

SECTION I

SECTION I – DESCRIPTION OF WATER SYSTEM

INTRODUCTION

The City of Woodland has prepared this Water System Plan (WSP) for the purpose of identifying capital improvements, operational programs and financial guidelines for the next six and twenty year planning periods. The WSP is intended to meet the regulatory requirements of Chapter 246-290 of the Washington Administrative Code (WAC), specifically WAC 246-290-100.

OWNERSHIP AND MANAGEMENT

The water system (Washington State Department of Health (DOH) ID #98200 2) is owned and operated by the City of Woodland. The Water Facility Inventory (WFI) form can be found in Appendix A. The City was incorporated in 1906. Woodland is a Code City operated under a Mayor-Council form of government in accordance with RCW 35A.12. The Mayor has the responsibility of appointing the Public Works Director, who is responsible for utility operation and maintenance. The City Council meets twice a month and is responsible for enacting policies that govern the operations of the City. Responsible parties involved with the water system are as follows:

Title	Name	Water System Responsibility
Mayor	Grover Laseke	Personnel/Policy Implementation
City Council	John J. Burke Al Swindell Marilee McCall Benjamin Fredricks Susan Humbyrd Scott Perry Marshall Allen	General Policy General Policy General Policy General Policy General Policy General Policy General Policy
Clerk-Treasurer	Mari E. Ripp	General Policy
City Attorney	William Eling	Policy Support
Public Works	Bart Stepp, PE	Policy Implementation/Operation
WTP Superintendent	Robert Choate, WTPO3, WDM3	Plant Operations
Utility Service Worker	Mike Peterson, WTPO2, WDM3	Distribution System Operations

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SYSTEM BACKGROUND

The City is located along Interstate 5 within both Cowlitz and Clark counties. A vicinity map is shown in Figure I-1. Water system history is discussed in previous planning documents referenced below. A detailed discussion of water system components and related analysis is presented in Section III.

PREVIOUS ENGINEERING AND PLANNING DOCUMENTS

Documents utilized in the preparation of this WSP are summarized below:

City of Woodland Water System Plan – June 2006, Gibbs & Olson. This document is the last version of the City's Water System Plan (WSP). The 2006 WSP utilized a 3.5% growth rate based on the city's Urban Growth Management Program adopted in 2002. The plan identified a future population of 8,438 people for 2026 with a Maximum Day Demand (MDD) of 3.5 MGD and a Peak Hour Demand (PHD) of 3,901 gpm (5.6 MGD). The major improvement to the water system since 2006 consists of a third filter at the plant and three new pumps with variable frequency drives at the Ranney Well.

City of Woodland Water Treatment Plant Pre-Design Report – December 1997, Gibbs & Olson. This document amended the 1995 WSP water demand estimates. The Pre-design report utilized a 2.9% growth rate based on the 1995 WSP and supporting production data. The pre-design report identified an MDD of 1.93 MGD for 2002 and 2.89 MGD in 2016. PHD was not re-evaluated since the report focused on the source production facilities.

City of Woodland Comprehensive Plan Update – October 2005, Cowlitz-Wahkiakum COG. The City of Woodland Comprehensive Plan (WCP) is in conformance with the Growth Management Act (GMA) and is acknowledged by Clark County in the Clark County Comprehensive Plan. Cowlitz County is not required to plan under GMA. The long term average annual population growth rate in the City Comprehensive Plan is 3.5%.



WOODLAND WATER SYSTEM
 Vicinity Map
 Figure I-1



SERVICE AREA CHARACTERISTICS

The service area is defined as the Urban Growth Area (UGA) boundary established in the current comprehensive plan. A map of the service area and land use zoning map is shown in Figure I-2. Typically, drinking water service is defined as both urban and rural. Therefore, the City can provide service outside of the UGA as long as the service is consistent with GMA.

