

# **CHAPTER 1**

## **WATER SYSTEM DESCRIPTION**

### **OBJECTIVE**

The objective of this chapter is to present background information for the Sallal Water Association's (Sallal, or Association) Water System Plan (Plan). This Plan assesses the current and future capabilities of the Association's water system, recommends needed improvements to allow the system to provide water service throughout the planning period, and meet the statutory requirements in Chapter 246-290-100 WAC, Chapter 246-293-250 WAC, and Chapter 246-295 WAC.

The chapter presents information on ownership and management of the system, system background data, the existing system facilities inventory, related planning documents, existing and future service areas and characteristics, service area agreements and policies, satellite system management program, conditions of service, and the Association's complaint handling process.

### **OWNERSHIP AND MANAGEMENT**

#### **SYSTEM NAME**

The official system name is Sallal Water Association. The DOH ID No. is King County #75560Q. The Water Facilities Inventory and Operating Permit for the Sallal Water Association are provided in Appendix A.

The Association has a business office at 44021 SE Tanner Road, Suite E, North Bend, Washington and is open 8:00 a.m. – 4:00 p.m. Monday through Friday. The phone number is (425) 888-3650. The mailing address of the Association is:

Sallal Water Association  
Post Office Box 378  
44021 SE Tanner Road, Suite E  
North Bend, Washington 98045-0378

#### **TYPE OF OWNERSHIP**

The Association is a water purveyor's cooperative. Sallal is a non-profit cooperative and was incorporated in spring of 1969.

## **MANAGEMENT STRUCTURE AND DECISION-MAKING PROCEDURES**

The Association is governed by a Board of Trustees, elected by the members who own memberships in the organization. The Board consists of a President, Vice President, Secretary, Treasurer and three Trustees. The Trustees are elected for 3 years with staggered terms of office.

The Association currently employs a staff of three, including a Business Manager, Water System Superintendent and an Administrative Specialist. In addition the Association contracts with two individuals to do meter reading and provide part time field assistance to the Superintendent.

The Board of Trustees is elected to provide direction and oversight in the operation and development of the system. Staff is responsible for the day-to-day operation and management of the system on behalf of the Board of Trustees and the members.

## **SYSTEM BACKGROUND**

### **HISTORY OF SYSTEM DEVELOPMENT AND GROWTH**

Sallal Water Association began, as a concept, in the spring of 1967. Some landowners in the area were concerned about the availability of water because of past experiences with shallow wells drying up in the summer and the unreliability of shallow aquifers in other areas. Some of the residents' water supplies came from springs, creeks and rivers, and this also was a concern because of the high risk of contamination.

Meetings were held and canvassing was done by area residents in the summer of 1967, and a study was done to investigate forming an agency to act as a purveyor in the area. It was decided that a cooperative should be created because this form of organization would be most acceptable to the original members. The engineering firm of Lee Johnson and Associates was engaged. It was recommended that a water supply should be pursued from the City of Seattle. The Association was incorporated in early 1969. A loan was negotiated from the Federal Government in the early spring, and construction began in the summer. Delays were encountered in securing the source of water from the City of Seattle's Chester Morse Reservoir; however, an agreement was reached and water was delivered to the members in the early spring of 1970.

The Association encountered a difficult financial time for some years because of the uncertainty of the location of Interstate 90, which impacted water main relocations and caused proposed plats to be deleted, etc. Growth was very, very slow. The final location and construction of I-90 had impacts on the Association, primarily in the form of water main relocations.

The Wilderness Rim Maintenance Corporation (Wilderness Rim), the water purveyor of the Plat of Wilderness Rim, became a wholesale customer of Sallal in 1969.

A Comprehensive Water System Plan was adopted by the Sallal Board of Trustees in December of 1979 and submitted to King County Council for approval. The plan was approved by the Council on April 2, 1980, with the passage of King County Ordinance #4797, which imposed some conditions of approval.

