

CHAPTER 1

DESCRIPTION OF WATER SYSTEM

1.1 OWNERSHIP AND MANAGEMENT

Water System Ownership

The City of Selah, a municipal corporation located within the northern part of Yakima County as shown on Figure 1-1 - State Vicinity Map, owns and operates its own water system. Decisions regarding daily water system operations are made by the Water System Manager and the Public Works Director. Financial decisions regarding major water system improvements and establishment of water rates are made by the Selah City Council. The following parties are involved in the operation, maintenance, and planning for the Selah water production, storage and distribution facilities:

WATER SYSTEM NAME, OWNER, OPERATOR, AND IDENTIFICATION NUMBER:

City of Selah Water System
City of Selah
115 West Naches Avenue
Selah, WA 98942
Phone: (509) 698-7326

Mayor: Bob Jones
City Supervisor: Frank Sweet
Public Works Director: Joe Henne
Water System Manager: Ty Jones
Water System Identification Number: 774006

WATER SYSTEM CONSULTING ENGINEER:

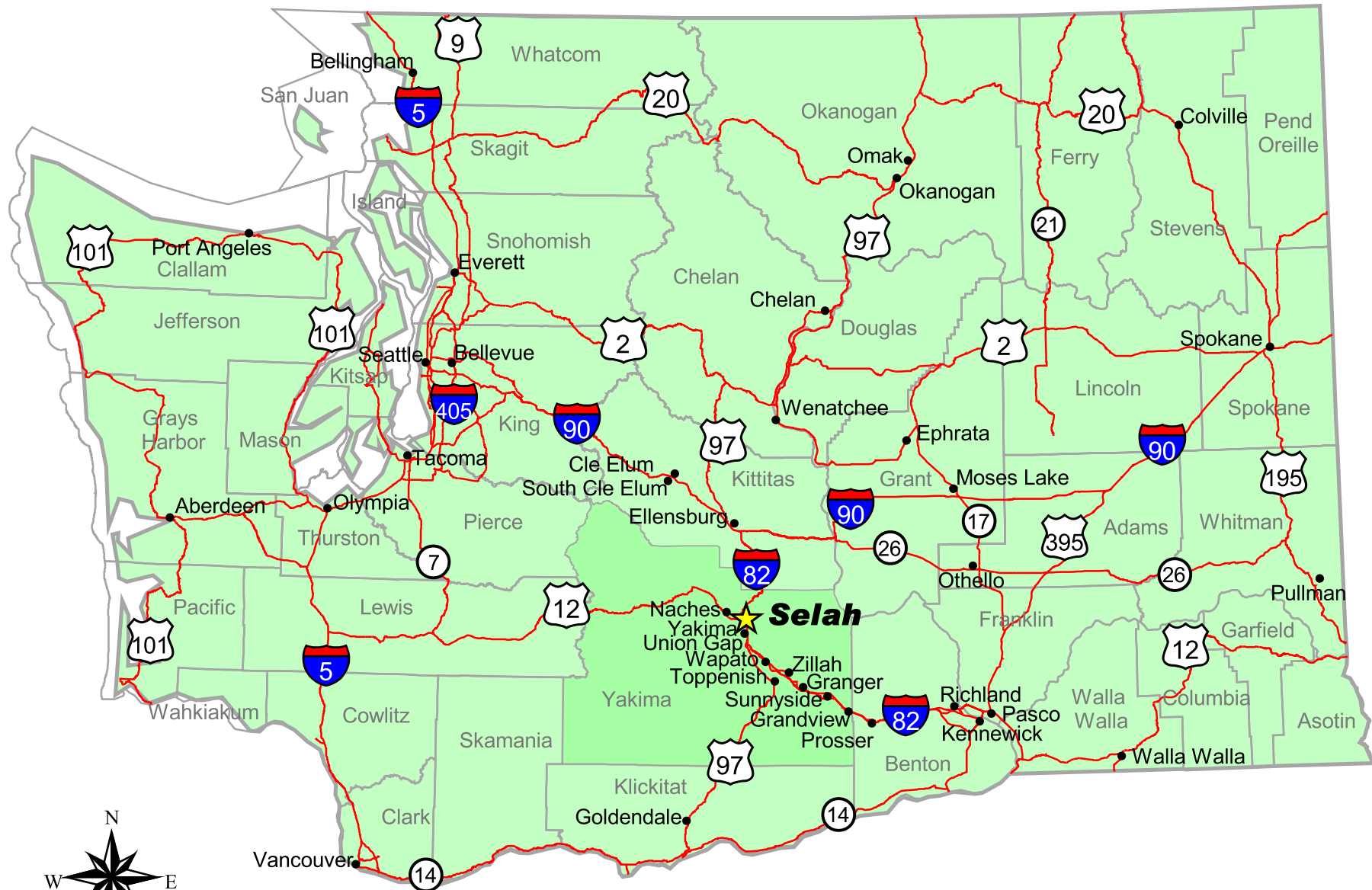
Huibregtse, Louman Associates, Inc.
801 North 39th Avenue
Yakima, WA 98902
Phone: (509) 966-7000
Project Engineer: Jeffery T. Louman, PE