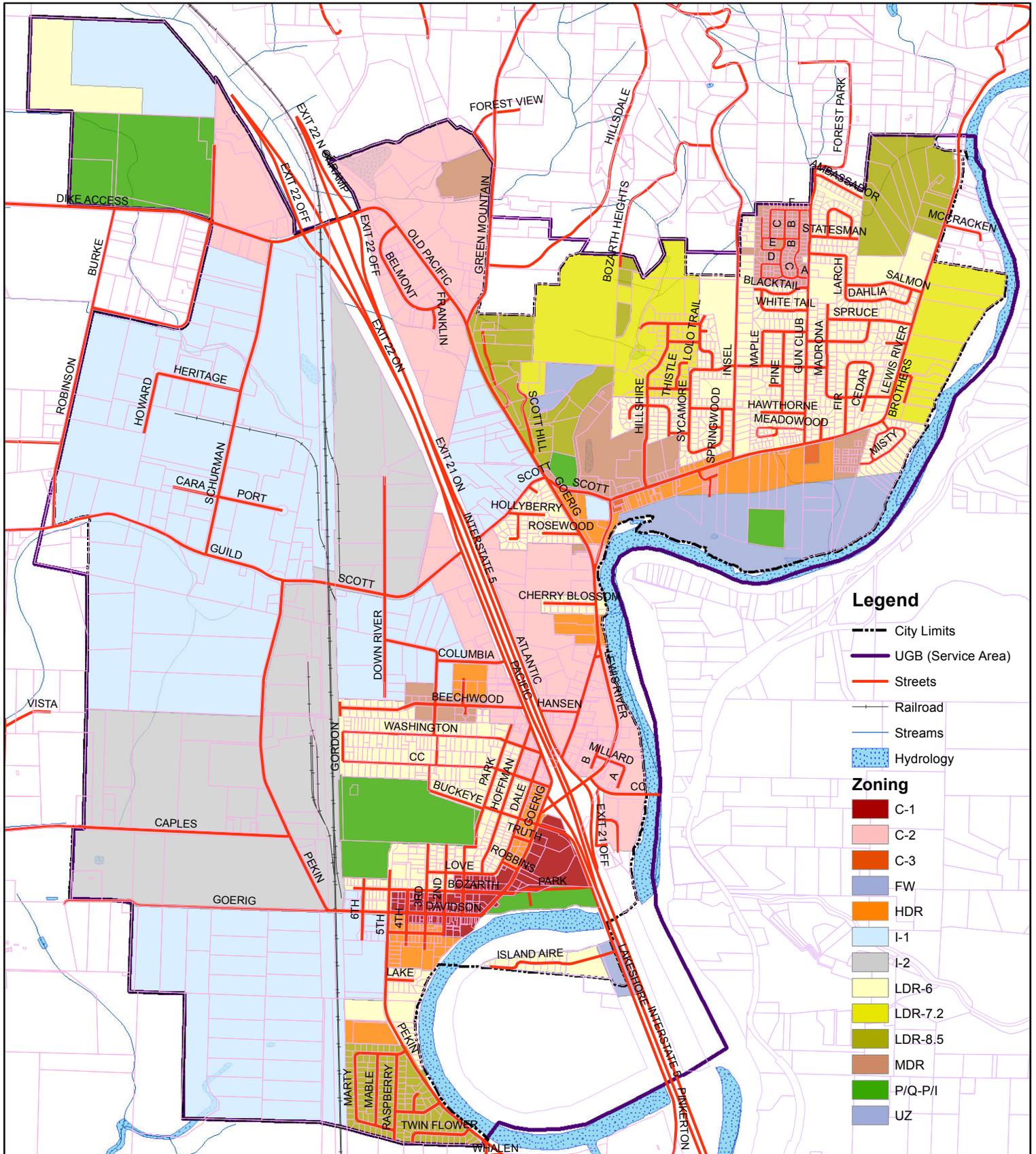
Adjacent Public Water Systems

There are no known adjacent public water systems within the UGA. There are several small water systems within one mile of the UGA based on a review of DOH records. In addition, there are numerous private wells around the service area that experience elevated arsenic levels. The City will consider service to water systems and individual properties outside the UGA on a case-by-case basis to address public health issues, but cannot serve new development outside of the UGA.



FIGURE I-2 Service Area and Zoning Map

Current as of Ordinance No. 1205 - Effective January 3, 2011



Disclaimer: The City of Woodland, WA, assumes no legal liability or responsibility for accuracy and completeness of this map. This map is to be used as a reference tool only. It is not a survey and the property and lines are not to be construed as being accurate.



