

**CITY OF PHILOMATH  
Water System Master Plan,  
Philomath, Oregon**

---

Section 1

**INTRODUCTION**

---

## SECTION 1 INTRODUCTION

### 1.1. Background & Need

The City of Philomath is located on Highway 20 approximately five miles west of Corvallis in Benton County, Oregon. The current population of Philomath is approximately 4,100. The City was founded in 1882. The past economic activity in Philomath has centered around the forest products industries. With the decline of the forest products industries in western Oregon, the future prosperity of Philomath appears to be tied to diversified light industries together with a growing residential community. Many Philomath residents work in Corvallis and other nearby communities. The City is bisected east to west by the Corvallis-Newport Highway 22/34, while the Marys River is located just south of town.

The City of Philomath owns, operates and maintains the water utility serving the community. The City uses the Marys River as its primary water source with groundwater as a backup source. Under typical operations, water is withdrawn from the Marys River, treated at the Water Treatment Plant (WTP) and pumped into the distribution system. A single 1.25 MG concrete reservoir provides storage for the community. The City's distribution system contains a variety of pipe types. Since the mid 1980's, the City has standardized on ductile iron pipe as the material of choice.

The City adopted the existing planning document in 1984. This document outlined the recommended improvements to the water system including the construction of a new water treatment plant using the Marys River as the water source. Major water system improvements were constructed in 1985. These improvements included the existing Water Treatment Plant, a water booster pump station and distribution system improvements. The City's 1.25 MG reservoir was constructed in 1993 and continues to serve as the City's reservoir. With construction of the 1.25 MG reservoir at a higher overflow elevation, the City's booster pump station and original 0.5 MG reservoir were removed from service. In 1995, the "CT" Improvement Project was constructed. These improvements provide the required contact time per the Health Division requirements between the treatment plant and the nearest water system user. During the past decade, the City and private developers have constructed additions and improvements to the distribution system. Residential development on Neabeack Hill and in the hills on the West Side of the City has occurred above the elevation that can be adequately served by the main service level. As such, pump stations were constructed to serve these areas. Though these areas are on opposite sides of the City, they are at generally at the same elevation and are therefore considered to be two service areas within the upper service level. With the construction of these stations, the water system now operates on two service levels. Pressure in the main service level is maintained by the water level in the City's 1.25 MG reservoir. Pressure in the upper service level is maintained by the pump stations. Within the past few years, the City has also upgraded the control system at the WTP to reflect current technology. The City's former intertie with the City of Corvallis' water system is no longer in use, but should be considered an emergency supply

source. Using the intertie on an emergency basis is discussed in greater detail in **Section 4.2.4.**

Some of the reasons for the preparation of a new master plan at this time include the following:

- The existing Water System Analysis is now 20 years old. The typical life and planning horizon for a master planning document is 20 years. As such the existing document is nearing the end of its useful life.
- The existing population of the City is now about 4,100. The design year population in the 1984 document was 4,488 in the year 2005. The community is now approaching the design year population of the Water System Analysis. Planning for the future and beyond a design year population of 4,488 is prudent.
- Construction, operation and replacement costs for water system components have increased very significantly since 1985 when the WTP and associated improvements were constructed. It is appropriate to have a more current master planning document which lists recommended improvements together with the estimated costs of construction. The recommended projects and their associated costs can then be included in a capital improvement plan that serves as a basis to help determine the appropriate system development charges (SDC) for the utility. Note that the preparation of a new Master Plan will include a listing of recommended projects together with costs. However, comprehensive SDC user fee studies are not part of the Master Plan. Upon adoption of this plan, the City should perform an analysis of its SDC and user fees and make changes accordingly to ensure that funding is in place for the recommended improvements. The SDC and user fee analysis may be performed by City staff or by an outside consultant. Most Cities of the size of Philomath typically contract with consultants to perform this work.
- The Master Plan will allow the City to review its key assumptions regarding growth within the community. Eighteen years ago, the City made a conscious decision that commercial and industrial growth in the community should be limited to essentially “dry” industries. Preparation of the Master Plan will allow a venue to revisit the basic decision.
- User fees for water systems have increased with more stringent environmental conditions and rising construction and operation costs. The Master Plan will provide a recommended project listing with estimated construction costs. This cost data may be of use to the City to help determine if the present user fee system is appropriate.
- The City’s current development standards require findings that adequate capacity is available in the utility systems prior to development occurring. Without a current water system master plan that identifies improvements required with a schedule guiding their construction, implementation of these policies is difficult.