A description of the City's water system management structure is presented in Chapter 6 of this Plan. A copy of the City's Water Facility Inventory (WFI) form is included in the Miscellaneous Documents Chapter (Chapter 10) of this Plan.

1.2 SYSTEM BACKGROUND

History of Water System Development and Growth

Table 1-1 provides some information as to the development of Selah's water system



Washington State Vicinity Map

Figure 1-1

TABLE 1-1 MAJOR WATER SYSTEM IMPROVEMENTS	
Year	Improvement Description
1938	North Reservoir constructed
1944	Well No. 3 constructed
1947	Well No. 4 constructed
1951	Well No. 5 constructed
1951-2	Wells No. 1 and No. 2 abandoned
1951-2	Palm Park Reservoir constructed
1960	Well No. 6 constructed
1967	Brader Hill Reservoir, Transmission Main, and Booster Station constructed
1974	Sunrise Addition Booster Pump installed
1978	Goodlander Reservoir, Transmission Main, and Booster Station constructed
1985	Goodlander and Pleasant Hills Reservoirs Transmission Main Intertie constructed
1985	Goodlander Heights Booster Pump installed
1987	Telemetry System installed
1993	Wells No. 3 and No. 4 rehabilitated
1994	Goodlander Road, Speyers Road, and Orchard Avenue Water Main improvements
1994	Well No. 7 and Pumphouse constructed
1997	Yakima Avenue and Alley west of 3 rd Street and south of Fremont Avenue Water Main improvements
1998	Pressure Reducing Valve improvements
1998	Orchard Avenue Water Main improvements
1998	10 th Street Water Main Improvements
1999	North Wenas Road, Cherry Avenue, Sage Avenue, and Carlon Park Water improvements
2001	New Telemetry System installed which automatically controls pump and reservoir operation.
2003	2,200 feet of 12-inch water main installed from Crestview Drive to McGonagle Road
2004	New 12-inch water main serving Yakama Juice constructed
2005	500 GPM Zone 6 Booster Station and Transmission Main constructed
2005	1.2 Million Gallon Zone 6 Steel Reservoir constructed

Selah's first Comprehensive Water Plan (CWP), completed in 1971, provided the City with an in-depth look at its water system, deficiencies, and potential growth. In 1987, an update of the 1971 CWP was begun, but was not finalized until 1994. Since completion of the 1994 CWP, the City completed its Growth Management Act Comprehensive Plan (October 1997), and added a major new source of supply (Well No. 7). Selah completed an update of the 1994 CWP in 2000, and completed revisions to its Growth Management Act Comprehensive Plan in January 2005. This 2007 Comprehensive Water Plan is intended to update the 2000 CWP.

A summary of the growth of Selah's water system is provided in Table 1-2.