SERVICE AREA POLICIES AND CONDITIONS OF SERVICE

The City, as owner and operator of the water system, has the authority to set policy and rates for the system. All policies are reviewed and approved by the City Council. Policies and conditions of service allow the City Council to deal with customers on a fair and consistent basis and are developed in the form of codes, resolutions, ordinances, standards or comprehensive plans adopted by the City Council. Where not specifically addressed in these documents, standard operating procedures are outlined in this WSP. Typical policies and conditions of service for water system operations, which must be addressed in accordance with DOH planning requirements, are summarized below. Water regulations are addressed in City of Woodland Municipal Code (WMC) Section 13.04. The WMC is available on the internet at <http://www.ci.woodland.wa.us>. Applicable sections of codes and ordinances are provided in Appendix A. Construction standards and rate ordinances are provided in appendix G and H of this WSP.

Policies

- Annexation Policy: New water customers outside City limits must commit to annexation prior to service per WMC 13.16.010. Property outside of the UGA cannot be served unless there is a public health issue.
- Cross-Connection Control Program: A Cross-Connection Control Program is required by regulation (WAC 246-290-490) to reduce the potential for system contamination through backflow from potential contaminant sources. The Cross-Connection Control Program is defined in WMC 13.28 and is addressed in Section VI of this WSP. In addition, WMC 13.04.130 and WMC 13.04.140 state that unauthorized connections to or tampering with the water system shall be prosecuted as a misdemeanor.
- Direct Connection Policy: New development requires direct connection to the water system through separate service connections (WMC 13.04.040B).
- Private or Public Wells: No new water systems or private domestic wells will be allowed within the City limits unless approved by the City Council. Approval will need to be based on extreme circumstances since the existing water distribution system is readily available to most properties within the City limits.

Customers with existing wells (used for irrigation or other purposes) shall have an approved backflow prevention device at the meter consistent with the City's Cross-Connection Control Program.

- Design and Performance Standards Policy: Recommendations of this plan will follow the DOH Water System Design Manual. Distribution improvements are to be designed in accordance with the policies and standards identified in Section VII.
- Formation of Local Improvement District: The City will allow an applicant to propose formation of an LID to pay for system upgrades. The City requires at least 75% participation through signed covenants prior to moving forward with an LID (WMC 13.16.010). The initial costs for an LID feasibility study is borne by the applicant or rolled into LID costs but in no case is the cost the responsibility of the City. The City will provide an initial construction cost estimate for the proposed project and other technical assistance as needed. Once LID formation is shown to be feasible, the City will take the lead roll to ensure proper formation of an LID.
- Late-comer Agreements: WMC 13.04.280 allows the City to be reimbursed through latecomer fees for City utility extensions across undeveloped property. The fees are assessed at the time application is made for new service. The City will also allow the use of Late-Comer Agreements with developers to help recover up to 50 percent of the water main extension which directly fronts other properties. All costs for the agreement and construction across the subject property shall be borne by applicant/property owner. All agreements will be case specific and subject to City Attorney review and approval. Late-comer agreements may be denied if projected future administrative costs exceed the potential benefit to water system customers.
- Individual Booster Pumps: Where operating pressure of the water main is below 30-psi, WAC 246-290-230(8) requires the City to own and operate individual booster pumps on an interim basis until such a time that operating pressures can be brought into compliance.

Properties within new developments or existing properties without existing water main frontage can utilize individual booster pumps if the new distribution main along the frontage of the property is designed to provide 30-psi at Peak Hour Demand. In this case, the property owner shall be

responsible for all costs of the booster pump system and shall be required to install a backflow prevention device on the private side of the service meter. The backflow device must then be tested on an annual basis in accordance with the City's Cross Connection Control Program.