In 1983 and 1985, two deep wells were drilled under an agreement with the City of Seattle, to provide Sallal with a reliable water source during the reconstruction project on the Masonry Dam and for the future. In 1986, pumps were installed in the wells, and a storage tank was constructed just inside the City of Seattle's Cedar River Watershed. This tank was a joint effort, with Wilderness Rim participating financially in the cost of the facility. The conversion to ground water from the two wells replaced surface water from the Seattle Watershed as the source of supply, and eliminated the need for treatment of Sallal's water supply.

In 1987, a third well was drilled near the Edgewick Interchange to supplement the original wells in the Cedar River Watershed. An emergency intertie was also constructed in 1987 to allow Sallal to provide water to the City of North Bend.

In 1990, under the East King County Coordinated Water System Plan, Sallal's service area was greatly expanded eastward. Some of the eastern portion of the expanded service area is very mountainous and not considered developable. Sallal retained this extended service area with the hope that it may provide opportunities for other sources of water. However, with the passage of the Municipal Water Law of 2003, municipal water suppliers have a duty to serve its retail service area subject to the following provisions of RCW 43.20.260:

- Service can be available in a timely and reasonable manner.
- The District has sufficient water rights to provide the service.
- The District has sufficient capacity to serve the water in a safe and reliable manner as determined by the DOH.
- It is consistent with the applicable land use plans.

In June 2008, the King County Superior Court ruled that privately-owned water systems like the Association are no longer defined as municipal water suppliers and are therefore not subject to duty to serve and water use efficiency requirements. This ruling has been appealed to the State Supreme Court. It is the Association's intent to be prepared to meet the requirements of the Municipal Water Law.

Due to source capacity limitations the Association reduced its service area as a result of the Municipal Water law so that its eastern boundary more closely reflects the extent of the area actually served and potentially servable at reasonable cost.

Sallal has sufficient capacity to provide retail service within its service area. The reduction in the service area from the 2002 Water System Plan has made the service area the same as the intended retail service area. The capital improvement and financial programs discussed later in this Plan are intended to eliminate deficiencies within the system, so that Sallal can provide retail service within all of the service area shown in Figure 1-3. The intent is to construct the improvements as needed so that Sallal maintains its ability to serve new customers.

As of mid-2007 Sallal served water to 1,416 single-family connections, 43 other connections (commercial, industrial, and irrigation) and sold water wholesale to Wilderness Rim. Wilderness Rim serves 633 single-family residences.

## **GEOGRAPHY**

The general location of the Sallal Water Association Service Area is depicted in Figure 1-1, which shows physiographic features. Adjacent water utility service areas are depicted in Figure 1-2. Sallal's Service Area Boundary and Water Base Map are shown in Figure 1-3 and in back pocket. The Association's retail service area is the same as its future service area.

The service area is bounded on the north at the base of a ridge that includes Mt. Si and Mt. Teneriff. This ridge is also the northerly boundary of Middle Fork Snoqualmie River basin. The elevation at the top of this ridge is approximately 3,000 feet, and the service area extends up to approximately 1,200 feet. The south boundary is near the base of the ridge that is the divide between South Fork Snoqualmie River and Cedar River. The south boundary is also at an elevation of approximately 1,200 feet. In between is the valley floor that is at an elevation of 480 feet at the west end and rises gradually to an elevation of 800 feet at the east end. The west boundary coincides with the east boundary of current North Bend city limits. The east boundary extends approximately 3/4 mile east of the North Bend Urban Growth Area. The Sallal service area is about 14.4 square miles. East of the Edgewick Road (468th Ave SE), the land is primarily a Weyerhaeuser tree farm that extends east to the National Forest with limited development potential.

Both of the river basins within the service area were formed by glaciers that deposited vast amounts of alluvial material as they retreated back toward the crest of the Cascades. Due to these alluvial deposits, a portion of the Weyerhaeuser tree farm within the service area is currently being used for a gravel operation, the Cadman aggregate production operation.