TABLE 1-2 WATER SYSTEM GROWTH SUMMARY						
	Year 1970	Year 1986	Year 1990	Year 1997	Year 2005	Percent Increase 1970-2005
Population	3,311	4,769*	5,113	5,730*	6,740*	103.6%
Total Water Services	1,125	1,537	1,571	1,886	2,220	97.3%
Total Yearly Consumption	394 MG	658 MG	852 MG	806 MG	729 MG	85.0%
Total Source Capacity	4.18 MGD	4.98 MGD	4.10 MGD	7.13 MGD	7.13 MGD	70.6%
Total Storage Capacity	1.22 MG	2.22 MG	2.22 MG	2.22 MG	2.22 MG**	82.0%
* Washington State Office of Financial Management estimates. ** The new 1.2 MG Zone 6 Reservoir did not go on line until 2006, increasing Selah's total storage capacity to 3.414 MG.						

Geography

The City of Selah and its Urban Growth Area are located in the Upper Yakima Valley, the northern part of Yakima County, in the south-central portion of Washington State, as shown on Figure 1-1. The City lies in a basin which is surrounded to the north, west, and south by sage-covered foothills, and to the east by the Yakima River and Yakima Ridge. The Yakima River has cut its way through Yakima Ridge, creating an area called the Selah Gap. Interstate 82 and the Burlington Northern-Santa Fe Railroad make their way through Selah Gap, providing access to the City of Ellensburg, 36 miles to the north, and the City of Yakima, 3 miles to the south.

The City of Selah lies against the west foothills of the valley, with over two-thirds of the City ranging in elevation from 1,100 to 1,300 feet above mean sea level. However, portions of the western, northern and southern areas of Selah rise above 1,400 feet in elevation.

In October 1997, Selah completed its Urban Growth Area (UGA) Comprehensive Plan as required by the Growth Management Act. Selah updated that UGA Comprehensive Plan in January 2005. Selah's existing retail water service area boundary generally corresponds to the current City Limits, and is shown on Figure 1-2 – Existing and Future Retail Service Area Boundaries. Selah's future retail service area boundary corresponds to its UGA Boundary, and is also shown on Figure 1-2. In addition to showing the existing and future retail water service boundaries, Figure 1-2 depicts the topography within the area, and shows the neighboring water systems within the future service area.

Like the rest of the Yakima Valley, Selah and its Urban Growth Area have a warm and dry climate. The Cascade Mountain Range acts as a barrier between Yakima County and the Pacific Ocean, keeping precipitation low and temperatures warm. The mean annual temperature range is from a low of 17.8° F to a high of 89.2° F. The median temperature is 64.7° F and the mean annual precipitation is 7.2 inches. With a warm climate and rich volcanic soils, Yakima County is a significant agricultural region as well as a recreational area.





The economy of Selah, and of the Yakima Valley, depends largely upon the agricultural industry. Fruit grown throughout the Yakima Valley is packed and shipped from local warehouses. Two such warehouses, along with two major fruit juicing companies, provide for much of the employment in Selah. As the largest bedroom community to the City of Yakima, Selah's economy is closely tied to that of Yakima.

