

SECTION 1 INTRODUCTION

1.1 INTRODUCTION

This report complies and summarizes the results and conclusions of planning and engineering studies undertaken by Penhallegon Associates Consulting Engineers, Inc. in developing this Comprehensive Sewer System Plan for the City of Sedro-Woolley. This Plan supercedes and updates the City's 1995 Comprehensive Wastewater Plan and has been prepared in accordance with the requirements of the State Department of Ecology and City requirements. Included herein are: Identification and description of the characteristics of the City; Description of the existing sanitary sewer system; A summary of the minimum design criteria used for development of the Plan; Identification of existing and anticipated system deficiencies under various planning horizons; Recommendations for system improvements; and, A schedule and financing plan for upgrading the sanitary sewer system to accommodate the existing and projected population and land use for the area.

1.2 AUTHORIZATION

Recognizing the need to update the 1995 Comprehensive Wastewater Plan, the City of Sedro-Woolley authorized Penhallegon Associates Consulting Engineers, Inc. by contract to prepare this document in accordance with all applicable requirements and regulations.

1.3 PURPOSE

The purpose of this study is to establish a comprehensive sewer system plan which provides for orderly growth of the City's sanitary sewer system facilities within its service area. The Plan is set forth to be in compliance with all applicable requirements of the Washington State Department of Ecology (DOE).

1.4 OBJECTIVES

The objectives of this Plan are as follows:

- Review and analyze existing data and reports concerning the existing sanitary sewer system;
- Make a detailed study of the existing sanitary sewer system facilities and determine the immediate and long term requirements for improvements to the sanitary sewer system;
- Coordinate the existing sanitary sewer system facilities consistent with land use designations;
- Develop minimum design criteria for present and future needs;

- Review previously accomplished hydraulic studies of the sewer system and perform additional computerized system modeling as required to verify the system capabilities;
- Develop recommendations for system upgrades based on current projections of future populations and anticipated growth patterns;
- Prepare a comprehensive Capital Facilities Plan for the present and future sanitary sewer system improvements;
- Prepare preliminary cost estimates and tentative schedules for needed improvements;
- Develop a financial plan for the implementation of the Capital Facilities Plan; and,
- Comply with all requirements of the State Environmental Policy Act (SEPA) and other regulations governing sewage collection, treatment and disposal.

1.5 LOCATION

The City of Sedro-Woolley is located in Skagit County, Washington, just east of the City of Burlington and along State Route 20, a major east west highway that spans the North Cascade Mountains east of Sedro-Woolley, as shown on Figure 1-1. The City is located along the Skagit River and consists of approximately 3.6 square miles of incorporated land.

1.6 AUTHORITY, MANAGEMENT AND CONDUCT OF BUSINESS

The City of Sedro-Woolley is authorized and granted certain powers under by the State of Washington under the Revised Code of Washington (RCW) Title 35 (Cities and Towns). It is under this authority that the City operates its public sanitary sewer system and other governmental services. The City operates under a mayor and a seven person City Council that is elected by the citizens of the City. The ordinances and policies of the Council establish the policies of the sanitary sewer system and govern connection to, and operation of, the system. Direct responsibility for the sanitary sewer collection system and treatment plant is the responsibility of the City's Public Works Director/City Engineer.

The Sewer Foreman has the overall responsibility of day to day operation of the treatment plant and collection system. The City employs a sewer system field staff of five permanent employees.

Engineering, legal counsel and financial support are provided by outside consultants selected by the City Council.

1.7 HISTORY OF THE CITY

The City of Sedro-Woolley was incorporated as a City on December 19, 1898. The incorporation was the result of the merger of the towns of Sedro and Woolley.

The original wastewater system in the City was installed in 1911 and consisted of vitrified clay pipe ranging in size from 8-inches to 18-inches. As the collection system grew, two main sewer interceptors were developed; the Third Street and Township Street Interceptors both bring wastewater south through the City to the wastewater treatment plant. Many of the extensions to the main interceptors and trunk lines exceeded 8-inches in diameter while the side sewer extensions in the residential areas of the City were primarily 8-inches or smaller. Concrete pipe was used exclusively for system extensions until the mid 1970s. Starting in the late 1970s, the use of PVC pipe began and was used at the northern end of the City off Township. The Third Street Interceptor is as large as 30-inches in diameter and is the largest main in the system.

The City's wastewater treatment plant is located in the southern part of the City, just north of the Skagit River. The plant provides secondary treatment using conventional activated sludge consisting of an oxidation ditch with secondary clarifiers. Influent grit and screenings removal preceded the secondary treatment process and UV disinfection is provided prior to effluent discharge to the Skagit River via a 24-inch outfall. Byproduct waste generated by the treatment process, such as sludge, is stored in two digesters before being trucked off-site to be used in environmentally sound ways.

1.8 RULES AND REGULATIONS

The City operates the sanitary sewer collection system and wastewater treatment plant under a variety of rules and regulations, some of which are listed below. More detailed discussions of the specific regulations which affect various facets of the City's operation can be found in the appropriate sections of this Plan.

1.8.1 Federal Requirements

The City of Sedro-Woolley must operate within the regulations and requirements established by the federal government, as applicable, including the Federal Water Pollution Control Act (Clean Water Act), U.S. Army Corps of Engineers Permit requirements, the Endangered Species Act (ESA), and Capacity, management, Operations and Maintenance Regulations (CMOM).