## **1.2. Project Objectives**

The purpose of this study is to evaluate the City's water system with respect to its existing and future needs, identify improvements and associated costs necessary to meet those needs, and provide the City with a design guide for future growth of the City's water system. It is intended that the information contained herein assist the City in the planning and implementation of capital improvements to the water system, as well as ongoing system maintenance.

This evaluation and master plan accomplishes the following specific objectives.

- Map the existing water system based on field data collection and as-built drawings.
- Inspect existing facilities and identify current and future water system deficiencies on a prioritized basis, particularly in the following areas:
  - Water Supply Quality and Adequacy
  - Water Treatment Plant Condition and Capacity
  - Transmission and Distribution System Condition and Capacity
  - Water Storage Reservoir Condition and Capacity
  - Maintenance considerations
- Provide an evaluation of the options for correcting these deficiencies with preliminary construction cost estimates for recommended alternatives.
- Provides the City with a Water System Master Plan which addresses concerns of both the City and regulating authorities.
- Provide specific recommendations to the community and City Council for action.

This report does not include a wetland inventory or delineation(s), topographic or aerial surveys, on-site environmental investigations or geotechnical investigations.

## **1.3. Prior Studies and Work**

The following is a summary of some of the studies, reports and documents utilized in the preparation of this master plan.

- Water System Analysis, Philomath , Oregon by Westech Engineering, Inc., December 1984.

- Water System Improvements Design Report, Philomath, Oregon by Westech Engineering, Inc., January 1985
- Water Treatment Plant "CT" Analysis, Philomath , Oregon by Westech Engineering, Inc., January 1992.
- Draft Sewer System Facilities Plan, Philomath, Oregon by Westech Engineering, Inc., May 2003.
- Sewer System Facilities Plan, Philomath, Oregon by Westech Engineering, Inc., April 1985.
- N. Philomath Water & Sewer Study Update, Philomath, Oregon by Westech Engineering, Inc., August 1993.
- Engineer's Report, Hartz Industrial Site Public Infrastructure Improvements, Philomath, Oregon by Westech Engineering, Inc., December 1996.
- Storm Drainage System Master Plan, Philomath, Oregon by Westech Engineering, Inc., March 1998.
- Local Wetlands Inventory for the City of Philomath, for City of Philomath, Oregon by SRI/Shapiro, Inc., August 1996 (Draft).
- Mill Site Conversion Project, Conceptual Development Plan for Willamette Industries Mill Site, for Rural Development Initiatives, Inc. by KCM, Inc., November 1995.
- Topographic Aerial Maps, City of Philomath, Oregon. Panels 332/1256, 332/1259 & 330/1259, April 1989, 330/1256, April 1975.
- Flood Insurance Study, City of Philomath, Benton County, Oregon, by Federal Emergency Management Agency, December 1981.
- Flood Insurance Study, Benton County, Oregon, Unincorporated Areas, by Federal Emergency Management Agency, August 1986.
- Philomath Comprehensive Plan. Adopted March 30, 1983.
- Soil Survey of Benton County Area, Oregon, by USDA Soil Conservation Service, July 1987.
- Geologic Hazards of Eastern Benton County, Oregon, by State of Oregon Department of Geology and Mineral Industries, 1979.

#### **1.4. Authorization**

In June of 2002, the City of Philomath authorized Westech Engineering to prepare a Water Master Plan.