

CHAPTER 1

INTRODUCTION

GENERAL

This 2016 *Sanitary Sewer Comprehensive Plan* for the Lake Stevens Sewer District is a general update to the 2007 Plan, and addresses the District's comprehensive planning needs for wastewater collection, transmission, treatment, and disposal for the next 20 years. This Plan was prepared in accordance with the provisions of the Revised Code of Washington (RCW), Section 90.48, *Water Pollution Control*, Washington Administrative Code (WAC) Section 173-240-050, *General Sewer Plan*. Development of the Plan has been coordinated with the City of Lake Stevens and Snohomish County planning efforts and plans.

The Plan is intended to be feasible in terms of engineering, economic, regulatory, and political frameworks. Included in the Plan are planning level designs and cost estimates for recommended major improvements to facilities as well as proposed construction years and a financing plan. A State Environmental Policy Act (SEPA) checklist is provided in Appendix A. The projects described in the Plan are consistent with State regulations relating to the prevention and control of discharge of pollutants into State waters, anti-degradation of existing and future beneficial uses of ground waters, and anti-degradation of surface waters.

The District's 2007 Plan and 2010 Plan Amendment were prepared by Gray & Osborne, Inc., in coordination with the District Board of Commissioners and staff. That plan is the basis for this current planning effort and this report. CHS Engineers has used significant elements of the District's prior reports to develop this updated Plan. CHS Engineers has reviewed or prepared all information presented herein, except where specifically noted. Detailed references are presented at the end of this Plan.

The Lake Stevens Sewer District is located within Snohomish County in the state of Washington as shown in Figure 1-1.

SCOPE OF WORK

This Plan is organized as follows:

- **Summary and Recommendations:** This section is a general overview of the Plan including background, service and study area, population forecasts, existing system description and recommended improvements.
- **Chapter 1 – Introduction:** This chapter contains descriptions of the purpose and scope of the Plan and provides background information aimed at providing a perspective for the issues discussed in the Plan.

- Chapter 2 – Service and Study Areas Characterization: This chapter provides a brief history of the District and describes the physical characteristics of the Service and Additional Study Areas.
- Chapter 3 – Population and Land Use: This chapter defines the planning period, presents the land use policies of the City of Lake Stevens and Snohomish County, and provides current and projected population.
- Chapter 4 – Design and Planning Criteria: This chapter utilizes the population numbers generated in Chapter 3 and historical treatment plant records (daily monitoring reports – DMRs), water use records, and flow monitoring data to develop existing and future wastewater flows and loadings.
- Chapter 5 – Existing Sewer System: This chapter provides an inventory of the existing collection system, including lift stations, force main, and gravity mains, and a summary of the recently constructed wastewater treatment plant. Also included is a discussion of current interlocal agreements and moratoria.
- Chapter 6 – Collection System Evaluation: This chapter presents a discussion of the computer modeling for the sewer system and also the results of the modeling, and identifies system deficiencies.
- Chapter 7 – Capital Improvement Plan: This chapter summarizes the recommended sewer system capital improvement projects and implementation schedule of those projects.
- Chapter 8 – Operation and Maintenance: This chapter describes the activities and costs associated with the daily operation and maintenance of the sewer system.
- Chapter 9 – Financing Plan: This chapter provides an assessment of the financial status of the District, discusses available and potential revenue sources for the system improvements discussed in the previous chapters.
- Chapter 10 – Developer Project Standards: This section summarizes the process by which property owners and developers complete sewer developer extensions. Sewer design and construction standards are summarized and referenced.
- References: Summary of primary sources of information for development of this updated Plan.

- Appendices: Additional materials referenced in the Plan are included in several appendices, including SEPA documentation, interlocal agreements and other materials.

PROJECTS COMPLETED SINCE THE 2007 PLAN

Table 1-1 provides a list of completed District projects that were listed in the 2007 Plan.

TABLE 1-1
District Projects Completed Since 2007 Plan

Project Description	Year Completed
Treatment Plant	
New WWTF	2012
Lift Stations and Force Mains	
LS 20 Lift Station #20	2014
C2-A1 LS 17 Force Main Extension	2014
Gravity Sewer Mains	
VRD-A Vernon Road Diversion	2012
VRD-B Vernon Road Diversion	2012
G1-A Southwest Interceptor Ph I	2014
G1-B Southwest Interceptor Ph II	2014

RELATED PLANNING DOCUMENTS

The following documents were consulted in the preparation of this Sanitary Sewer Comprehensive Plan update.