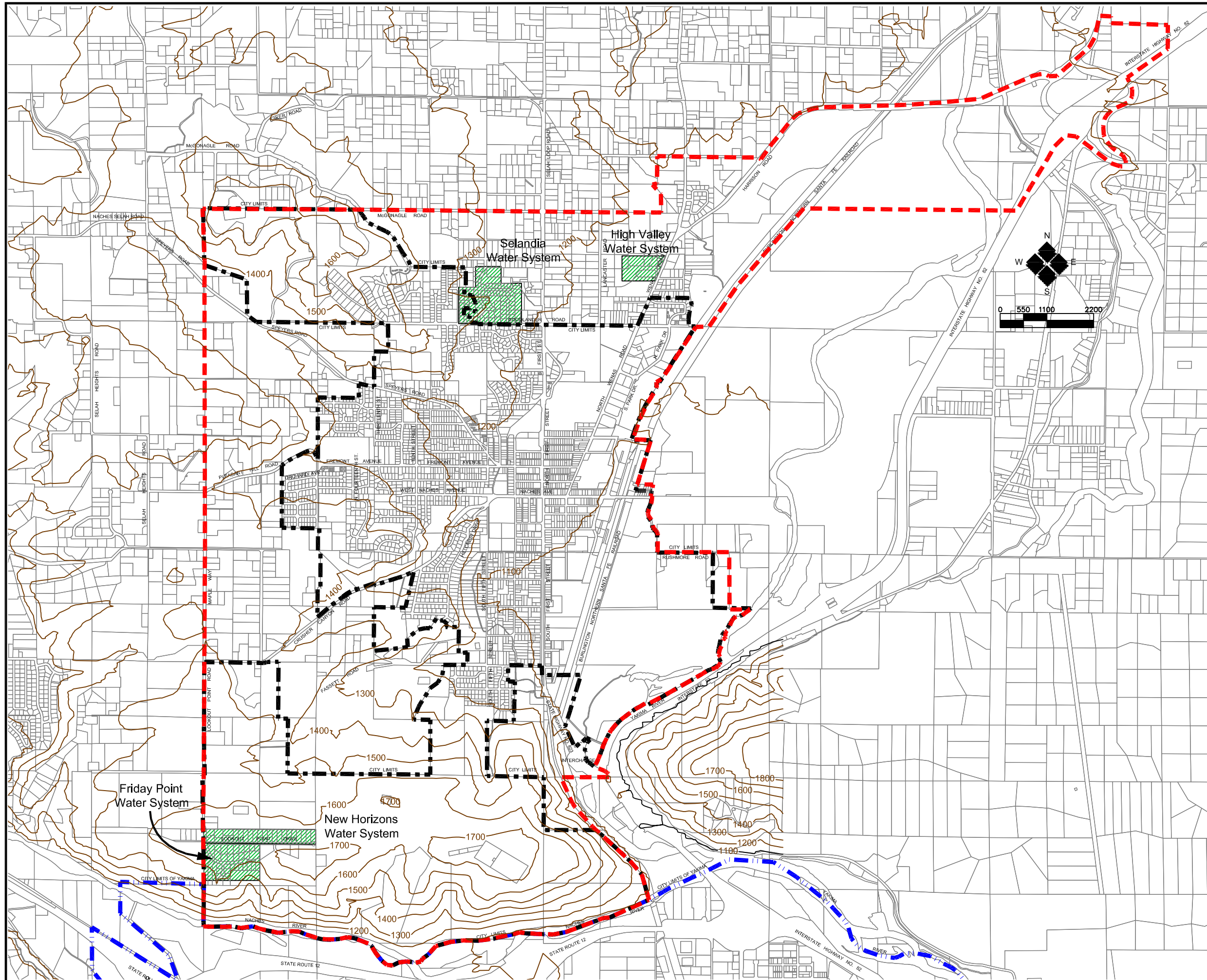
CITY OF SELAH

Comprehensive Water Plan Update

EXISTING AND FUTURE RETAIL SERVICE AREA BOUNDARIES

LEGEND

-  Retail Service Area Boundary (City Limits)
-  Future Retail Service Area Boundary (Urban Growth Area)
-  City of Yakima Retail Service Area Boundary (City Limits)
-  Neighboring Community Water System Service Area



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The topography and geography of the Selah area, shown on Figure 1-2, have a significant effect upon the City's water system. Elevation differences within the City have resulted in the creation of seven distribution pressure levels within Selah's current water system, which are shown on Figure 3-1 later within this Plan. The static pressure within each pressure zone ranges from approximately 43 to 86 psi.

The Yakima and Naches Rivers, Selah Gap, and Interstate 82 have, to some extent, restricted growth of the area and as a result, limited expansion of the City's water system. These features are shown on Figure 1-2.

Neighboring / Adjacent Purveyors

Four community water systems exist within Selah's Urban Growth Area. These community water systems, Friday Point Water System, New Horizons Water System, Selandia Water System, and High Valley Water System are shown on Figure 1-2. Other residences currently within Selah's Urban Growth Area are served by individual wells. The City of Yakima, located three miles to the south, owns and operates its own municipal water system.

Ordinances / Bylaws

The City of Selah operates its water system in accordance with Chapter 9.02 of the Selah City Code - Municipal Water Supply, Chapter 9.15 - Outside City Limits Service Policy, Ordinance 940 (Latecomer's Agreement; June 1989), and Ordinance 1137 (Cross-Connection Control; March 1994). Ordinance 1291 (December 1999) establishes current water rates for those served by Selah's water system, and Ordinance 1449 (Plant Investment Fee; August 1999) establishes charges for those connecting to the City's water system. A copy of these chapters of Selah's code, and of the ordinances is included within the Miscellaneous Documents Chapter (Chapter 10) of this Plan.