- Oversizing: The developer/property owner requiring an extension is required to fund the design and construction of extensions to meet minimum water main size and or the water main size established in the Capital Improvement Program (if applicable). The City will pay for oversizing of water mains if specifically requested by the City in order to meet future planning goals for an area. The City contribution shall be for the cost difference in materials plus 50% of the difference in material costs to account for additional labor and materials.
- Remote System Policy: It is unlikely the City will own and operate remote water systems within or adjacent to the service area. Decisions regarding this issue will be made on a case-by-case basis by staff and City Council. If the City decides to own and operate a remote system, the system will need to be designed and constructed to meet both DOH and City standards. Construction costs specific to the system will be the responsibility of the developer or property owner. Operation and maintenance costs will be based on the actual costs incurred, but in no case will rates for remote systems be less than those for other City customers.
- Surcharge for Outside Customers: The City's current rate structure includes a 150% higher water rate for customers outside the corporate limits of the City (WMC 13.04.210). The surcharge is based on the additional costs associated with service to outside areas.
- Undersized Main Replacement Policy: If a City owned water main is identified as deficient (through modeling or flow tests), the City assumes responsibility for upsizing the main to the minimum size of a looped 6-inch or 8-inch dead end main. The prioritization of undersized main replacement projects are set in the WSP Capital Improvement Program (CIP) and shall be based upon overall benefit to City customers as well as level of inadequacy of the flow condition. Basic regulatory compliance shall be a higher priority than meeting minimum fire flow goals. Should the City not be able to replace an undersized main in a time frame to meet service conditions for proposed development, the development applicant can upgrade the main, but at no cost to the City.

- Water Wheeling: Water wheeling is the practice of selling or buying water to or from a water system by using the piping network of a third water system. There is no potential for water wheeling within the next 6-year planning period.

Conditions of Service

Conditions of service are established in various sections of the WMC. The City will provide water of sufficient quantity and quality as required by the Department of Health (DOH) and Environmental Protection Agency (EPA). Other obligations to DOH, as required of water purveyors, are the responsibilities of the City. Ownership and operation and maintenance shall be the City's responsibility with reimbursement through customer rates. All rates paid for water service shall be placed into the Water Account and shall be used solely for the Water Utility.

The City will make every effort to provide service to all customers within the service area as it pertains to source of supply, storage and distribution. The City's responsibility does not include main extensions or pump stations to serve new customers unless the work is incidental to improvements required for existing customers. Planning criteria for future improvements shall be a minimum design pressure of 30 psi and a minimum operating pressure of 20 psi under peak hour demands in accordance with applicable regulations.

Customers shall comply with codes, resolutions and ordinances as adopted by City Council. Property owners requesting water service shall follow the City water service application process. Connection fees shall be set by the City and paid prior to construction of any water related facilities.

- Water Main Extensions: Conditions for design and construction of main extensions and related improvements for development are addressed in general in the WMC and in detail in City standards described in Section VII. Extensions to the water system are the responsibility of the developer. Billing and conditions of service will be per the most current resolution. Properties requesting service which do not currently have complete water line frontage will be required to extend existing mains across the entire frontage of property. Frontage shall be at the discretion of the Public Works Department and will be selected to encourage looping and/or access for future extensions. All extensions shall become property of the City following construction approval by the City and shall include associated easements

and right-of-ways. Exceptions will be granted only if the property lies within minimum distance for fire protection and in the opinion of the Public Works Director, the line will not be extended to provide future service beyond the applicant's property.

- New Services to Properties with Existing Water Mains: No main extension or upgrade to the system is required for existing platted properties with existing water line frontage requesting one service connection (subject to limitations if the service operating pressure is less than 20-psi or if the service line will exceed 150-feet). WMC 13.04.080 allows for connection to existing small diameter mains at the discretion of the Public Works Director and requires that the service conditions meet DOH requirements. If adequate service conditions cannot be met, the applicant will be required to upgrade the existing water main prior to service.

Main extensions or upgrades may be required for sub-division of properties with existing water main frontage. Specific requirements for these properties will be based on compliance with minimum design criteria with regard to configuration of the proposed plat.

CONSISTENCY WITH CLARK AND COWLITZ PLANNING AGENCIES

Copies of the WSP were sent to both the Clark and Cowlitz County Planning Agencies as the City of Woodland is located within both counties with requests to confirm the WSP is consistent with the comprehensive plans of both counties.

CONSISTENCY WITH DEPARTMENT OF ECOLOGY

This WSP is consistent with Department of Ecology Lewis River Watershed Plans.