GROWTH MANAGEMENT ACT (GMA) RELATED PLANS

City of Lake Stevens *Comprehensive Plan*, September 2015

The City of Lake Stevens *Comprehensive Plan*, which was prepared by the City of Lake Stevens Planning Department, was originally adopted in 1994 and amended annually thereafter. This document was developed to comply with the State's Growth Management Act (GMA), and is consistent with the planning policies of Snohomish County and neighboring jurisdictions. Land use, transportation, housing, parks, recreation and open space, cultural and historic resources, environmental resources, economic development, capital facilities and utilities, and an implementation element are all addressed in this document.

The City's *Comprehensive Plan* has been amended seven times, with the most recent amendment adopted in September, 2014.

In late 2006, the City completed a master plan for the Grade Road Planned Business District. This plan sets the stage for the future consolidation of the City's civic center, including City Hall, police and fire offices and new library, in the midst of multi-family residential development. There has been no public or private development activity in this area since completion of this plan.

The City has also prepared and adopted two subarea plans: one for the Lake Stevens Center area (a.k.a Frontier Village, SR204/SR9 intersection area) and 20th St. SE Corridor. Both subarea plans were adopted in 2012. A combined subarea capital facilities plan was also prepared and adopted by the City in 2012.

The City is preparing a subarea plan to support future long-range planning of the original Downtown Lake Stevens and immediate area. A detailed plan has not yet been prepared but the general concepts provided by City staff have been considered in the development of this Plan. Work on a plan for the downtown area was initiated in 2005 under the title Towncenter Concept Plan. That effort took place when the City was much smaller and in different economic conditions. The current downtown framework plan effort began in 2012 as a renewed and broader approach than represented in the previous plan. This framework will lead to a full subarea plan, following adoption of the City comprehensive plan update. The subarea plan is scheduled for completion in 2016 and will identify uses, development intensity, public improvements and development standards.

The City adopted its 2015-2035 *Comprehensive Plan* in September 2015. Development of this sewer system plan has taken into consideration information available from the City's update work in progress.

The City's 2015-2035 *Comprehensive Plan* includes numerous goals and policies. In the context of land use, and the need for public facilities to serve the projected land uses, the City plan includes goals and policies to support growth and development consistent with the County Comprehensive Plan and to coordinate land use decisions with capital improvement needs, in a fiscally responsible manner.

Snohomish County *GMA Comprehensive Plan General Policy Plan*, February 2006

The Snohomish County *GMA Comprehensive Plan* was prepared by the Snohomish County Planning Commission, and approved by the County Council in January 2006. This document includes all mandatory growth management elements including economic development and natural environment, as well as policies and projections on population and employment.

In 2013, the County adopted its *2012 Buildable Lands Report (BLR)*. This Report includes a *Supplemental Map Book*. The map book includes detailed analysis of then-current land status, zoning and future land use, critical areas and easements, additional housing unit capacity and additional employment capacity, for each urban growth area in the UGA. The BLR report was prepared by County staff in coordination with staff

from the many municipal jurisdictions throughout the County through the Snohomish County Tomorrow (SCT) process.

SCT is the process under which agencies in the County coordinate on state Growth Management Act issues. The 2012 BLR concludes that there is a net surplus of buildable capacity in urban growth areas (UGAs) County-wide and in the Lake Stevens UGA at year 2025, for population target identified in 2006.

The County publishes an annual *Growth Monitoring Report (GMR)*. The latest report is the 2013-2014 GMR dated October, 2014.

The County adopted growth targets, including targets for the Lake Stevens UGA, in June, 2015. This adoption is embodied in an updated Appendix D to the County *Comprehensive Plan*, effective July 2, 2015. The year 2035 targets are 46,380 persons, 17,311 housing units and 7,821 jobs.

Lake Stevens School District *Capital Facilities Plan*, August, 2014

This plan evaluates the District's existing and forecast enrollment population and existing and forecast capital facilities needs. The current plan considers the 20-year planning horizon through year 2035, with a detailed capital improvement plan for years 2014-2019. The Lake Stevens School District serves all of the City of Lake Stevens, some unincorporated areas of the County and a small area of the City of Marysville.