## **ADJACENT PURVEYORS**

The Sallal Water Association works closely with its adjoining purveyors, the City of North Bend, Wilderness Rim Maintenance Corporation and Riverbend Homesites Association. The latter two are wholly contained within the Association's service area.

Boundary lines have been established by the East King County Coordinated Water System Plan (EKCCWSP). The interties and joint storage facilities that have been constructed enhance the reliability of the cooperating systems by providing alternate water supplies in the event of a temporary outage. Figure 1-2 shows the locations of the adjacent purveyors.

### **Wilderness Rim Maintenance Corporation**

Wilderness Rim Maintenance Corporation is a homeowners' association and is the water purveyor for the Plat of Wilderness Rim, located in the southwest corner of Sallal's Service Area. Wilderness Rim purchases water from Sallal on a wholesale basis. Presently, it has 633 customers.

Sallal serves Wilderness Rim via two 6-inch meters (and one 1-1/2-inch meter in parallel with one of the 6-inch meters), one at the main road entrance to Wilderness Rim, the other on the west side of the plat near the Rattlesnake Tank. Sallal and Wilderness Rim have an agreement that reserves a portion of the 198,000 Gallon Rattlesnake Tank, located on the west boundary of Wilderness Rim, just inside the Cedar River Watershed. Under this agreement, the tank provides 160,000 gallons of storage for Wilderness Rim (Refer to Appendix B, Agreements).

### **Riverbend Homesites Association**

Riverbend Homesites Association (Riverbend) is the water purveyor for the Plat of Riverbend Homesites. It is also located within Sallal's Service Area, east of the Cedar Falls Road and south of the South Fork of the Snoqualmie River. Riverbend provides its own water with two wells. It presently serves 546 connections.

Sallal and Riverbend have an agreement and an intertie for the delivery of water from one system to another in case of an emergency. To receive water from Riverbend, a pump must be installed to pump water into Sallal's higher 701 Pressure Zone

### **City of North Bend**

The City of North Bend lies immediately to the west of Sallal's service area, and presently serves approximately 1,700 connections for residential, commercial and industrial customers. North Bend receives its water from the Mt. Si Springs located at the base of Mount Si. It also has an intertie with Sallal for use during an emergency. To receive water from North Bend, a pump must be installed to pump water into Sallal's higher 701 Pressure Zone.

A small portion of Sallal's service area in the northwest corner lies within the city limits of North Bend, including the Opstead Elementary School, and the plat of LaForest Homes, both of which are served by Sallal.

Some of Sallal's service area may be annexed from King County into the City of North Bend in the future, especially the North Bend Way Corridor. A large portion of the west half of the service area is designated as North Bend's planning area in the city's Draft Comprehensive Plan. Sallal intends to fulfill its obligation as the sole water purveyor within its service area, as per boundaries set by the EKCCWSP

The City initiated a self-imposed moratorium on additional water hookups in 1999 within the City when the City discovered it was withdrawing water volumes in excess of its annual water rights. The moratorium has ended as the City has received a water right permit for 3,094 ac-ft and a maximum instantaneous withdrawal of 2,646 gpm in April of 2008. This permit provides the City of North Bend with sufficient water to serve its planned water demand, and includes 967 acre feet to serve portions of the current Sallal Water Association service area that are in the North Bend Urban Growth Area. The City and Sallal are developing an interlocal agreement to address the sale of water between them.

### **Ordinances/Bylaws**

As a cooperative, the Association has no authority to impose or enforce ordinances in the manner of governmental agencies. The adopted Bylaws and Rules of the Association govern the transactions and operation of the system in relation to serving the members. Copies of the Association's Bylaws and Rules are presented in Appendix C.

