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Water System Master Plan
For
Lake Grove Water District
Lake Oswego, Oregon
November 2015

Prepared By:
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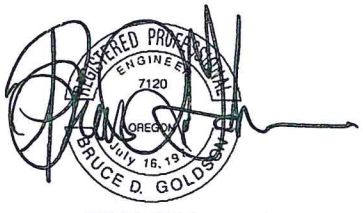
Project: 2015-02-52



EXPIRES: 06/30/2017
SIGNATURE DATE: 8/17/16

TABLE OF CONTENTS

EXECUTIVE SUMMARY

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INTRODUCTION

The Lake Grove Water District (OR41, 00460) is a local government water system located entirely in Clackamas County, in the Portland metropolitan area. The District is generally bounded by Interstate 5 to the west, Kruse Way to the north, Waluga and Carman Roads to the east, Boones Ferry Road to the southeast and Washington Court to the south. The District incorporates approximately 550 acres.

The District currently consists of residential property, apartment complexes, a shopping center, commercial office buildings, service stations, restaurants and hotels. The area is generally developed with modest new growth expected. The Kruse Woods Office Park is nearing complete development including two hotels, a 12-story office building and several multiple 4 to 6 story office buildings. The residential areas are originally developed generally without gravity sewers and redevelopment is likely with extension of sanitary service to larger lots.

The District currently purchases all of its water supply. Last year (2014-15), approximately 70 percent was purchased from the City of Portland and 30 percent from the City of Lake Oswego. The District is under a 10 year contract with the City of Portland to purchase water. Currently there is only a Inter Government Agreement (IGA) with the City of Lake Oswego. There have been preliminary discussions in the past, but no formal contract has been presented. There is one unmetered emergency connection, in addition to the metered service. The City of Tigard serves as a metered emergency source and an IGA is being reviewed (2015).

The entire District is totally within the Lake Oswego urban growth boundaries. An urban service agreement with the City of Lake Oswego has provisions for annexation of the District service area. In the event of annexation, all assets, liabilities and functions of the District will be assumed by the City, and the District would cease to exist. Annexation is subject to approval of the voters within the District and City. No annexation proceedings have been initiated at this time.

There are two (2) concrete common wall storage reservoirs located on Boones Ferry Road across from Knaus Road. The transmission line is a 16-inch ductile and cast iron line running approximately 10,000 lineal feet to the District. Six (6) and eight (8) distribution lines are looped around the 16- and 12-inch transmission lines. There are several dead end lines in the District that have the potential to be looped.

The District has programs in place to upgrade with electronically read AMR (Hot Rods) meters. Upgrades began in 2013-14 with 150 meters, with an additional 300 in 2014-15.

The District serves a population of approximately 3,000 through 1,190 residential services and 64 commercial customers.

The overall objective of this study is to develop a plan for the District that will best serve the present and future water supply and service needs.

REPORT CONTENT

This report is comprised of five sections. Section 1 describes the Lake Grove Water District, including the location of the project and summarizes the scope of work. Section 2 provides a description of the existing water system including the water supply, distribution, historical water usage, water loss percentages and billing. Section 3 Provides a summary of the guidelines for a water master plan and design guidelines for the water system. Existing and forecasted populations, economic conditions, and site specific water system requirements are also presented. Section 4 describes the water supply, reservoirs and water distribution system alternatives identified for the District. Water conservation measures and regulatory issues are also addressed. Section 5 presents the estimated construction cost of the recommended improvements along with potential financing sources.

FUNDATMENTAL PLANNING ELEMENTS

Water Usage

Water purchase figures for the past six (6) years for the Lake Grove Water District varies between 232,367,000 and 256,465,000 cubic feet and is not always increasing year by year. The water purchased from the City of Portland has varied from 58 percent to 82 percent of the purchased water. The City of Lake Oswego has supplied the balance.

Current Service Goals of the District

The overall goal of the Lake Grove Water District is to comply with all State and Federal regulations concerning water quality, flow and pressure requirements and capacity needs related to water use and fire flow needs. The regulations include, but are not limited to, the Safe Drinking Water Act (1974) and its amendments as implemented by the United States Environmental Protection Agency; the laws under ORS Chapter 448 and the Oregon Drinking Water Quality Act. More information regarding the Oregon Drinking Water Quality Act can be found in the Oregon Administrative Rules, Chapter 333, Division 61: Public Water Systems. Local and State laws have requirements regarding flow and pressure requirements. Local fire districts provide rules for required fire flows.

Water Treatment Facilities

The District does not own or operate any water treatment facilities since it receives all of its supply from the City of Portland and the City of Lake Oswego. Therefore, this component will not be evaluated.

Economic Conditions and Trends

Current and future water demands for the Lake Grove Water District are affected by the population and economic trends. Currently, the District is essentially comprised of residential units, apartment complexes, a shopping center, commercial offices, service stations, restaurants and hotels. The District is located within the current urban growth boundary of Lake Oswego. The area is generally developed with little vacant land and with modest new growth expected.

Population

As of 2014 there were 1,190 residential and 64 commercial accounts. Utilizing the population factor of 2.4 persons/service connection, the current population is approximately 2,856. The commercial office area has a daily employee workforce of approximately 6,500. Using a linear correlation of the service connections, the future population for planning years has been calculated with continued slow growth.

Present Water Demand

The annual amount of water purchased by the District has fluctuated for unexplained reasons in the past 6 years. Economic, weather and increased rates likely have contributed to these fluctuations . The average water usage per capita values for average day is assumed to be 150 gallons per capita per day (gpcd).

Future Water Demand

The future water demand of the District can be estimated utilizing the forecasted population and the average per capita water usage. The average day demands through 2035 have been calculated assuming very modest growth.

Storage Design

The reservoir storage design incorporates: 1) equalizing storage, 2) emergency storage and 3) fire reserve storage. The sum of the equalizing storage, the emergency storage and the fire reserve storage based on peak demand for year 2035 are 1,792,200 gallon. Alternately, the sum of the equalizing storage @ 3 times the daily average, the emergency storage and fire reserve storage demand for plan years 2035 is 2,140,600 gallons. The storage requirements based three times the average are significantly larger than the storage volume estimated based the peak flows. Both approaches are considered acceptable. The reservoir storage capacity is 2.2 MG filled to the overflow. Currently the level is being regulated several feet below the overflow. With improved controls and careful management the distance from the water level to the overflow could be reduced to a minimum.

IMPROVEMENT ALTERNATIVES

Water Supply Source

District discussions about renewal of the purchase agreement with the City of Portland are on-going. The City of Portland will likely remain one of the District's water supply sources. The City of Portland's capability to provide adequate water supply remains statistic with expansion of the Powell Butte facility and loss of the City of Tigard as a wholesale customer. Sharp water rate increases are expected from the City of Portland. It is assumed that the City of Portland will be able to provide the required water through the year 2035.

The District and City of Lake Oswego have a very old intergovernmental agreement for supplemental water (1975) . Lake Grove Water District is the largest outside purchaser of water from Lake Oswego. The City of Lake Oswego has indicated that the City can continue to provide water to meet the District's needs. The City of Lake Oswego/Tigard joint agreement and improvements to capacity have caused rates to rise significantly and expected to see marked increases for the next several years.

Storage Reservoirs

Currently, the District has a storage reservoir located northeast of the District, at the intersection of SW Boones Ferry Road and Knaus Road. The current reservoir capacity is 2.2 MG. Calculations estimate that the current reservoir has sufficient storage capacity to service the District through the

year 2035. It is recommended that the District consider a structural/ geotechnical evaluation of the reservoir.

Transmission Lines

Currently, the District receives water from the City of Portland via an 8-inch transmission line. This line feeds the 2.2 MG reservoir after flowing through a 6-inch meter. This meter is maintained by the City of Portland Water Bureau and is in good working condition. The District receives water from the City of Lake Oswego via a 6-inch connection at Davis Lane that backflows in the 16-inch transmission line to the reservoir. This connection at Davis Lane has been upgraded with telemetry to better regulate the flow. The transmission line sizes are adequate to feed the reservoir without causing any deficiencies to the District's system. The main transmission line to the District customers is a 16-inch cast iron line that leaves the reservoir and travels along Boones Ferry thence south on Carman Drive. This line is also in satisfactory condition, but is in need of valve maintenance.

Distribution Lines

All of the distribution lines within the District are 6-inch, 8-inch, 12-inch or 16-inch and are of cast iron or ductile iron construction. The District previously removed all asbestos lines and does not allow PVC as a material for piping. However, there are areas within the District that have dead end lines. Three dead end lines that have the potential to be looped are:

Area 1 (Shakespeare)proposes to connect two 6-inch diameter lines with 300 feet of 6-inch water line. The District has previously identified this connection as a goal, but the acquisition of land and/or easements is difficult.

Area 2 (Denny Court) proposes to connect two 6-inch diameter lines with 200 feet of 6-inch ductile iron pipe.

