detention systems. This department is also in charge of the installation of catch basins and storm drains as required.

Although the City regulates project-specific surface water through standards contained in the DOE and Kitsap County Stormwater Management Manual, the City realized it needed to develop a comprehensive citywide stormwater management plan to ensure site-specific runoff was handled appropriately off-site. In 1993, the City utilized a State Flood Control Assistance Program Grant to develop the City's first Comprehensive Stormwater Management Plan. This Plan analyzes the City's drainage and water quality problems. It recommends drainage enhancements that include capital improvements, an increase in maintenance activities, and a series of other non-structural activities to address the

impacts of the City's stormwater. These non-structural activities include enhanced enforcement and inspection, new development standards, public education, and water quality monitoring. The Plan also reviews potential future funding sources and presents estimated costs for improved surface and stormwater services throughout the City.

Recognizing the critical need to achieve regulatory compliance and establish local funding to address its stormwater problems, the City began the process to update its existing 1993 Stormwater Management Plan. Although the City's 1993 Stormwater Management Plan outlined what to do to manage stormwater, the City has been unable to implement many of the Plan's directives due to the lack of local funding. As a result, the City was unable to comply with some of the state's regulatory requirements for an effective stormwater program or actively participate in the regional programs to improve the water quality in Miller and Liberty Bays.

### **Identification of Deficiencies**

As mentioned above, the primary problem with the City's Stormwater Management Plan was the lack of adequate funding generated for plan implementation. Through the Comprehensive Surface Water Management Plan Update (November 1998) the City identified ways to address local and regional drainage problems, achieve regulatory compliance with the Puget Sound Water Quality Management Plan, and begin to implement the stormwater needs identified in the City's 1993 Stormwater Management Plan and the draft 1997 Liberty Bay and Miller Bay Watershed Action Plan. Through this update the City also identified a need to refine the City's existing stormwater utility rate structure to take into account each parcels amount of impervious area. This will make the assessment more equitable and generate the funds necessary to implement the Plan.

The City Council reviewed the proposed Comprehensive Stormwater Management Plan Update. Based on the number of capital projects identified as necessary to the City's effort to implement its plan and be compliant with state regulations, a rate increase justification was agreed upon.

### **Capital Improvement Projects**

As development occurs within the City and Poulsbo's UGA, storm and surface water runoff will increase. The City's Comprehensive Stormwater Management Plan considered the additional growth and development that is expected to occur within the UGA utilizing the population growth allocation by Kitsap County.

Through the process of updating its Comprehensive Stormwater Management Plan, the City identified a number of capital improvement projects that, when implemented, would address the deficiencies identified in the City's Comprehensive Stormwater Program Update.

The improvements will also add capacity to the City's existing system to accommodate the anticipated additional growth and development throughout the UGA. These capital

improvement projects are listed in Appendix L.

### **Summary**

By implementing the capital improvement program, continuing to adhere to the Kitsap County Stormwater Manual requirements and investigating and implementing where possible “low impact development” standards, the City will improve its ability to manage and mitigate the impacts associated with surface and stormwater that results from land development. The Plan was developed with the knowledge that the City may eventually be granted a UGA that extends beyond the City boundary; therefore, through plan implementation, storm and surface water runoff that results from development within the entire UGA will be managed appropriately.

As a final note, the City recognizes the advantage of keeping stormwater runoff from entering the Hood Canal Watershed and has therefore drawn the western UGA boundary in a manner to ensure future stormwater runoff from development within the UGA will remain in the Dogfish Creek Basin.