1.3 INVENTORY OF EXISTING FACILITIES

General Description of Existing System Facilities and Major Components

The existing City of Selah domestic water system consists of seven distribution pressure levels as shown on Figure 3-1 later within this Plan. The static pressure within each pressure zone ranges from 43 to 86 psi.

The City is supplied water from five primary source wells. The maximum pumping capacity of the five primary wells is 5,900 GPM or 8.50 million gallons per day, although normal production is limited to 5,300 GPM or 7.63 million gallons per day. The City's total existing water rights are 5,500 GPM and 4,760 Acre Feet per Year (1,551 Million Gallons).

Water storage is provided by six reservoirs within Selah's water system. The lowest pressure level (Zone 1) is served by three reinforced concrete reservoirs with the combined capacity of 1,022,000 gallons. Water from Zone 1 is boosted into the Zone 3 pressure level through two booster pump stations with a combined capacity of 1,250 GPM. Two reinforced concrete reservoirs serve Zones 2 and 3 with the combined capacity of 1,200,000 gallons. Water from Zone 3 is boosted into the Zone 6 pressure level through one duplex booster pump station with a capacity of 1,000 GPM. One steel reservoir serves Zones 4, 5, 6, and 7 with a capacity of 1,192,000 gallons. Selah's total reservoir capacity is 3,414,000 gallons.

In addition to the fixed rate booster pump stations previously mentioned, one constant pressure booster pump station exists within Selah's system. This station serves a portion of the Goodlander Heights residential development (Zone 4) with both potable demand and fire protection. The pump is a Peerless Hydroconstant with a maximum capacity of 1,100 GPM.

Water is provided to Zone 2 and the southeast portion of Zone 4 through multiple pressure reducing valves (PRVs) served by reservoirs located in higher pressure zones.

The entire water system is controlled by a comprehensive PLC (Programmable Logic Controller) based telemetry system. PLC telemetry units are located at all system wells, booster stations, and reservoirs,

and are linked via radio communication. The telemetry system's master control station is located at the City's Public Works Office.

The existing transmission and distribution system is looped where possible and consists of mainly 6-inch or larger ductile or cast iron pipes. Currently, Selah has no interties with neighboring water purveyors. In 2005, there were 2,219 total services in the Selah water system. A more detailed description of Selah's water system including a schematic of the water system, Figure 3-2, is presented in Chapter 3 of this Plan. A map of Selah's existing water system is enclosed as Map A in the back pocket of this Plan.

1.4 RELATED PLANS

Previous Comprehensive Water Plans

The City's first Comprehensive Water Plan was completed in 1971, which provided Selah with an in-depth look at their system, its deficiencies, and potential growth. Updates of the 1971 Comprehensive Water Plan were completed in 1994 and in 2000.

Comprehensive Water System Plans for Adjacent Water Systems

Four small water systems exist within Selah's Urban Growth Area, which include Friday Point Water System, New Horizons Water System, Selandia Water System, and High Valley Water System. None of these four water systems have developed comprehensive water planning documents. The City of Yakima, Selah's nearest municipal neighbor (located three miles south of Selah), adopted its current comprehensive water plan in 1996. Although they are neighboring communities, there are currently no water service area agreements between the two cities.

Urban Growth Area Comprehensive Plan

The City of Selah completed and adopted its Growth Management Act Urban Growth Area Comprehensive Plan in October 1997, and updated the Plan in January 2005. This Plan identifies many of the physical, environmental, and economic elements within the City and its Urban Growth Area, and attempts to forecast anticipated changes within that geographical area. Understanding and predicting future changes within the City and its Urban Growth Area are critical in forecasting future demands on the City's water system. As a result, Selah's Urban Growth Area Comprehensive Plan was an important tool in development of this Comprehensive Water Plan.