Area 3 (Boone Ferry)proposes to connect a 6-inch line with an 8-inch line using approximately 1,400 feet of 8-inch ductile iron pipe. (Boones Ferry Road and Bryant Road)

The connections described in Areas 1-3 would provide an excellent looped water distribution system for the District. A replacement schedule needs to be implemented as the cast iron lines are nearing their design life.

Water Conservation

As well as continued monitoring of the water distribution system for leaks, the District has implemented a tiered rate structure, a public education program, and is considering voluntary retrofitting/replacement to encourage water conservation, and efficient irrigation programs.

Regulatory Requirements

All public water systems within the State of Oregon are subject to regulations as presented in Oregon Administrative Rules (OAR), Chapter 333, Division 61. The District has adopted rules and regulations for water service and a cross-connection ordinance. Design standards for the District have been most recently updated in 2015. The design standards were adopted from Oregon American Public Works Association (APWA), American Water Works Association (AWWA) and best management practices.

IMPROVEMENT PLAN

The following sections describe the improvement plan that is recommended for the Lake Grove Water District.

Source

It is recommended that the Lake Grove Water District to continue its water purchase agreements with the City of Portland and implement a written agreement with the City of Lake Oswego.

Storage Reservoirs

The current storage reservoir has adequate capacity for the design year 2035. No improvements to the storage reservoir are recommended at this time.

Transmission and Distribution System

The current transmission lines feeding the storage reservoirs are adequate, but entering the end of a design life of 50-75 years. The District needs to develop a replacement program. The distribution system could be improved by elimination of some of the dead end lines.

Water Conservation

It is recommended that the District continue its current water conservation efforts, i.e. leak detection and repair. The District has implemented a basic public education program via brochures. The brochures recommend installation of water conserving plumbing fixtures and explanation of efficient lawn and garden irrigation.

The development of a water conservation rate structure encourages consumers to conserve water. This rate structure require a major users to pay more, and reward customers who minimize their water usage.

Regulatory Requirements

The District should continue to comply with the drinking water regulations outlined in OAR 333 (061) and with all requirements of the Oregon Health Division.

END OF SECTION

SECTION I

CHARACTERISTICS

SECTION I – CHARACTERISTICS - LAKE GROVE WATER DISTRICT

1.1 Water District Characteristics

The Lake Grove Water District (OR41, 00460) is a local government community water system located entirely in Clackamas County, in the Portland metropolitan area. The District office is located at: 16552 Boones Ferry Road, Lake Oswego, Oregon 97035. The mailing address is: P.O. Box 1173, Lake Oswego, Oregon 97035. The District also has a website: www.lakegrovewater.com.

The District currently consists of residential property, apartment complexes, shopping centers, commercial office buildings, service stations, restaurants and hotels. The area is generally developed with minimal redevelopment in residential areas with the extension of public sewers. The District is within the urban growth boundaries of Lake Oswego.

The Kruse Woods Office park is a class A office complex and only has one undeveloped building pad. The other commercial area is located on Bangy Road from Kruse Way to Burma Road. Large residential areas are without gravity sewer and redevelopment is generally only possible with extension of sanitary service to the larger lots. Most of the property to be redeveloped is under County jurisdiction and will be annexed into the City of Lake Oswego with an R-7 zone, as the sanitary sewer becomes available.

The District currently purchases all of its water supply. In 2014-15, approximately 70 percent was purchased from the City of Portland and 30 percent from the City of Lake Oswego. The City of Tigard serves as an emergency source with a metered connection. The District has two interconnected, common wall reservoirs with a total storage capacity of 2.2 million gallons. These reservoirs are located at the intersection of Knaus Road and Boones Ferry (Figure 1-1). The transmission lines are 16-inch ductile and cast iron lines. The 6-inch and 8-inch distribution lines are looped around 16- and 12-inch transmission lines. There are dead end lines in the District due to cul-de-sacs and land development. The District serves a estimated population of 3,000 through 1,190 residential, and 64 commercial connections.

Oregon Health Authority (OAR333-061-0060) plan submission and review requirements, (OAR333-061-0057) (a) plan submission; (b) Preliminary plans, pilot studies, master plans and construction plans shall be prepared by a Professional Engineer registered in Oregon, and submitted to the Authority unless exempted by the Authority (See OAR 333-061-0060 (4)); (c) OAR 333-061-0060 (5) master plans require each master plan to evaluate the need for at least a twenty year period.

1.2 Study Area

The Lake Grove Water District is generally bounded by Interstate 5 to the west, Kruse Way to the north, Carman and Waluga Roads to the east, Boones Ferry Road to the southeast and Washington Court to the south (Figure 1-1). The District incorporates approximately 550 acres.

1.3 Study Objective

The overall objective of this study to update the 1998 Master Plan and present the future water supply and service needs.

1.4 Scope of Study

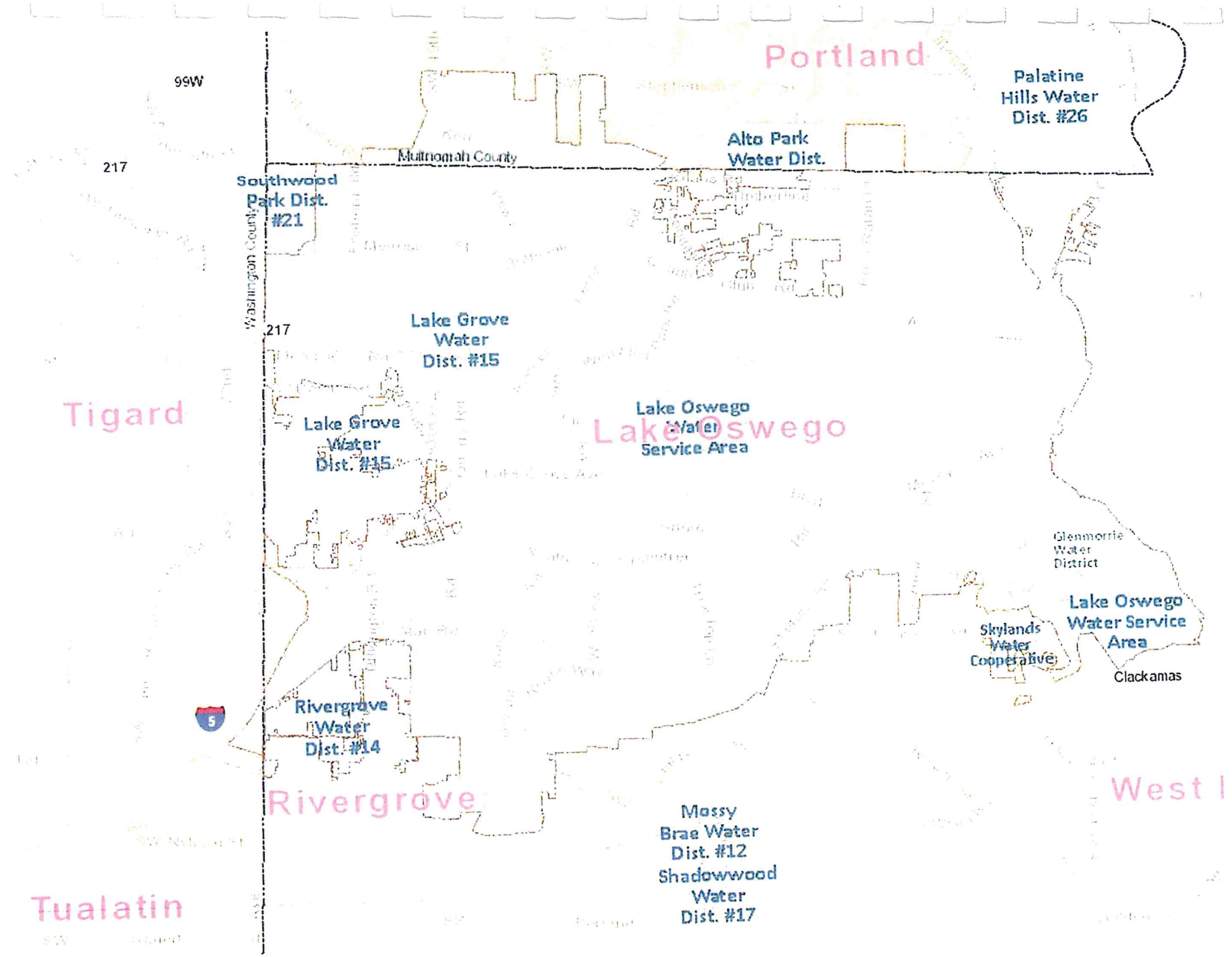
The overall scope of the Lake Grove Water District Master Plan update contains:

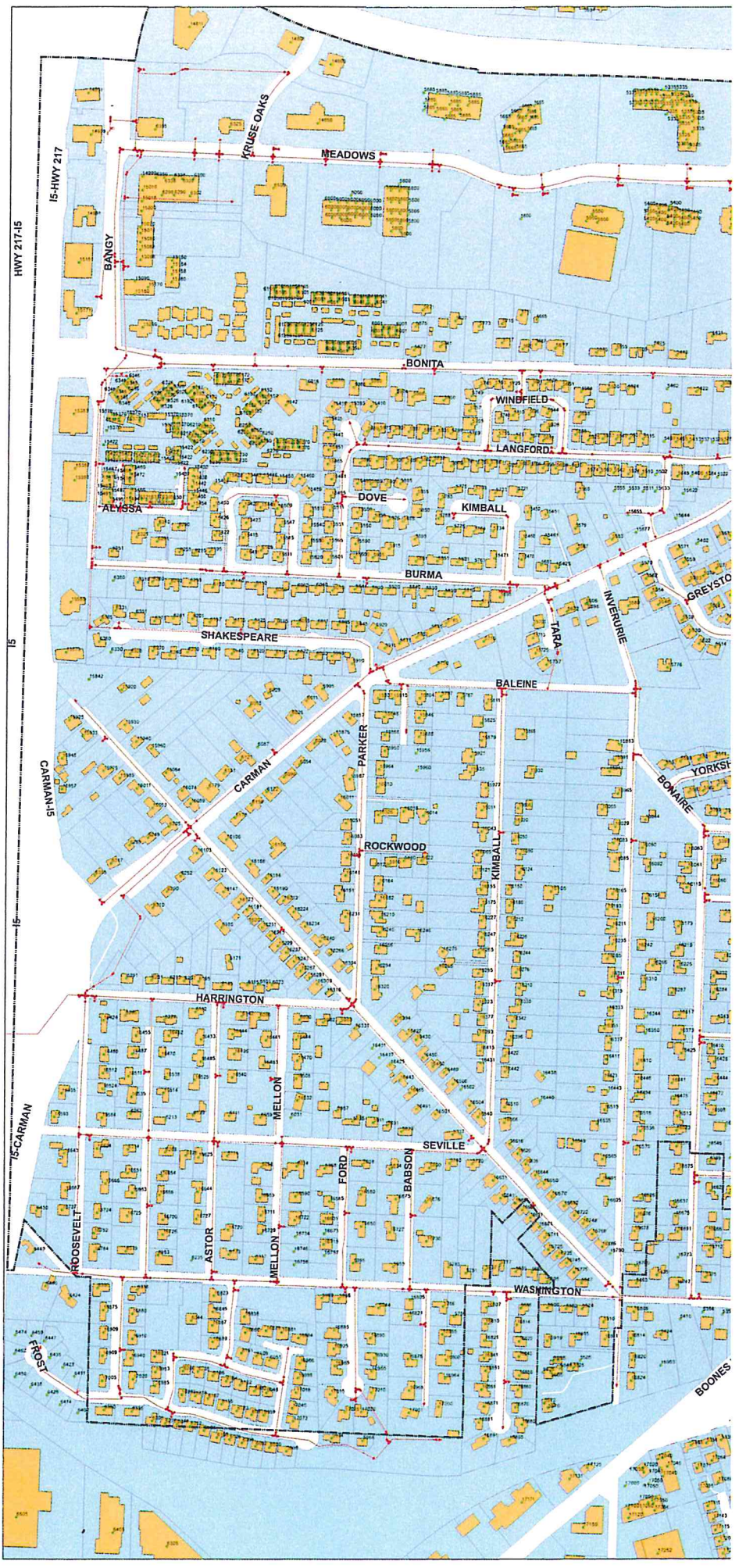
1) An evaluation of the current water supply facilities and usage;
2) An evaluation of the current water quality and level of service goals of the system;
3) An estimate of projected population growth;
4) An evaluation of possible improvements to the District's water system.

1.5 Authorization

THETA, LLC, the District Engineer consultant updated the Master Water Plan July 2015. Funding for preparation of the master water plan is provided by the District.

END OF SECTION


Portland
99W
217
Multnomah County
Palatine Hills Water Dist. #26
Alto Park Water Dist.
Southwood Park Dist. #21
Washington County
217
Lake Grove Water Dist. #15
Tigard
Lake Grove Water Dist. #15
Lake Oswego
Lake Oswego Water Service Area
Glenmorrie Water District
Lake Oswego Water Service Area
Skylands Water Cooperative
Clackamas
5
Rivergrove Water Dist. #14
Rivergrove
West L
Mossy Brae Water Dist. #12
Shadowwood Water Dist. #17
Tualatin



NORTH

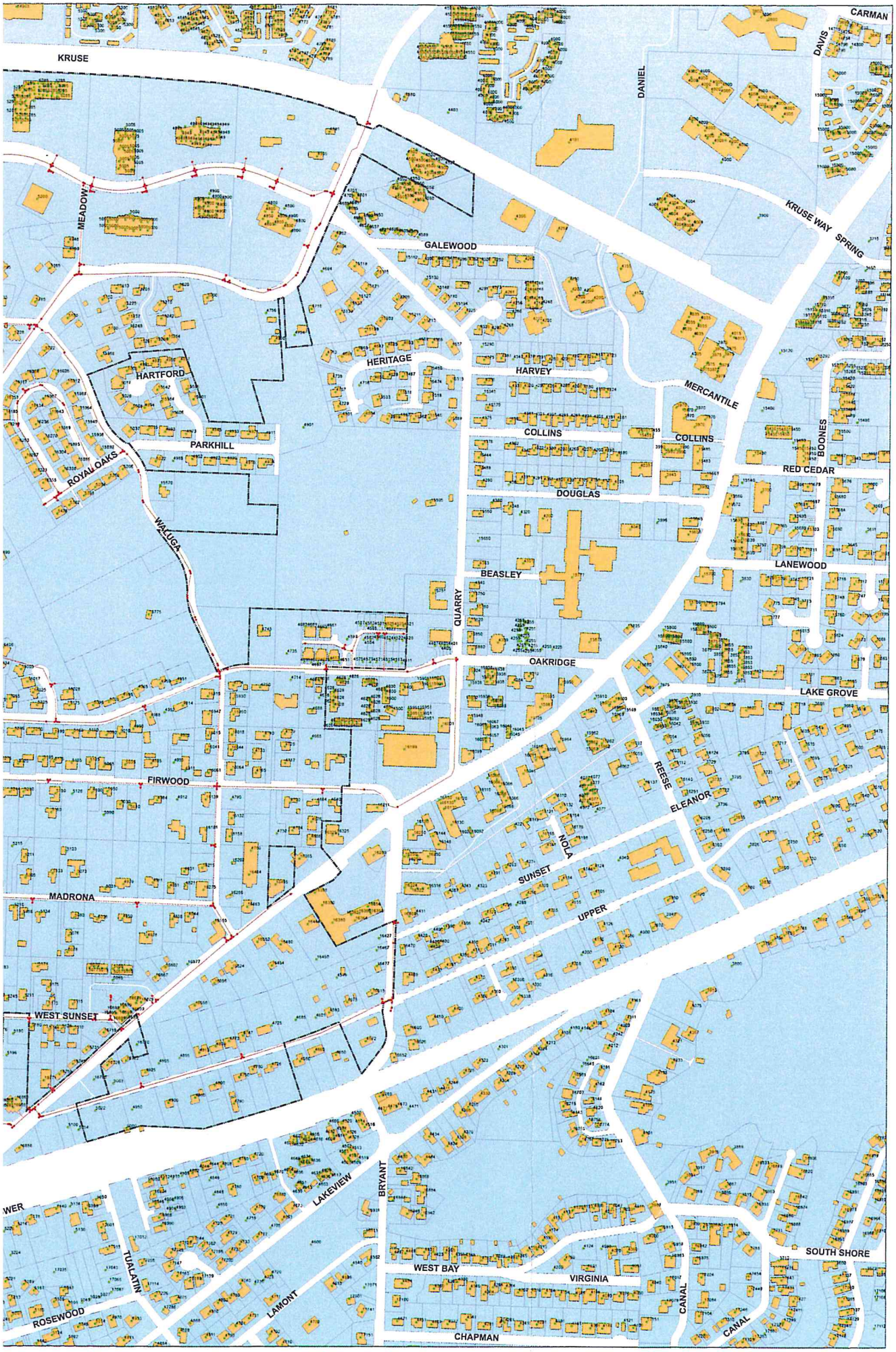
1 inch = 200 feet

PREPARED BY:

THETA, LLC

MARCH, 2014

WATER DISTRICT



SECTION II

EXISTING FACILITIES

SECTION II – EXISTING FACILITIES

2.1 Lake Grove Water District Water Supply

The City of Portland and the City of Lake Oswego are the current water supply sources for the Lake Grove Water District. The District is under a 10-year contract with the City of Portland to purchase water. The original purchase contract is dated January 21, 1981 and was amended February 28, 1995. The contract amendment waived growth impact charges due from the District for July 1, 1990, July 1, 1991, July 1, 1992, July 1, 1993 and July 1, 1994. The current wholesale agreement became effective July 1, 2006 for ten years, through June 30, 2016. Automatic 10-year extensions until notice is given to avoid an extension of the contract. The contract and amendment are included in Appendix A.