1.8.1.1 Clean Water Act

The Clean Water Act puts forth regulations and requirements for restoration and maintenance of the integrity of the nation's waters in terms of physical, chemical and biological characteristics. The U.S. Environmental Protection Agency (EPA) is the primary administrator of the Clean Water Act but has delegated many

aspects of administration of the Act to the State of Washington Department of Ecology (DOE), including: the National Pollution Discharge Elimination System (NPDES) permit program; Biosolids regulations (40 CFR 503); and Pretreatment Regulations (40 CFR 503). Additional discussion on NPDES permit for the City is presented later in this Section.

1.8.1.2 U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers has jurisdiction over waterways and wetlands of the United States. As such, any modifications to a treatment plant outfall or construction of facilities in the vicinity of wetlands or navigable waters may require a permit from the Corps of Engineers.

1.8.1.3 Endangered Species Act

Because of the listing of the Puget Sound Chinook Salmon and Bull Trout as a “threatened species”, rules and regulations under the authority of the Endangered Species Act (ESA) will effect collection sewer system and treatment plant operations. Because the City operates a wastewater treatment plant and is responsible for the disposal of treated effluent and waste, compliance issues relating to treatment and disposal are managed and enforced by the City in accordance with the “4d” rule.

In addition, the “4d” rule may impact operation and maintenance activities. The City is responsible for assessing any and all activities that may affect anadromous fish or reduce their habitat or affect stream levels and the rate or volume of water discharge into open waters. As part of its ESA compliance program, the City is prepared to retain qualified consultants (on its own or through associations and organizations to which it belongs) to train selected staff as Best Management Practices (BMP) compliance officers, who would monitor all projects for ESA compliance.

1.8.1.4 Capacity, Management, Operations and Maintenance

Capacity, Management, Operations, and Maintenance (CMOM) Regulations are anticipated in the future as part of the Environmental Protection Agency’s Sanitary Sewer Overflow (SSO) Rule under the National Pollution Discharge Elimination System (NPDES) policy. CMOM will require sanitary sewer collection system owners to develop a program to address and reduce sanitary sewer overflows.

1.8.2 State of Washington Requirements

The City of Sedro-Woolley operates its sewer system under the general rules and

regulations put forth in Title 35 (Cities and Towns). Title 35.67 (Sewerage Systems – Refuse Collection and Disposal) establishes a variety of regulations for sewer operation and specifically addresses requirements for detailed comprehensive planning for the system. Additional requirements for various aspects of sewer operation in a means consistent with the protection of the health and safety of the environment and the general public are found throughout the laws of the State of Washington. A summary of key regulations that apply to the City of Sedro-Woolley is as follows.

1.8.2.1 Department of Ecology (DOE) Regulations

Approval of this document and operation of the sanitary sewer system is under the jurisdiction of the State Department of Ecology (DOE). This document has therefore been prepared, and the City is operated, in accordance with the requirements set forth in the DOE's "Criteria for Sewage Works Design" (December 1998), which incorporates the policies, guidelines and practices of the State Department of Ecology and identifies the minimum engineering requirements for design, construction and operation of a public sanitary sewer system.

The State Department of Ecology administers a variety of regulatory requirements which have a direct impact on operation of public sanitary sewer collection and treatment facilities including the following:

- Surface water quality regulations as put forth in WAC 173-201A
- National Pollutant Discharge Elimination System (NPDES) permit administration and enforcement as authorized in WAC 173-220 and 221.
- Contract document review as authorized by WAC 173-240.
- Shoreline management permit administration in accordance with WAC 173-27.

1.8.2.2 State Environmental Policy Act (SEPA)

SEPA review is a requirement for many of the City's capital improvement projects in order to insure that environmental concerns associated with construction are adequately addressed. Initiation of the SEPA process can be at the City's direction or as required for various permits. SEPA requirements and guidelines are presented in WAC 197-11.

1.8.2.3 Growth Management Act

The Growth Management Act (GMA) has a direct impact on utility system planning as it requires a complete inventory of existing facilities and a

comprehensive effort toward the capability of existing systems to accommodate future growth. This Plan has been developed consistent with County-wide and local Growth Management Act planning.

1.8.3 City Requirements

This Plan has been developed in accordance with a variety of plans, policies and regulations put forth by the City of Sedro-Woolley. A summary of the specific policies impacting sanitary sewer service are presented in Section 2 of this Plan.

1.9 RELATED PLANNING STUDIES

Recent planning and engineering studies which have been considered in the development of this Plan are listed below. These documents were used to insure consistency with existing regional and local planning efforts and previous studies performed on the sanitary sewer collection and wastewater treatment plant.

- **City of Sedro- Woolley Comprehensive Plan and Development Regulations, September 1998.** This document puts forth the plans and policies currently guiding City decisions on growth, land use, and public facilities and services.
- **City of Sedro-Woolley Public Works and Development Standards.** These are the City's current standards.
- **Comprehensive Wastewater Plan for City of Sedro-Woolley, June 1995, by Barrett Consulting Group.** This is the City's current planning document related to the sewer system.
- **Engineering Report for Wastewater Treatment Plan Upgrade, January 1996, by Brown and Caldwell.** This report documents the latest upgrades to the wastewater treatment plant.
- **Contract Documents for the Wastewater Treatment Plant Upgrade, March 1998, by Earthtech.** These documents further describe the latest upgrades to the wastewater treatment plant.