Provision of water service and operation of a non-profit corporation must comply with the applicable rules and regulations imposed from several different jurisdictions. The following are the jurisdictions and the types of rules and regulations they have imposed on the Association's operation:

#### Federal

- Safe Drinking Water Act
- Compliance with Endangered Species Act
- Potential Army Corps of Engineers permits for any work within wetland areas and streams

#### State Of Washington

- Rules and regulations of the State Department of Ecology
- Rules and regulations of the State Department of Health
- Rules and regulations of the State Department of Revenue (Non-Profit Corporation)

King County

- Health Department Guidelines
- Development/Building Permits
- Grading Permits
- Right-of-Way Permits
- King County Comprehensive Plan (e.g., Zoning)
- King County Fire Marshal's Determination of Fire Flow Requirements
- King County Road Standards

Special Purpose Districts

- King County Fire Department (KCFD #38), and Eastside Fire and Rescue (formerly Issaquah fire Department, KCFD #38)
- Sallal Water Association Board of Trustees/Bylaws and Rules and Regulations

**INVENTORY OF EXISTING FACILITIES**

**GENERAL DESCRIPTION OF EXISTING SYSTEM FACILITIES AND MAJOR COMPONENTS**

**Current Number of Services**

As of mid-July 2008, Sallal served 2,092 connections. Of the total number of connections, 1,416 were single family residential, 633 connections were located in Wilderness Rim, 31 were commercial connections, and 12 were irrigation connections.

**Current Water Rights**

Sallal's current Water rights consist of a single right to withdraw 696 Acre Feet (AF) annually, with a maximum withdrawal rate of 1,600 gpm for Well Nos. 1 and 2. The Association also has a water right to 102 AF with a maximum withdrawal rate of 91 gpm for Well No. 3 that is supplemental to the water rights for Well Nos. 1 and 2.

The Association has applied for additional water rights, the application is still pending. However, with the granting of additional water rights to the City of North Bend, no further water rights are anticipated to be needed in the foreseeable future.

The Water Facilities Inventory and Operating Permit for the Sallal Water Association are provided in Appendix A. The following sections briefly describe each water system facility.

## Wells

The SWA owns and operates four wells that provide all the water used by its customers. Well Nos. 1 and 2 are located within the City of Seattle Cedar River Watershed. These two wells supply approximately 90 percent of the total water system demand. The wells are located within CMU buildings, and discharge directly into the 1,215 ft. Pressure Zone.

Well Nos. 3 and 3A are located along SE 144<sup>th</sup> Street, near the Edgewick Reservoir. Well No. 3 is housed in a CMU building. Well No. 3A is located adjacent to the building on the north side. The wells discharge to the Edgewick (793) Pressure Zone. Well No. 3A is currently not used except for emergencies.

## Reservoirs

The storage for the water system is held within nine pre-cast, concrete reservoirs with a total volume of 1,549,000 gallons. Table 1-1 provides a summary of the water system reservoirs.

**TABLE 1-1**

### Reservoir Information

<b>Reservoir Name</b>	<b>Overflow Elevation (ft)</b>	<b>Base Elevation (ft)</b>	<b>Height (ft)</b>	<b>Diameter (ft)</b>	<b>Volume (gal)</b>
Rattlesnake Reservoir	1,215.44	1,165.44	50	26	198,000
Uplands Reservoir	1,217.88	1,185.88	35	30	185,000
River Point Reservoir	840	800.05	40	26	158,000
Edgewick Reservoir	793	738.33	55	26	218,000
Edgewick Reservoir No. 2	793	760	35	26	131,000
Edgewick reservoir No. 3	793	760	35	26	131,000
Middle Fork Reservoir No. 1	883	848.09	35	30	185,000
Middle Fork Reservoir No. 2	883	848.13	35	30	185,000
Terrel Reservoir	1,009	969.38	40	26	158,000
<b>Total Volume</b>	-	-	-	-	<b>1,549,000</b>

## **Booster Stations**

The distribution system relies on four booster pump stations (BPS) to transfer supply between pressure zones.