There is a written IGA (dated July 1995) with the City of Lake Oswego. Preliminary discussion about a formal contract has been held in the past with Lake Oswego. Lake Grove is Lake Oswego's largest wholesale customer. With the formation of the Lake Oswego/Tigard partnership and new treatment facilities and capacity, this partnership has excess capacity. There have been informal discussions with Lake Oswego and Lake Grove Water about purchasing additional volumes from the City of Lake Oswego. A draft IGA between the City of Tigard Water District and Lake Grove Water District is being pursued (October 2015) utilizing the existing connection at I-5.

2.1.1 Flow Metering

A 6-inch Rockwell meter is located along SW Boones Ferry Road at the "Leaving Portland" sign to record the amount of water entering the Lake Grove Water District from the City of Portland. Past the meter the line is an 8-inch ductile iron line which was upgraded in 1994. Maintenance of the meter is by Portland Water Bureau (PWB) at expense to the Lake Grove Water District.

The City of Lake Oswego meter is located along Carman Drive at the intersection of Davis Lane. A telemetry sensor has been installed by the District and at the reservoir, to control flow and minimize water costs by the City of Portland.

A telemetry facility was installed by the District (2015) near the Lake Oswego connection that controls the reservoir level and flow from Lake Oswego. This system can be monitored remotely by the District personnel.

The City of Tigard (emergency source) water meter is located at the intersection of Carman Drive and Interstate 5. The City of Tigard water connection crosses I-5 and enters the Lake Grove Water District at the intersection of Harrington Avenue and Roosevelt Avenue. The elevation at the Tigard meter is approximately 220 and approximately 250 at Carman/Kruse. This would result in 15PSI reduction from the Tigard static pressure and would be significantly less than the current pressure throughout the District.

2.1.2 Water Costs

Both the City of Portland and the City of Lake Oswego/Tigard Partnership have proceeded with major improvements. This has caused the wholesale cost of water to escalate. By comparison the wholesale rate in 1998 for the City of Portland was between $0.75/ccf and $1.12/ccf, and currently in 2015 is $1.377 per ccf . Lake Oswego rate in 1998 was $0.67/ccf and is now $1.33 ccf, off peak and $2.91 ccf, peak.

gg2.1.3 Water Purchase Agreement

The Lake Grove Water District entered into a purchase agreement with the City of Portland on January 21, 1981 to purchase wholesale water. The current contract was updated in 2006 with a ten (10) year time period.

1. The duration and language from the contract:

   Section 3 – Duration of Agreement and Renewal (Highlights)

   A. Initial Term

   This agreement became effective on July 1, 2006 and shall continue in effect thereafter under the terms of this section, unless terminated as provided herein. Each "contract year" shall run from July 1 through June 30.

   B. Initial Five Year Non-Renewal Notice

   At any time during the five-year period from July 1, 2011, through June 30, 2016, either party may give a written notice of non-renewal. If such notice is issued, the contract will terminate on the next June 30 at least five years but not more than six years from the date of notice.

   C. First Renewal in 2016

   If neither party give notice of non-renewal on or after July 1, 2011, and prior to July 1, 2016, the contract shall continue for another ten years, through June, 30, 2026.

   D. Subsequent Renewals After June 20, 2026

   If this contract is renewed pursuant to Subsection 3. C. above, then the contract shall also be repeatedly renewed for ten year intervals after June 30, 2026, and every ten years thereafter, unless one of the parties gives notice of non-renewal under the terms of Subsection E. below.

   E. Five Year Non-Renewal Notice

   Either party may provide a written non-renewal notice any time during the second five years of each ten-year renewal period. If either party gives notice of non-renewal during the non-renewal notice period, the contract will terminate on the next June 30 at least five years, but not more than six years from the date of the notice.

2. *Rate:*

   The rate is determined annually via a complex procedure which includes maximum daily and monthly flows, seasonal peaking factors and interruptible water purchases. Some elements of the contract are being refined by interpretation of the contract by the City of Portland.

The Lake Grove Water District receives a monthly water bill statement that it is required to pay within 30 days. The agreement is included in Appendix A.

There is only an IGA for water purchase agreement with the City of Lake Oswego (see Appendix A). A written IGA agreement is being pursued with the City of Tigard (2015-see draft Appendix A).

2.1.4 Minimum Purchase

The Lake Grove Water District agrees to purchase a minimum amount of water from the Portland Water Bureau. If the District does not use its minimum amount (determined by metering), it will still owe the Portland Water Bureau an amount that compensates the Bureau for the guaranteed minimum purchase. The purchase ratios are re-calculated annually and are based upon the proceeding five years' usage. No additional charges have been assessed to the District in more than five years. Since the amount has been rigidly monitored, the District has been able to continually reduce the required amount purchased from the City of Portland.

2.2 Water Distribution System

Water supply from the City of Portland and the City of Lake Oswego arrives to the Lake Grove Water District through a 16-inch ductile iron pipeline outside the District. Both the City of Lake Oswego and City of Portland water is stored in reservoirs located at Boones Ferry Road and Knaus Road, which is approximately 10,000 feet from the District boundaries. The City of Lake Oswego water enters the 16-inch line approximately 7,000 feet from the reservoir and backflows into the reservoir. An altitude valve is used since the City of Lake Oswego pressure zone is approximately 10 feet higher than the Lake Grove reservoir. A new (2015) telemetry system with automatic valves controls the flow and reservoir level.

All lines within the District are either cast iron or ductile iron. All known asbestos lines have been removed from service and PVC C-900 is not currently allowed as a material within the District. Once water enters the Lake Grove Water District, there are 5 major loops with several interval loops.

Loop 1 – Begins at the intersection of Meadows, Carman and Quarry and continues westerly down Meadows to Bangy Road, westerly on Bangy Road to Bonita, continuing easterly on Bonita to Carman Drive and back northeasterly to the Meadows/Quarry intersection. This loop services the majority of the commercial properties in the District.

Loop 2 – Begins at the intersection of Bonita and Carman Drive with loop 1, continues westerly along Bonita to Bangy Road and continuing southerly along Bangy Road to Burma Road, and continuing southerly within an easement to Shakespeare Street, then easterly on Shakespeare Street to Carman Drive, and northeasterly along Carman Drive to the intersection of Bonita and Carman Drive. This loop has commercial properties on the south side of Bangy Road, the remainder are residential customers.

Loop 3 – Begins at Carman Drive and Burma Road at a point on loop 2 and continues along Carman Drive to the southwest to Lake Forest Blvd., and proceeding southeasterly along Lake Forest Blvd. to the intersection of Washington Court, Lake Forest Blvd. and Inverurie Road, and continuing north on

Inverurie Road to Carman Drive. This has a residential use and is largely outside Lake Oswego city limits.

Loop 4 – Starts at the intersection of Lake Forest Blvd. and Carman Drive and continues southwesterly to Roosevelt Avenue, continuing along Roosevelt to Washington Court and then south along Tracy Avenue to the intersection with Frost Avenue, then easterly along Frost Avenue to Summer Place, continuing in an easement easterly and then northwesterly to Denny Court, then north along Denny Court to Washington Court, and then east along Washington Court to the intersection of Washington Court, Inverurie Road and Lake Forest Blvd., then back to the northwest along Lake Forest Blvd. to the intersection of Lake Forest Blvd. and Carman Drive. This loop is entirely residential with a mixture of Lake Oswego and Clackamas County property.

Loop 5 – Begins at the intersection of Carman Drive, Bonita and Waluga Drive, and continues southwesterly along Carman Drive to the intersection with Inverurie Road, then southerly along Inverurie Road to the intersection with Washington Court and Lake Forest Blvd., then east along Washington Court to Boones Ferry Road, proceeding northeasterly along Boones Ferry Road to the intersection with Madrona Street, then along Madrona Street to the intersection with Waluga Drive, proceeding north to the intersection of Firwood Road, and proceeding easterly along Firwood Road to Boones Ferry Road, then along Boones Ferry Road to the intersection with Quarry Road, and then north on Quarry to the intersection with Oakridge Road, and continuing west on Oakridge Road to the intersection with Waluga Drive, and then continuing northerly along Waluga Drive to Carman Drive. This loop consists of commercial properties along Boones Ferry Road, but with the majority being residential.

There are several internal loop connections within each of these larger loops. There are several dead end lines ether inside or outside these loops. Several of these dead end lines can potentially be looped in the future.

2.3 Water Quality

The Lake Grove Water District complies with State and Federal standards for drinking water. All drinking water is tested by the City of Portland or the City of Lake Oswego prior to release to the District. The District has received boil required Notices from the City of Portland due to problems within the City of Portland system. No Notices have been generated due to District problems. Lake Grove has been participating with a water quality program whereby samples have been collected. Eight new eclipse No. 88 sample stations were installed in 2015 and located throughout the District.

2.4 Reservoir Storage

The reservoirs that serve the Lake Grove Water District are located on Boones Ferry Road across from Knaus Road.