Wellhead Protection Program

The City of Selah was one of eight water purveyors that was party to a regional effort for the development of a wellhead protection plan. Participants in this planning effort included the following water purveyors:

City of Yakima	Yakima County
City of Moxee	Town of Naches
Town of Tieton	City of Union Gap
City of Selah	Nob Hill Water Association

Completed in 1999, the effort resulted in individual wellhead protection planning documents for the eight participants. Selah's plan identifies potential sources of contamination near its ground water supplies, proposes management strategies to prevent contamination of those supplies, and develops a contingency plan for contamination mitigation in the event that ground water does become contaminated. The document contains the following elements:

1. A water system summary;
2. A wellhead protection area for each well;
3. An inventory of potential ground water contaminant sources;
4. A contingency plan which includes an analysis of source capacity, reliability, and water rights; short- and long-term alternate water sources; and emergency and spill response procedures; and
5. A local wellhead protection management plan.

Resolution 1341 (Regional Wellhead Protection Program Interlocal Agreement; November 2000) authorized the Mayor to sign the interlocal agreement for the regional wellhead protection program. Selah adopted the Upper Yakima Valley Regional Wellhead Protection program through Resolution 1343 (November 2000).

Comprehensive Sewer System Plans

In 1999, the City of Selah completed a Comprehensive Sewer Plan for the City and its Urban Growth Area. This document:

1. Describes the future sewer service area (Urban Growth Area);
2. Based upon growth projections, forecasts future wastewater loadings;
3. Provides the description and location of existing trunk and interceptor sewers, pumping stations, and the sewer collection system; and
4. Includes design criteria for recommended wastewater collection system improvements.

The Comprehensive Sewer Plan provides Selah with one component of its Capital Improvement Plan for providing future services within both the City and the Urban Growth Area, and is the wastewater counterpart to this Comprehensive Water Plan.

Watershed Plan

In 1998, the Washington State Legislature passed the Watershed Planning Act (RCW 90.82), providing a framework for developing local solutions to water issues on a watershed basis. Framed around watersheds, this voluntary comprehensive planning process is designed to allow local citizens, governments, and tribes to form watershed management planning units to develop watershed management plans.

The watershed planning process consists of three phases. Phase 1 (Organization) is where the initiating governments (the counties, largest city, and largest water utility in the watershed) identify and appoint Watershed Planning Unit members who represent water resource interests within the watershed. Phase 1 activities also include the development of operating and decision-making structures and goals, and development of a scope of work for Phase 2.

Phase 2 (Technical Assessment) is where the watershed planning unit develops strategies for improving water quality, protecting or enhancing fish habitat, setting instream flow recommendations, and applies for funding for the collection, management, and distribution of data. Phase 2 is considered to be at least a one-year process.

Phase 3 (Plan Development and Approval) is where the watershed plan is actually developed. The plan is required to include water supply strategies to meet minimum flows for fish, and to provide for future out-of-stream uses. Phase 3 is considered to be at least a one-year process.

The City of Selah is located in the Upper Yakima River Basin Watershed Planning Area (WRIA 39). In 1998, the Yakima River Basin Watershed Planning Unit was formed to develop a comprehensive watershed management plan for the entire Yakima River Basin and the Naches River Basin watersheds. In December 2002, the Watershed Planning Unit completed and approved the Yakima River Basin Watershed Management Plan (Phase 3 of the planning process), and forwarded the Plan to the county commissions of Benton, Yakima, and Kittitas Counties. In late 2005, Benton and Yakima Counties adopted the Plan, with Kittitas County opting to withdraw from the process.

Chapter 4 of the Yakima River Basin Watershed Management Plan deals with the management of groundwater resources. The Plan identified that the U.S. Geological Survey (USGS) had been contracted to perform the lead role in a study of the groundwater resources of the Yakima River Basin, with an anticipated completion date of 2007. The Plan states,

“It is anticipated that completion of the USGS modeling study will substantially improve the current understanding and predictive capabilities with respect to impacts from proposed uses of

groundwater. The Watershed Planning Unit recognizes that detailed planning for groundwater would be premature pending completion of the study.”

The Plan goes on to state:

“The purpose of the discussion of groundwater management alternatives presented in this chapter is to lay the conceptual foundation for future decision-making, that will occur after the USGS modeling effort is complete.”