The Tanner BPS pumps to the 793 zone filling the Edgewick Reservoirs. The station is located along SE North Bend Way, in the parking area for the Tanner Electric Cooperative Utility. The BPS consists of two 10-hp pumps housed in a vault. This BPS is capable of providing up to 300 gpm from the 701 zone to the 793 zone, although normal operation is at 150 gpm.

The new Edgewick BPS pumps to the 920 zone, which then feeds the 883 zone via PRVs filling the Middle Fork Reservoirs. The station is located on SE 144<sup>th</sup> Street at the site of the Well No. 3 pump house. The BPS consists of a 7-1/2-hp jockey pump, a 40-hp and two 50-hp high flow supply pumps. Two additional 50-hp pumps are planned in the near future with a shift in the boundary of the pressure zones in the area. This BPS will be capable of providing 3,000 gpm from the 793 Zone to the new 920 Zone. There is auxiliary power at the site with an automatic transfer switch that will allow full response to a power failure within 15 seconds.

The Lower Mt. Si BPS pumps to the 840 zone filling the River Point Reservoirs. The station is located at 457<sup>th</sup> Avenue SE and SE Mt. Si Rd. The BPS consists of a two 15-hp pumps capable of providing 250 gpm. There is no auxiliary power at the site, however, a plug-in connection and manual transfer are available to allow connection of the Association's trailer mounted portable generator.

The River Point BPS is located at 471<sup>st</sup> Avenue SE and SE Mt. Si Rd. The BPS consists of a single 7.5-hp pump. The BPS is capable of providing 100 gpm from the 840 Zone to the 1009 Zone filling the Terrel reservoir. There is no auxiliary power at this site, however, a plug-in connection and manual transfer are available to allow connection of the Association's trailer mounted portable generator.

Table 1-2 provides a brief overview of the BPS.

**TABLE 1-2**

**Booster Pump Stations**

<b>Name</b>	<b>Pumps to</b>	<b>Pumps and Size (HP)</b>	<b>Capacity (gpm)</b>	<b>Auxiliary Power</b>	<b>Pumps to Zone</b>
Tanner	793 Zone – Edgewick Res	2 – 10 hp	150/300 <sup>(3)</sup>	No <sup>(1)</sup>	793
Edgewick	920 Zone – Closed	1 - 7-1/2 hp, 1 - 40 hp 4 - 50 hp <sup>(2)</sup>	3,000	Yes	920
Lower Mt. Si	840 Zone – River Point Res	2 - 15 hp	250	No <sup>(1)</sup>	840
River Point	1009 Zone – Terrel Res.	1 - 7.5 hp	100	No <sup>(1)</sup>	1009

- (1) On-site auxiliary power is not available, however a plug-in connection and manual transfer switch allow connection of the Association’s trailer mounted portable generator.
- (2) Two pumps are in place and two additional pumps are planned for installation in late 2008.
- (3) The booster station will pump 150 gpm in automatic mode and 300 gpm in manual mode.

**Pressure Reducing Valves**

Nineteen pressure-reducing valve (PRV) stations are located throughout the water system. Most of the PRVs in the system are Cla-Val PRVs, the remaining are roll-seal type valves. The roll-seal valves are being replaced over time.

**Distribution Piping**

The distribution pipe used throughout the service area is a combination of asbestos cement (AC), ductile iron (DI) and polyvinyl chloride (PVC). Asbestos cement (AC) water mains are located along much of Mt. Si Road and Cedar Falls Road. Ductile iron (DI) water mains are found in some areas of the system, such as near the Opstead Elementary School. The Association is in the process of implementing a new policy of using DI pipe for all new line extensions. Table 1-3 provides an overview of the pipe sizes within the distribution system.

**TABLE 1-3**

**Distribution Pipe Inventory**

<b>Pipe Size</b>	<b>Length (ft)</b>	<b>Percentage</b>
4" or less	3,000	1.2%
6"	56,000	21.5%
8"	112,433	43.1%
10"	27,200	10.4%
12"	62,117	23.8%

**Pressure Zones**

The topography of the service area necessitates many pressure zones. Currently the water system is separated into 16 pressure zones, ranging in hydraulic grade from 1,215 feet to 701 feet. The hydraulic grade in each pressure zone is maintained by either a reservoir, a PRV supplying water from a higher pressure zone, or a pressure control on a BPS. Figure 1-4 shows a map of the Water Association’s pressure zones.