The first reservoir was constructed in 1964 with a capacity of 1 MG. This is a rectangular concrete structure with a flat top. Connected by a common wall is a second concrete reservoir of similar design (1998) with a capacity of 1.2 MG. The first reservoir is currently 51 years old and potentially reaching its design life just past this master plan. Many concrete reservoirs have an actual useful life significantly past a design life. A cursory structural investigation in 1998 found no structural problems. Some minor leaks have been repaired. The newer reservoir was inspected in 2000 for

possible leaks and none were found except for minor weeping. This reservoir is currently 16 years old.

2.5 Customer Billing

Lake Grove Water District bills its customers on a bi-monthly basis. Each customer is charged a base service rate based on the size of meter. Water use is then based on a tier system. The current base rates and usage per tier is listed in Table 2.1. The Lake Grove Water District does all their billing in house. Recent rate studies by outside consultants have provided outlines and recommendations for raising rates.

Table 2.1 Lake Grove Water District Basic Customer Service Charges

Meter Size	Fixed Base Rate
5/8"	$39.50
3/4"	$43.45
1'	$55.30
1.5"	$71.10
2"	$114.55
3"	$434.50
4"	$553.00
6" fire	$829.50
6"	$829.50
8"	$1106.00

Rates are based on the meter fixed base rate plus a tiered usage rate.

(100 cubic feet) CCF Units (effective 2/1/2016)		
Tier 1	Units 1-6	$2.00 each
Tier 2	Units 7-20	$2.90 each
Tier 3	Units 21+	$4.55 each

2.6 Current Water Usage

Water usage figures for years 1990-1996 and for 2009-2015 for the Lake Grove Water District are listed in Table 2.2. The total water purchased (from the water sources) for the years varies between 19,199,100 cubic feet in 1990-91 to 25,646,500 cubic feet in 2014-15 and has not always increased year by year. The 1992-1993 years were drought years and mandatory water conservation use was employed. 2008-2009 was the period of the great recession, but there was little or no growth until 2014.

In the past, the City of Lake Oswego has requested that the Lake Grove Water District not take water during summer months. With improvements nearing completion with the Lake Oswego/Tigard partnership there is excess capacity within this system. Calculation of the true water loss has always been difficult to determine since customer and master meters from the City of Portland and Lake

Oswego often are read at difference times. During the years 1990-1996, is a mean value of 9.2 percent loss has been calculated. In 1995 and again is 2012-13 electronic leak detection was contracted. In both cases leaks were found and repaired. Older service meters were also replaced and old galvanized lines replaced. As of 2015 the average water loss was calculated at 9.5 percent. The loss is within recognized limits and is primarily due to meter accuracy, minor leaks, construction, and fire losses. Figure 2.2 graphically depicts the above values.

Table 2.2
Lake Grove Water District
Yearly Water Consumption Report

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Total Water Purchased (CF)	20,850,800	20,964,100	19,199,100	22,066,700	23,619,700	22,858,700
Customer Usage (CF)	19,030,000	19,596,800	17,087,288	19,380,000	21,386,800	21,185,600
Purchased from Portland (CF)	13,601,100	14,057,700	2,832,100	10,818,800	12,656,700	11,349,200
Purchased from Lake Oswego (CF)	7,249,700	7,734,200	16,367,000	11,247,900	10,963,000	11,509,500
Increase / (Decrease)		5.4%	(8.4%)	14.9%	7.0%	(3.2%)

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Total Water Purchased (CF)	25,357,900	23,976,900	28,043,100	23,236,700	24,383,200	25,646,500
Purchased from Portland (CF)	14,704,900	14,494,000	14,632,500	19,053,500	17,247,000	17,682,500
Purchased from Lake Oswego (CF)	10,653,900	9,482,900	10,410,600	4,183,200	7,136,200	7,964,000
Increase / (Decrease)		(0.5%)	17.0%	(17.1%)	4.9%	5.2%

Between 1990-91 and 2014-15 = 24 years, there has been increase in total water purchased by 23%.

END OF SECTION

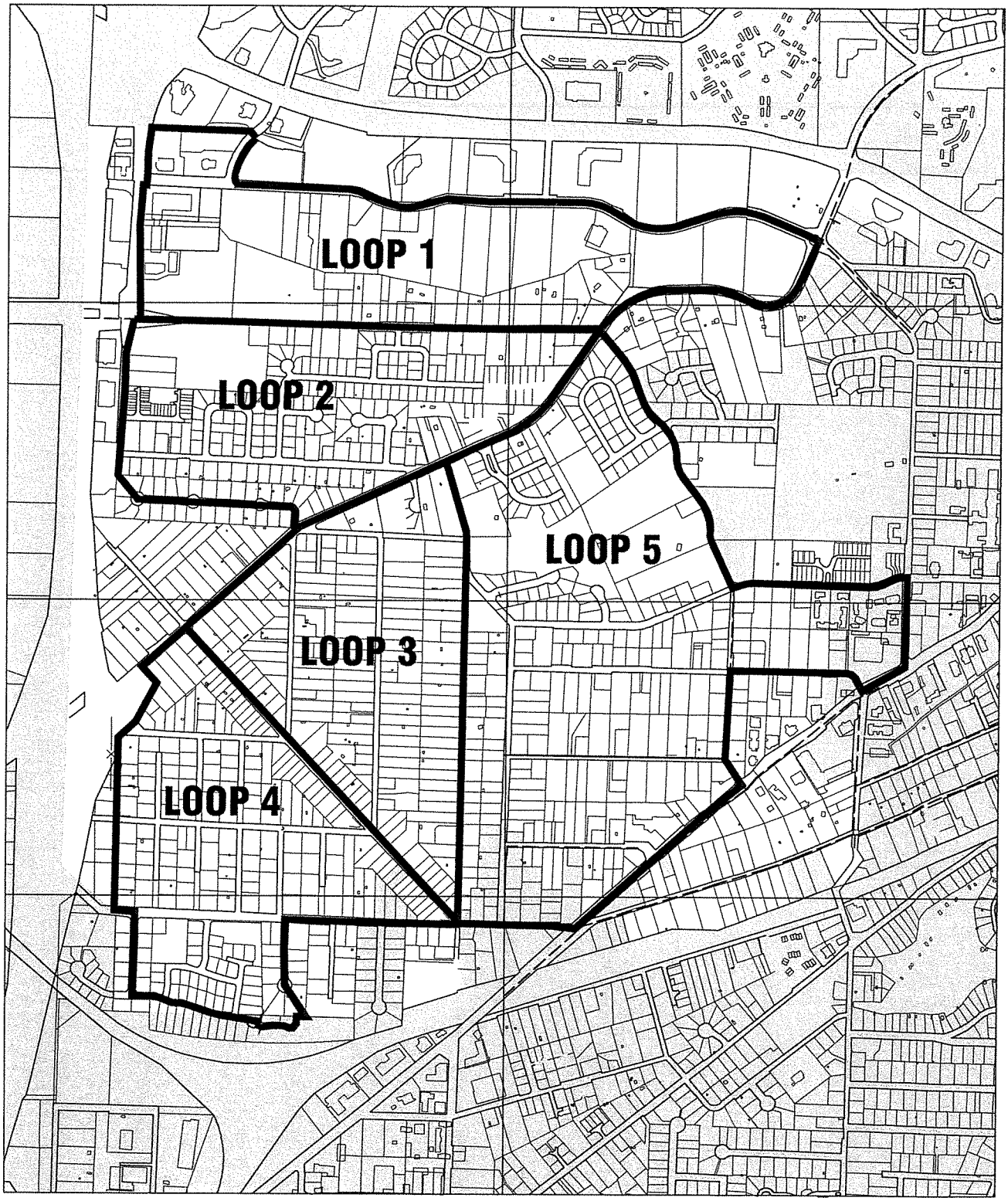


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FIGURE 2-1

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SECTION III

WATER SYSTEM MANAGEMENT AND PLANNING

SECTION III - WATER SYSTEM MANAGEMENT AND PLANNING

3.1 Water Master Plan Content

All community water systems with 300 or more service connections are required to have a current master water plan prepared by a professional engineer registered in Oregon. Currently, the Lake Grove Water District has more than 1,250 active accounts. The master plan shall evaluate the needs of the water system for at least a twenty year period. In order to be approved by the Department of Human Resources, Oregon Health Division, the master plan shall include the following items pursuant to OAR 333-061-0060:

a) A summary of the overall plan;
b) A description of the existing water system;
c) A description of water quality and level of service goals;
d) An estimate of the projected growth of the water system;
e) An evaluation of the ability of the existing water system facilities to meet the water quality and level of service goals;
f) Identification of alternative engineering solutions to meet any deficiencies of the system facilities that do not meet the water quality and level of service goals;
g) A description of financing alternatives for the identified engineering solutions;
h) A recommended water system improvement program.