WASTEWATER SYSTEM PLANS AND REPORTS

Lake Stevens Sewer District *Sanitary Sewer System Comprehensive Plan*, Gray & Osborne, Inc., September 1998

The 1998 *Sanitary Sewer Comprehensive Plan* was a major update to the District's planning process, as the District had experienced rapid growth since the prior plan, in 1983. The 1998 Plan evaluated the existing wastewater collection and treatment facilities and provided a rate analysis to determine the affect on sewer rates based on the recommended Capital Improvement Plan (CIP). Recommendations from the 6-year CIP included interim improvements to the treatment plant, lift station and force main upgrades and new facilities, and gravity sewer main projects.

Amendment No. 1 Lake Stevens Sewer District Sanitary Sewer System Comprehensive Plan, Gray & Osborne, Inc., September 2002

The 2002 Amendment addressed three major issues. First, the land use proposals considered by Snohomish County since the adoption of the 1998 Plan required the District to review the timing and scope of the CIP. The second change was related to the completion of some projects by developers at the south end of the lake and the subsequent changes to the CIP. Third, it was determined that a new lift station, Lift

Station No. 15 was required in lieu of simply upgrading Lift Station No. 5. This new lift station was required to lift a moratorium on development north of the lake.

The recommended CIP for the 2002 Amendment was revised to reflect the updated analysis. Recommendations from the 6-year CIP included interim improvements to the treatment plant, lift station and force main upgrades and new facilities, and gravity sewer main projects.

Amendment No. 2 Lake Stevens Sewer District Sanitary Sewer System Comprehensive Plan, Gray & Osborne, Inc., November 2003

The 2003 Amendment addresses two specific issues, including recommendations from the wastewater treatment plant (WWTP) upgrade as described in the 2003 *Wastewater Facilities Plan* (draft, WFP); and a perceived need to provide sewer service to difficult-to-sewer areas within the District through District participation. The WFP generated flow projections based on 2006 Snohomish County land use policy adoptions. Amendment No. 2 updated the CIP with the major change recommended in the WFP to construct a new WWTP at an existing District-owned site approximately one mile south of the current facility. Recommendations from the 6-year CIP included a new treatment plant, lift station and force main upgrades, and gravity sewer main projects.

Amendment No. 3 Lake Stevens Sewer District Sanitary Sewer System Comprehensive Plan, Gray & Osborne, Inc., May 2005

The 2005 Amendment provided an update to the 1998 Plan to reflect the District's decision to construct the new treatment plant using the membrane bioreactor (MBR) process. This process is significantly different than the previously selected activated sludge process. In addition, since the 2003 Amendment, the District and the City of Lake Stevens had entered an Interlocal Agreement (ILA) in which the District assumed all sewer collection, treatment, and disposal operations within the District and the City. Recommendations from the 6-year CIP included approximately a new treatment plant, lift station and force main upgrades, and gravity sewer main projects.

Lake Stevens Sewer District Wastewater Facilities Plan, Gray & Osborne, Inc., September 2006

The 2006 *Wastewater Facilities Plan* (WFP) provided a long-term strategy, over a 20-year planning horizon, to manage the District's wastewater treatment and disposal systems. The WFP was based on growth assumptions and planning data from the 1998 Sanitary Sewer Comprehensive Plan, and included conceptual designs and cost estimates for major treatment plant facility improvements and a financing plan for those improvements.

Lake Stevens Sewer District Sanitary Sewer Comprehensive Plan, Gray & Osborne, Inc., October, 2007

The 2007 *Sanitary Sewer Comprehensive Plan* (SCP) provided a long-term strategy, over a 20-year planning horizon, to forecast flows and capital improvement needs for the District's wastewater treatment and disposal systems. The WFP was based on growth assumptions and planning data from the 1998 *Sanitary Sewer Comprehensive Plan*, updates per the 2006 WFP, and related updated analysis. The basis for the land use plans and population projections were the 2006 comprehensive plans for the City and County.

Amendment No. 1, Lake Stevens Sewer District Sanitary Sewer Comprehensive Plan, Gray & Osborne, Inc., July 2010

This amendment updated selected elements of the 2007 Plan, and included updates to the Capital Improvement Plan.

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