**Interties**

There are two interties with neighboring purveyors, Riverbend and North Bend. These interties are for emergency use only, and both currently supply water only to the neighboring purveyor. Pumping is required to deliver water from the neighboring purveyors to Sallal.

**EXISTING SYSTEM OPERATION**

The system water sources are Well Nos. 1, 2, and 3, depicted on Figure 1-3. Well Nos. 1 and 2 are located within the City of Seattle Cedar River Watershed in the southwest portion of the Association’s service area. Well Nos. 1 and 2, are actuated by water level controls in the Rattlesnake Reservoir. These wells supply approximately 90 percent of the system demand. Water from the wells is pumped to the 1,215 Zone, which is served by the Rattlesnake and Uplands Reservoirs. At the current time, only one of these two wells operates at a time as hydraulic constraints between the wells and the main portion of the distribution system cause the Rattlesnake Reservoir to fill more quickly than the Upland Reservoir, causing cycling of the well pumps. This will be addressed in the near future by the addition of an altitude valve on the Rattlesnake Reservoir entrance and the addition of control points in the Uplands Reservoir.

Water from the 1215 Zone, currently serves approximately 70 percent of the system directly, either within this zone or through PRVs to lower zones, including the plat of Wilderness Rim, which is served via two metered connections. The water from this Zone is conveyed northerly to the lower 701 Zone via two main routes; down Cedar Falls Road

SE, passing through three PRV controlled pressure zones, and through the Uplands development, passing through three different PRV controlled pressure zones.

Once water reaches the distribution system in the 701 Zone it flows generally to the north and east, where it supplies the Lower Mt. Si BPS and the Tanner BPS. Both of these BPS facilities also have PRVs, which allow water to flow back from the higher zones to the 701 Zone when needed.

At the Lower Mt. Si BPS, the booster pump is actuated by the level controls in the River Point Reservoir in the 840 Zone. The Lower Mt. Si PRV will open permitting flow from the 840 Zone to the 701 Zone if pressure in the 701 Zone drops below a preset level at the BPS. The 840 Zone is also the source of supply for the River Point BPS, which pumps water into the 1009 Zone. The River Point BPS is actuated by level controls in the Terrel reservoir, which serves the 1009 Zone. Water from the 1009 Zone can flow to the 840 Zone via two PRVs, one at the River Point BPS and another within the 1009 Zone distribution system, which are set to allow the flow when the pressure in the 840 Zone falls below preset levels.

The Tanner BPS pumps water to the 793 Zone, and is actuated by the level controls in one of the three Edgewick Reservoirs. The PRV at this station permits water to flow to the 701 Zone if pressure falls below a preset level at the inlet to the BPS. An interlock prevents opening of the PRV if the pump is on at the time the PRV would normally open, however, when the pump is shut down the PRV can open. Similarly, pumping is prevented if the PRV is open at the time the pump sequence would normally be called on.

The 920 Zone is supplied water by the Edgewick BPS, through the use of the 7-1/2-hp jockey pump, and one 40-hp and four 50-hp high flow pumps (two of which are planned for installation in late 2008). The Edgewick BPS will be capable of providing 3,000 gpm. The 920 Zone has very small residential demands, however, recent changes in pressure zone configuration means that this zone also serves the industrial park in the area. The 920 Zone feeds the Middle Fork reservoirs in the 883 Zone through PRVs. If system pressure in the 920 Zone drops sufficiently, water from the 883 zone may backflow through the PRVs to the 920 zone, thus preventing the closed 920 zone from dropping below a hydraulic grade of 883. Pumps are called on based upon the BPS discharge pressure, and shut off by declining BPS discharge flow. The BPS has standby power and an automatic transfer switch, the combination of which will bring full operation of the BPS in approximately 15 to 20 seconds.