3.2 Current Service Goals of the District

The overall goal of the Lake Grove Water District is to comply with all State and Federal regulations concerning water quality, flow and pressure requirements, and capacity needs related to water use and fire flow needs. The regulations include, but are not limited to, the Safe Drinking Water Act (1974) and its amendments as implemented by the United States Environmental Protection Agency (EPA); the laws under ORS Chapter 448, the Oregon Drinking Water Quality Act. More information regarding the Oregon Drinking Water Quality Act can be found in the Oregon Administrative Rules, Chapter 333, Division 61: Public Water Systems. Local and State laws have requirements regarding flow and pressure requirements. Local fire districts provide rules for required fire flows.

3.3 Design Life and Capacity/Sizing Criteria

There are six major components of a water system: water source, water treatment, facilities, storage reservoirs, storage capacity, reservoir site and water main size. Each component must have enough capacity to meet the water demand for the planning period.

3.3.1 Source

The water source must be capable of supplying the maximum daily demand of the water system for years. The current sources for the District are the City of Portland and the City of Lake Oswego. The current agreement with the City of Portland expires in 2016. The Portland contract automatically without required notice extends for another 10 years. A formal agreement with the City of Lake Oswego has yet to be prepared, other than the 1975 IGA. There is a strong recommendation to retain both the City of Portland and Lake Oswego as sources.

3.3.2 Water Treatment Facilities

The District does not own or operate any water treatment facilities, since it receives all of its supply from the City of Portland and the City of Lake Oswego. Therefore, this component will not be evaluated.

3.3.3 Storage Reservoirs

Storage reservoirs have a design life of 60 years for steel construction and 80 years for concrete construction. The District currently has two concrete reservoirs with a capacity of 2.2 MG. The original reservoir is now 51 years old and has no known structural deficiencies. At the end of this master plan the original reservoir is nearing its expected design life. It is recommended that both reservoirs be evaluated for current geotechnical and structural criteria in light of the Cascadia subduction zone. Both reservoirs share a common wall and have a similar design.

3.3.4 Storage Capacity

Reservoirs are sized so that they can provide equalizing storage, emergency storage and fire reserve storage.

Equalizing Storage is used to adjust for fluctuations in the supply and demand in the water system. For Lake Grove, the equalizing storage is typically estimated using 20 percent of the maximum daily demand.

Emergency Storage is required to protect against a total loss of the water supply. A total loss could result from a treatment plant shutdown, contaminated supply, broken water main or an electrical outage. The emergency storage should be an adequate volume to supply the system's average daily demand times 2.5 to 3 times or to the maximum daily demand.

Fire Reserve Storage is required to fight a fire within the water system. Fire flow storage is based on the maximum flow and duration required to fight a major fire. Fire flows of 1,000 GPM are sufficient for one or two family dwellings not greater than two stories in height within the County or City. Lower fire flows are often used in rural service areas. Commercial and institutional buildings require higher flows. These fire flows are estimated for each individual building, based upon occupancy, material construction and size of structure.

3.3.6 Reservoir Site

The reservoir site should be selected such that the elevation of the reservoir maintains adequate water pressure throughout the water system. The pressure range in the water system should stay between 25 and 100 psi, with 20 psi as an absolute minimum.

The Lake Grove reservoir site is ideally located to serve the District with a ground elevation of approximately 460, and the first customer at a ground elevation of approximately 260 not including the reservoir height results in a static pressure of 87 psi at the first customer at the low point in the District that static pressure exceeds 125 psi.

3.3.6 Water Mains

Water mains should have a design life of 50 to 60 years. Distribution mains are typically sized for fire flow and the estimated 20 year population demand. Mains should have a minimum size of 6-inches diameter to provide minimum fire flow capacity. All mains should be large enough to sustain an operating pressure of 25 psi. State regulations require a pressure of 25 psi at all service connections at all times.

In addition to the above design criteria, the following recommendations are used in design:

2" diameter lines:	dead-ends without a fire hydrant, not exceeding 200 feet in length and serving no more than four residences.
4" diameter lines:	maximum length of 400 feet on dead-end mains with no fire hydrant.
6" diameter lines:	standard size for looped system.
8" diameter lines:	minimum size for permanently dead-ended lines with fire hydrants.
10" diameter and larger:	main transmission lines.

Water system mains should be looped whenever possible. The installation of dead-end mains should be avoided.

In the Lake Grove District the majority of the mains are over 50 years old and are cast iron. The records are not very complete but indicate the majority of the mains were installed between 1963 and 1972. The newer lines are ductile iron. All known asbestos lines have been removed. There is a short length of 2-inch lines that are scheduled for upgrading. All the looped lines are 6-inches or greater and the standard for new construction is 8-inch ductile iron. A 6-inch line operating at the maximum plumbing code velocity of 10 ft/sec is capable of delivering 900 gal/min. An 8-inch line at 10 ft/sec will produce 1500 gal/min. The Lake Oswego Fire Department conducted fire flow tests to determine fire rating and rated the Lake Grove system very good.

3.4 Economic Conditions

Current and future water demands for the Lake Grove Water District are affected by the population and economic trends. Currently, the District is essentially comprised of residential units, apartment complexes, a shopping center, commercial offices, services stations, restaurants and hotels. The District is located within the Lake Oswego urban growth boundary. The area is generally developed with modest new growth expected.

3.5 Population

Previous population forecasts have proven to extremely overestimate the projected growth in the Lake Grove Water District. New projections by the City of Portland for 2005-2040 in the Lake Grove/Lake Oswego area have been characterized as low. Lake Oswego has forecasted a five year

population change to 2017 of 4.67%. Nearly all growth expected within the District boundaries will occur thought redevelopment and the availability of gravity sanitary sewer. Taking the growth rate of 4.67% for five years and computing a straight line increase of 4.67%/5 years = 0.934%/year. Applying this to the current service connections (1190*0.00934) = approximately 11 units per year.

A comparison can be made using the increase of services from 1996-2015, which was recorded as 187/18 years or 10.4 units per year. With economic, build cycles and other factors, 10 new service connections per year appear to be a realistic number. Relating meter services to population with a factor ranging from 2.3 to 2.5 persons/service connection the population growth in the District is likely to grow at a rate of approximately 25 persons per year. A factor od 2.4 was used for the population forecasts.

Year	Forecast of new construction	Forecast of population
2015	1190 current connections	2856
2020	1200	2880
2025	1210	2940
2030	1220	2928
2035	1225	2940

Currently there are 64 commercial accounts in the District. The Kruse Woods Office Park along Meadows Road only has one pad for future development. Some redevelopment along Boones Ferry is likely on the easterly side of the road within the next 5-years. This land includes the property leased by the Lake Grove Water District.

3.6 Water Demand

Water supply facilities are to be sized according to the anticipated water demand. This section estimates current water demands in the Districts and projects future water demands based on the current demands, economic trends and future populations.

A water supply may be considered adequate for current domestic water demands but inadequate for fire protection and future requirements. The future requirements may be higher due to population increases, zone changes, redevelopment and fire protection requirements. The future water demands also need to account for anticipated changes in technology and water supply regulations.

Future water demands can be estimated utilizing peak hour demand, peak day demand, peak month demand and annual demand. The new flow controls allow for estimates of peak hour demand and the peak day demands, but this information has not been available for sufficient time to determine peaks. The average annual demand is being utilized to determine the future water demands for the Lake Grove Water District.

Present Water Demand

The historical values for water demands for the fast six (6) years are shown in Table 3.4. The annual amount of water purchased by the District has some unexplained oscillations up and down for the past six (6) years. Factors that may have impacted usage include economic climate and weather.

For this six (6) year period there has been only a 1.14% (256456-253579/253579) increase in water purchases. This small increase may be attributed to water conservation and reduction in leaks. The water loss has been hard to quantify in the past due to different meter read dates from source and customers. The current loss rate has been calculated at 9.5% (2015).

Table 3.4
Annual Water Usage

Year	Portland (CCF)	Lake Oswego (CCF)	Total (CCF)	Yearly Change
2009-10	147,040	106,539	253,579	N/A
2010-11	144,940	94,829	239,769	(13,810)
2011-12	146,325	104,106	250,431	10,662
2012-13	190,535	41,832	232,367	(18,064)
2013-14	172,470	71,362	243,832	11,465
2014-15	176,825	79,640	256,465	12,633
			6 year average	246,074
			Gal/Day	504,283

Table 3.4 contains annual consumption and Table 3.5 the average day demand for years 2009-2015 along with the per capita water usages for the average day.

The average water usage per capita values for average day is 150 gpcd. The current water demands values were converted from cubic feet to gallons in order to obtain per capita water usage values.