The Plan identifies four alternatives for managing the groundwater resources of the Yakima Basin, these being:

- ❖ *Alternative II-1: Utilize Groundwater as a Key Resource in Meeting Water Supply Needs*
- ❖ *Alternative II-2: Limit New Groundwater Development to Selected Uses*
- ❖ *Alternative II-3: Prohibit New Withdrawals of Groundwater*
- ❖ *Alternative II-4: No Action*

The Plan recommends *Alternative II-2 - Limit New Groundwater Development to Selected Uses* as the preferred alternative, and believes that this alternative strikes an appropriate balance between the need for water supply and the need to protect the Basin’s groundwater resources for long-term sustainable uses. However, the Plan also recognizes that full implementation of the recommended alternative will not be possible until completion of the USGS study. As previously stated, the Plan defers future decision-making until completion of the USGS study.

This City of Selah Comprehensive Water Plan is consistent with the Yakima River Basin Watershed Management Plan.

1.5 SERVICE AREA AGREEMENTS

There are currently four small water purveyors within Selah’s UGA. No agreements are currently in place between any of these water purveyors and the City of Selah regarding future water service. In addition, Selah currently has no water service area agreement with its nearest municipal neighbor, the City of Yakima.

1.6 SERVICE AREA POLICIES

Many policies are established by a utility which affect its growth and development. Some policies deal specifically with drinking water and have a direct impact upon utility development within its Urban Growth Area. Adopted as part of this Plan, the City of Selah has identified the following policies which directly or indirectly affect the water system:

1. The City will make every effort to provide domestic water service to new customers within Selah's future service area (Urban Growth Area) under the following conditions:
 - a. All costs associated with providing water service, e.g., extending water mains to the site, shall be the responsibility of the proponent/developer. Requirements to be met by proponents/developers when extending the City’s water system are identified in “Extension by Developers” which is provided in the Miscellaneous Documents Chapter (Chapter 10) of this Plan.
 - b. The City maintains adequate water rights capacity per DOH’s required “water rights self assessment” to serve the proposed property/properties.
 - c. The City maintains adequate physical source and/or storage capacity to serve the proposed property/properties.
 - d. The proponent/developer shall transfer all potable water rights associated with the property/properties to the City.
 - e. The proponent/developer shall “decommission” any and all groundwater wells on the property in accordance with the applicable Washington Administrative Code (WAC) requirements unless a well is to become part of the City’s water system.

- f. The proponent/developer shall allow the City the opportunity to purchase any irrigation water rights/shares associated with the property/properties prior to offering said irrigation rights/shares to any other interested party.
2. The City may choose to require a water main extension to be oversized for future demand. The difference in material and construction costs between the two sizes may be paid for by the City, or it may enter into an agreement requiring those costs to be repaid by the future users.
3. Service will not be provided to proposed structures which have fire flow requirements greater than the capacity of the system. The cost of upgrading the existing water system which is required by a development to meet fire flow requirements shall be the responsibility of the developer including, but not limited to:
 - ❖ Upsizing existing water mains.
 - ❖ Looping of the distribution system by installing new water mains.
 - ❖ Increasing storage and/or pumping capacities.
4. The City will administratively assist property owners who wish to establish a Local Improvement District for the purposes of constructing water system improvements.
5. The City has created by Ordinance No. 1450, Title 9, Chapter 9.19 Utility Latecomer Agreements, of their municipal code. This Chapter provides a format for the City to establish latecomer charges for water and sewer facility improvements. A copy of this ordinance is provided in the Miscellaneous Documents Chapter (Chapter 10) of this Plan.
6. The City has adopted Ordinance Nos. 1674 and 1675, which establish a capital cost recovery area for the 2005 water system improvements including the Lookout Point Reservoir, booster pump station, and transmission mains. A copy of these ordinances is provided in the Miscellaneous Documents Chapter (Chapter 10) of this Plan.
7. The City will not wholesale water to other utilities.
8. The City will not allow its mains to be used to transmit another water purveyor's water through the City's system to other non-City water users (wheeling of water).
9. The City will provide water service to properties outside the City Limits in accordance with Chapter 9.15 of the City Municipal Code. A copy of the Code chapter is provided in the Miscellaneous Documents Chapter (Chapter 10) of this Plan. The "outside customers" must execute an outside utility agreement and will be assessed water rates which are higher than those charged to customers within the City Limits. (Ordinance No. 1291, provided in the Miscellaneous Documents Chapter [Chapter 10] of this Plan, establishes rates for services both within and outside the City Limits).
10. As a prerequisite to obtaining domestic water service, the City requires property owners of existing lots of record to hook onto sanitary sewers which are within 200 feet or less of the nearest property corner. Should sanitary sewer not be available within 200 feet, the property owner shall be required to sign a waiver prohibiting the property owner from opposing a future Local Improvement District (LID) for sewer service.
11. The City may choose to manage and operate, or provide specific contract services for a satellite water system outside the City Limits but within the City's service area. In making its decision, the City will take into consideration such factors as:
 - a. Construction materials, standards, and specifications of the satellite system;
 - b. Condition of the various components of the satellite system including but not limited to pipes, valves, pumps, reservoirs, and sources of supply;
 - c. Easements and access of the satellite system;
 - d. Fire protection capability of the satellite system;
 - e. Cross-connection control of the satellite system;