The Middle Fork (883) Zone is supplied by the Edgewick BPS through the 920 Zone, with three PRVs feeding water to the Zone. Water over and above the zone demand is stored in the two Middle Fork Reservoirs. As the water level in these reservoirs rises to approximately 10 feet below the overflow, the large PRVs close down. Flow continues through the low flow bypass PRVs mounted on the PRVs between the zones. The reservoirs will continue to fill to approximately 1-1/2 feet below the overflow elevation. If a high flow, such as a fire flow, occurred in the 883 Zone, the PRVs feeding the zone

will open and provide flows above that which can be maintained by the reservoirs. The flow capability in the zone is approximately 3,000 gpm for 2 hours, with supplemental flow of 1,000 gpm from the Edgewick BPS and reservoirs through the 920 Zone. A PRV allows water from the 883 Zone to flow directly to the 793 Zone when pressure in the 793 Zone drops below preset levels.

## **RELATED PLANNING DOCUMENTS**

The following related planning documents were reviewed and any impact they have on Sallal Water Association was noted.

### **CITY OF NORTH BEND WATER SYSTEM PLAN (2002)**

The City limits of North Bend abuts Sallal's service area to the west. The North Bend WSP recommends that the City take over existing water districts currently serving the City's Urban Growth Area (UGA) if and when the area is annexed. The UGA is defined the area lying east of the city limits extending easterly to Edgewick Road and including land between I-90 and Middle Fork Snoqualmie River. This UGA is all in Sallal's service area. For North Bend to assume ownership of Sallal facilities within its UGA, revisions to the EKCCWSP (below) would be required. All of Sallal's facilities are held as security for long-term loans from the U.S. Department of Agriculture, which contain provisions governing the take-over of the loan recipient. If the City of North Bend wishes to take over Sallal's water system, it would have to negotiate with the federal government and the Association membership.

### **EAST KING COUNTY COORDINATED WATER SYSTEM PLAN**

The East King County Coordinated Water System Plan (EKCCWSP) was developed to present an assessment of water supply needs within East King County and design a program to meet these needs. The Plan projects that the region will have a 20 to 30 mgd shortfall by the year 2025 if current growth rates are sustained and no new water rights are granted. The Plan recommends investigating:

- Implementation of conservation programs
- Development of groundwater sources in known aquifers within the area.
- Groundwater management programs for the area.

The plan also recommends the formation of a Coordinated Water System Plan (CWSP) in order to address the following issues:

- Proliferation of small water systems
- Possible limitation of the quantity of water available within East King County.

- Lack of coordination between adjacent water utilities resulting in an unorganized regional approach and duplication of facilities and conflicts over service area.
- County land use policies and development approval processes which promote/encourage the establishment of small water systems.

The plan recommends Seattle Public Utilities (SPU) fully develop the Cedar River Watershed as a major component of the Puget Sound Regional Supply System.

### **KING COUNTY COMPREHENSIVE PLAN**

Since Sallal's service area is located in an unincorporated portion of the County, zoning of lands within the service area is regulated by King County in accordance with plans developed under the Washington State Growth Management Act (GMA). The Association can utilize these plans to estimate the ultimate number of services they are obliged to serve in the future.

### **WATER SYSTEM PLANS/SMALL WATER SYSTEM MANAGEMENT PLANS FOR RIVERBEND AND WILDERNESS RIM**

Riverbend Homesites Association and the Wilderness Rim Maintenance Corp. water systems are both islands within Sallal's service area and are operated independently. Both are under 1,000 connections and non-expanding. Riverbend system has their own water sources while Wilderness Rim purchases water wholesale from Sallal. Riverbend does not have a WSP or a SWSMP. While it is understood that Wilderness Rim has a SWSMP, it has not been made available for review during the preparation of this WSP.