Table 3.5
6-Year Daily Demand

Year	Annual Consumption MG/YR	Average Day Demand (gallons)
2009-010	190	520,000
2010-11	179	491,000
2011-12	187	513,000
2012-13	173	476,000
2013-14	182	500,000
2014-15	192	526,000

Future Water Demands

The future water demand for the District can be estimated utilizing the forecasted population and the average per capita water usage. There is a significant degree of uncertainty in determining the precise future water demand of the District. The following assumptions give credit to the uncertainty. First, it is assumed that the population will experience a growth pattern as outlined in section 3.5. Second, it is assumed that the same water usages will be maintained as per the historical record of the past six years. There is no accounting for future water conservation practices. However, use of the average per capita usages and forecasted populations will provide a reasonable prediction for future water demand. The peak day demand in the Portland metropolitan suburban area varies between 2.3 and 3.0 times the average. Oak Lodge Water District and Wolf Creek Highway District use 2.5 and 2.3 times, respectively. Based on actual average computed daily use the peak demand was found to be a factor of 1.68 to 1.75 for the Lake Grove Water District.

Table 3.6 Future Water Demands Total			
Year	Forecast Population	Average Daily Demand (gal/day)	Peak Day Demand (Gal/Day) 1.14%
2015	2856	526,000*	885,000
2020	2880	529,900	936,600
2025	2904	534,300	991,200
2030	2928	538,800	1,049,000
2035	2940	541,000	1,110,200
*Assumes: residential 150 gpcd residential = (2856) (150) = 428400 Commercial 15 gpcd commercial = (6507)(15) = 97605 Therefore 428400 + 97605 /2856 = 184 gpcd composite, values have been rounded			

Storage Design

The reservoir storage design criteria were presented in Section 3.3. The storage capacity incorporates: 1) equalizing storage, 2) emergency storage and 3) fire reserve storage. The Oregon Fire Code outlines fire flow and durations requirements based on building size and classification. Buildings with fire sprinklers have a reduced demand up to 75%. The fire reserve is based upon a minimum fire hydrant demand of 2,000 gpm for a duration of two hours. The storage capacity for the District is the sum of the equalizing storage, the emergency storage and the fire reserve storage.

The calculated values are in Table 3.7.

Table 3.7 Recommended Reservoir Storage Capacity Based on Average Annual Day Demand					
Year	Daily average	Equalizing Storage (gal)	Emergency Storage	Fire Reserve Storage (gal)	Total (gal)
2015	526,000	177,000	885,000	240,000	1,302,000
2020	529,900	187,300	936,600	240,000	1,363,900
2025	534,300	198,200	991,200	240,000	1,429,400
2030	538,800	209,800	1,049,000	240,000	1,498,800
2035	541,000	222,000	1,110,200	240,000	1,792,200

Table 3.8
Peak water use
2009-2015

Year	Peak month	Month ccf	Gal/day
2014-15	August	34,181	825,000
2013-14	July	35,753	888,000
2012-13	September	30,342	757,000
2011-12	June	36,608	915,000
2010-11	August	37,852	913,000

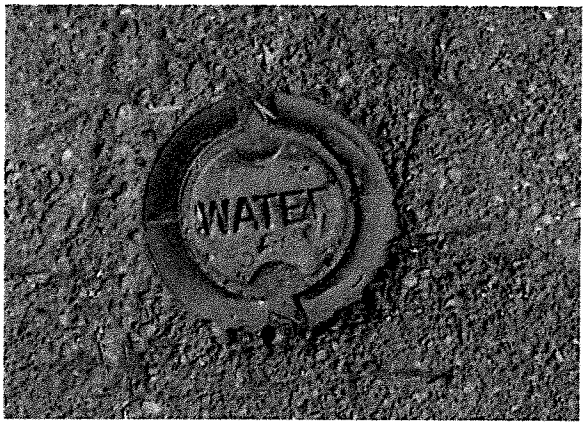
2009-10	July	41,921	1,012,000
			Daily peak average 885,000

Alternatively at the high end, if the emergency storage were calculated as three times the average daily demand (526,000) (3) = 1,578,000 + equalization storage @ 25% (221,300) + Fire storage (240,000) = 2,039,300 gallons needed in 2015, for 2035; emergency (541,000) (3) = 1,623,000 + equalization @ 25% (277,600) + fire storage (240,000) = 2,140,600 gallons. At the end of the 20 year period additional storage should be considered.

END OF SECTION

SECTION IV

ALTERNATIVES



SECTION IV - IMPROVEMENT ALTERNATIVES

4.1 General

The purpose of this section is to identify, evaluate and compare alternatives of improvements to the Lake Grove Water District system. The following components will be considered:

- Water supply source – City of Portland and City of Lake Oswego
- Water storage – reservoir
- Water mains – sizing and routing
- Water conservation
- Regulatory requirements

Many factors are considered in evaluating and comparing the alternatives for the components. These factors include feasibility, cost (capital and maintenance), user fees, implementation, risk, political acceptability and environmental impact.

4.2 Water Supply Source

The water supply source for the Lake Grove Water District is the City of Portland and City of Lake Oswego. Water is currently directed from the City of Portland via an 8-inch pipe and stored in 2.2 million gallon (MG) concrete common wall reservoirs located northeast of the District within the City of Lake Oswego. Water gravity flows to the same concrete reservoirs from the City of Lake Oswego via a 6-inch connection at Davis Lane.

Both the City of Lake Oswego and the City of Portland serve as the District's only water supply sources. The City of Portland's Powell Butte reservoir expansion and closing of surface reservoir in the City has resulted in significant increases in the rate structure for contract wholesale purchases. Similarly, Lake Oswego and the City of Tigard have jointed with major upgrades and improvements which resulted in significant increases in residential rates corresponding substantial increases in wholesale rates.

The District has no formal written contract with the City of Lake Oswego. The City of Lake Oswego has indicated that it can continue to provide water to meet the District's needs. The City of Tigard will continue to serve as an emergency source.

The District commissioned a study for possible wells within the District. The results were not favorable. The City of Lake Oswego Development Code is restrictive with respect to utility uses in residential zoning. There are no industrial zones in the District. The Meadows Road corridor has possible zones, they would be: campus research & development (CR&D) and mixed commercial (MC). Along Boones Ferry is West Lake Grove office commercial (WLGOC).
Development of wells as an alternate source need to consider the following:

- Ability to obtain Water Rights
- Land Use Zoning, and land use planning
- Development Costs
    - Purchase land

- Engineering
- Well construction and development costs
- Pipe line extensions and connections
- Treatment facility

- Maintenance and operation cost.

4.3 Storage Reservoirs

Currently, the District has storage reservoirs located northeast of the District, at the intersection of SW Boones Ferry Road and Knaus Road. The current reservoirs capacity is 2.2 MG.

Calculations provided in Section 3 estimate that the current reservoirs will have sufficient storage capacity to service the District through the year 2035.

4.4 Water Distribution

Improvements to the District's water transmission and distribution system are discussed in this section.

Transmission Line

Currently, the District receives water from the City of Portland via a 6-inch transmission line. This line feeds the 2.2 MG reservoir after flowing through a 6-inch meter. The meter tabulates the amount of water billed by the City of Portland. The 6-inch meter is maintained by the Portland Water Bureau. It is routinely maintained by the Portland Water Bureau and is in good working condition. The District receives water from the City of Lake Oswego via a 6-inch connection at Davis Lane. The transmission line sizes are adequate to feed the reservoir without causing any deficiencies to the District system. Recent controls at the Lake Oswego connection allows for remote monitoring and regulation of flow and reservoir height. A construction flow meter is connected to the City of Portland line.

The main transmission line to the District customers is a 16-inch cast iron line that leaves the reservoir and travels south on Carman Drive.

Distribution Lines

All of the distribution lines within the District are 6-inch, 8-inch, 12-inch or 16-inch and are of mostly cast iron with some ductile iron construction. The District previously removed all asbestos lines and does not allow PVC as a material for piping. There are three places within the District that have un-looped lines and can be looped. These areas are highlighted in Figure 4.1.

Area 1 is located between Bangy Road and Lake Forest Boulevard. The line is a 6-inch diameter line that could be connected to the 6-inch line in Shakespeare Street. The District has previously identified this connection as a goal, but the acquisition of the land and/or easements remains difficult.

Area 2 is located at the south end of Gassner Street. The District desires to connect the 6-inch ductile iron line in Gassner Street with the 6-inch line that was extended from Frost Lane.

Area 3 is located at Boones Ferry Road, Firwood Road and Bryant. A connection between the 8-inch cast iron line in Boones Ferry Road with the 6-inch cast iron line in Firwood Road and the 6-inch line of Bryant would complete two loops. The length of pipe required for the connection is approximately 1,400 feet. A preliminary design has been prepared and timing will be with the Boones Ferry Road improvement project anticipated in 2016-17.

4.5 Water Conservation

The District has taken an active stance towards water conservation. Beginning in 2013-14 and continuing in 2014-15, electronic read meters have been installed. The District has replaced a portion of the customer water meters. Pipe leakages are identified and repaired quickly due to daily and weekly monitoring of water use. The District's water losses have been currently calculated at approximately 9.5 percent.

Other measures that the District have pursued in water conservation include a public education program, voluntary retrofitting/replacement of inefficient water fixtures, new tiered rate schedule and rate structures which encourage water conservation and efficient irrigation programs.

A public education program on water conservation has been instituted in order to influence water consumption in the District. A typical program for the District could include mailings of brochures, pamphlets and guides.