- f. Specific operation, management, or contract service responsibilities to be provided; and
- g. Conditions for assuming management and operation of the satellite system.

City operation of satellite systems will be made on a case-by-case basis. In those cases where agreements for City operation are reached between the City and the satellite system, contracts for ownership, operation, and maintenance will be developed and included within the Miscellaneous Documents Chapter (Chapter 10) of this Plan.

- 12. The City shall not accept ownership or operation of existing private water systems annexed into the City unless said systems meet Selah standards. Substandard systems shall be upgraded or replaced prior to integration into the City's water system.
- 13. Newly annexed properties will transfer the balance of unused domestic and/or irrigation water rights to the City.

1.7 SATELLITE MANAGEMENT AGENCIES

As discussed in the previous section of this Chapter, Service Area Policies, the City of Selah may, in the future, choose to manage and operate a satellite water system outside the City Limits but within the City's Urban Growth Area. However, the City has no specific plans at this time to become a satellite management agency. If and when Selah has specific plans to manage and/or operate a satellite water system, the City will develop a satellite management program.

1.8 CONDITIONS OF SERVICE

The City of Selah has a water service application form, available at City Hall, which includes water service charges and billing information. Other information regarding conditions of service such as developer extension requirements, meter and material specifications, connection fee schedule, cross-connection control requirements, and latecomer payback provisions are presented to builders and developers when they apply to the City for building permits.

1.9 COMPLAINTS

In 1998, Selah developed a water system complaint response system. Prior to 1998, the City Public Works Department responded to and resolved water system complaints, but kept no records as to the number of or nature of water system complaints. Selah's computerized complaint response program is discussed in more detail in Chapter 6 of this Plan.

1.10 DUTY TO SERVE

The City of Selah is committed to providing water service to those persons and commercial and industrial establishments in accordance with City Code Chapter 9.02 and 9.15. The following is a summary of the City's procedures for addressing requests for water service:

- 1. Service Requests. Applications for water service are addressed (either by an approval or through a request for additional information) within thirty (30) days and in accordance with City Code Chapter 9.02.020. A copy of this City code is included within the Miscellaneous Documents Chapter (Chapter 10) of this Plan.
- 2. Water Rights Adequacy. Each application for water service is reviewed by the City to determine the amount of water requested, and that the City has sufficient water rights to provide service.
- 3. Conditions of a Non-Technical Nature. Conditions for connection to the City's water system are addressed in accordance with City Code Chapter 9.02 and 9.15. Copies of these City code chapters are included in the Miscellaneous Documents Chapter (Chapter 10) of this Plan.

4. Procedures for Handling Time Extensions, Disputes, and Appeals. Requests for time extensions, disputes, and appeals of service denials are addressed in accordance with City Code Chapter 9.02. A copy of this City code chapter is included within the Miscellaneous Documents Chapter (Chapter 10) of this Plan.