### **EXISTING ZONING AND LAND USE**

Figure 1-5 shows the zoning for the Association. The majority of the land is zoned for residential use with various other commercial and industrial uses.

### **SERVICE AREA POLICIES AND CONDITIONS OF SERVICE**

Service area policies are important in guiding the development of a water system. The DOH has established a list of service area policies to be referenced in water system comprehensive plans. Table 1-4 lists the type of service area policy, the current Association policies, and the reference source.

**TABLE 1-4**

**Service Area Policies**

<b>Policy Name</b>	<b>Association Policy</b>	<b>Reference</b>
Wholesaling/Wheeling of Water	The Association currently provides water to two wholesale customers – Wilderness Rim, and, on an emergency basis, Riverbend. The Association would consider additional wholesale/wheeling customers on a case-by-case basis.	
Annexations	The Association is not actively pursuing any annexations. The Association would address annexation issues in a case-by-case basis.	
Direct Connection and Satellite/Remote Systems	The Association intends to provide retail service within its service area. To avoid the creation of private water systems within the Association’s service area potential customers, within the Association’s boundary, are required to request service from the Association. Prior to connection to the Association’s system, all fees shall be paid, main extensions completed and any special conditions addressed and resolved.	
Design Performance Standards	The Association has design standards that can be found in Appendix D. All new facilities must meet the requirements set forth in these standards.	
Latecomer Agreements	The Association will consider Latecomer Agreements on a case-by-case basis.	
Oversizing	If beneficial to the Association for future expansion, the Association will pay the extra cost to oversize water mains within the system.	
Cross-Connection Control Program	The Association adopted its Cross-Connection Control program in 1998. A copy can be found in Appendix E.	

Water facility extensions are individually acted on by the Board of Trustees. The process is initiated by a property owner's request for a facility extension. The Association does not solicit business, nor does it promote expansion of the system. The Association is required to investigate all water requests as per existing agreements with the Federal Government through the Rural Development Administration. The Association cannot refuse water service to anyone as long as the request does not jeopardize the existing memberships' rights and privileges in regards to their water availability. All costs involved in facility extensions are borne by the requesting party. In cases where improvements to existing facilities are necessary to serve the requesting party, the requesting party must pay the cost of the improvement. Agreements are signed and conditions are listed before any facility extension is undertaken.

### **Individuals**

In cases where the requesting party's property does not abut an existing water main, the requesting party is required to contact all property owners involved and a meeting is set up to explain how they can obtain water service to their property. In rare cases, some property owners do not wish to participate. Then the remaining property owners share in the project cost, with the right of refund if the non-interested owner(s) later request water.

### **Developers**

For new developments, developers are required to install all main lines, water service lines, hydrants, and any items needed to serve the area in which they wish to have service. They are also required to pay the required connection fees for the property being developed. In some cases, they are required to either deed land to the Association or provide a utility easement for future storage or possible well sites.

In cases where the new development is adjacent to other land that could be served by the Association in the future, main sizes may be oversized in order to facilitate the future demands of these parcels.

### **New Service Requests**

Requests for new water service within the Association's boundaries are processed upon completion of an application for service and payment of the required fees. Generally the requests are processed within one business day. As shown in this Water System plan the Association currently is not restricted by water rights or capacity, therefore the applications may be processed upon request. Once the fees have been paid the Association does not restrict the time frame within which the customer has to utilize the water. There is no "use it or lose it" policy.

New residential services receive the standard 3/4" X 5/8" meter. If the Fire Marshal requires the home to be sprinkled, the meter is generally increased in size with the applicant paying the fee for the increased size.

The Urban Growth Area for the City of North Bend was expanded as a result of the City's 2007 Comprehensive Land Use Plan and now extends into the Association's service area in the vicinity of I-90 (Figure 1-3). Both the Association and North Bend are planning on the Association servicing new customers within the Association service area, including those new customers that are in both the Association service area and the North Bend UGA.

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