Homeowners should be encouraged to replace inefficient water fixtures or to use retrofit kits. Retrofit kits consist of toilet tank inserts, low-flow showerheads, faucet flow restrictors and toilet leak detection dye tablets. Retrofit kits may cost approximately $7.00 each, depending on the specific items in the kit.

A tiered rate structure that encourages water conservation has been implemented:

Current Tiered Rate Schedule CCF units (effective 2/1/2016)		
Tier 1	Units 1-6	2.00 ea.
Tier 2	Units 7-20	2.90 ea.
Tier 3	Units 21+	4.55 ea.
*ccf = one hundred cubic feet of water, or 748 gallons.		

Since most of the customers in the District are residential users, the District could encourage these users to use efficient irrigation measures, i.e. watering in early morning and evening hours to reduce water loss due to evaporation.

Implementation of one or more of the above water conservation measures would reduce the per capita water use and monthly user fees.

4.6 Regulatory Requirements

All public water systems within the State of Oregon are subject to regulations as presented in Oregon Administrative Rules Chapter 333, Division 61. The District's responsibilities under these rules are identified below:

- Water suppliers are responsible for taking all reasonable precautions to assure that the water does not exceed maximum contaminant levels, that the water system facilities are free of public health hazards, and that the water system operation and maintenance are performed as required by OAR 333 (061);

- Routinely collect and submit water samples for laboratory analysis at the frequencies prescribed by OAR 333-061-0036;

- Take immediate corrective action when the results of analysis or measurements indicated that maximum contaminant levels have been exceeded and report the results of these analyses as prescribed by OAR 333-061-0040;

- Continue to report as prescribed by OAR 333-061-0040, the result of analysis or measurements which indicate that maximum contaminant levels have not been exceeded;

- Notify all customers of the system, as well as the general public in the service area, when the maximum contaminant levels have been exceeded;

- Notify all customers served by the system when the reporting requirements are not being met, or when public health hazards are found to exist in the system, or when the operation of the system is subject to a permit or a variance;

- Maintain monitoring and operating records and make these records available for review when the system is inspected;

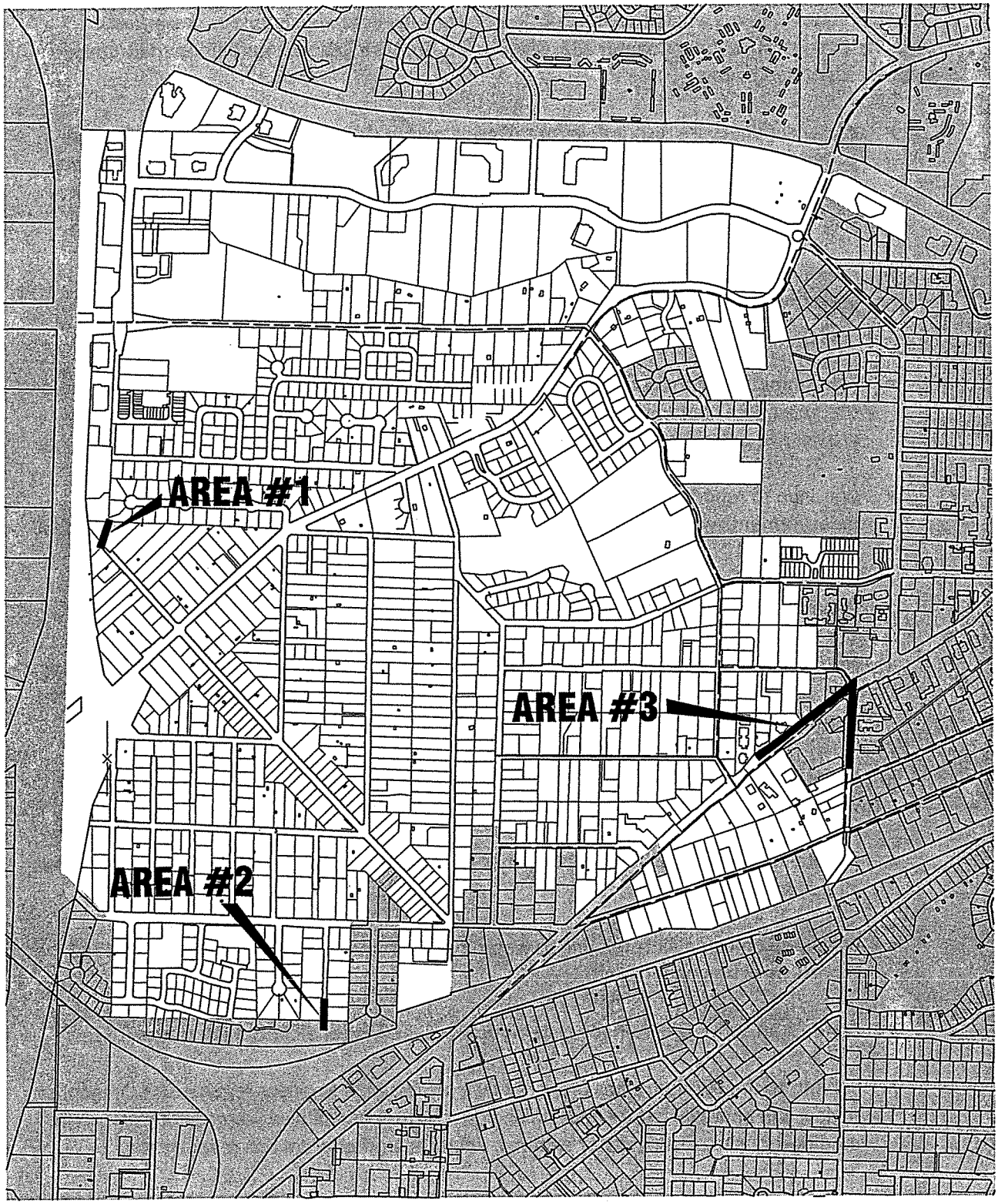
- Maintain a pressure of at least 20 pounds per square inch (psi) at all service connections at all times;

- Follow-up on complaints relating to water quality from users and maintain records and reports on action undertaken;

- Conduct an active program for systematically identifying and controlling cross sections;

- Submit, to the Division, plans prepared by a professional engineer registered in Oregon for review and approval before undertaking the construction of new water systems or major modifications to existing water systems, unless exempted from this requirement;

- Assure that the water system is in compliance with OAR 333-061-0205 through 333—61-0295 relating to certification of water system operators.



2009-02-52

IMPROVEMENT SITES

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The District has adopted rules and regulations for water service and a cross-connection ordinance. The cross-connection ordinance is included in Appendix B. Design standards were adopted from Oregon APWA.

END OF SECTION

SECTION V

IMPROVEMENT PLAN

SECTION V – IMPROVEMENT PLAN

The following sections describe the improvement plan that is recommended for the Lake Grove Water District. A cost estimate for these improvements is also provided.

5.1 Plan Selection

Source

The Lake Grove Water District has negotiated its water purchase agreement with the City of Portland. The District needs to implement a written agreement with the City of Lake Oswego. The cities of Portland and Lake Oswego source their water from different supply basins, a single source provided is not recommended.

Storage Reservoirs

As discussed in Section IV, the current storage reservoirs have adequate capacity for now but by the year 2035 may be considered undersized. No improvements to the storage reservoir are recommended at this time. A geotechnical /structural evaluation should be considered because of the Cascadia Subduction Zone and need for seismic evaluation

Transmission and Distribution System

The distribution system needs three improvements to complete loops. The specific improvements were outlined in Section 4.4. Associated costs and priorities are identified in Table 5.1.

The majority of the transmission and distribution lines in the District were installed in the early 1960's. All the lines are believed to be cement lined. The typical design life is 50-75 years, but this is subject to several factors. These include soil type, installation practices used and catholic protection by other utilities in the area.

Cast iron lines that have been exposed for tapping indicated that the surface is generally free of corrosion and the cement lining appears very serviceable. Breaks in the past were found to be a result of poor or non-existent bedding.

There are at least two large diameter valves in the 16-inch transmission line that are no longer serviceable.

Replacement Cost Schedule				
Size	Length	Engineering	Construction	Total *
6-inch	30,000	$200,000	$1,950,000	$2,150,000
8-inch	9,000	$85,000	$820,000	$905,000
12-inch	4,600	$80,000	$700,000	$780,000
16-inch	10,000	$200,000	$1,940,000	$2,140,000
			Total	**$5,975,000**

Schedule to replace cast iron mains with ductile iron assumes replacement will be the same diameter. *Based on 2015 costs without fees and permits.

Table 5.1 Preliminary Cost Estimate for Recommended Improvements to Lake Grove Water District			
Area	Length of Pipe	Priority	Preliminary Cost Estimate
1	300'	3	$23,900*
2	200'	2	$17,300
3	1400'	1	$200,000

*Does not include right-of-way or easement acquisition.

Hydrants

There are approximately 150 District hydrants with varying ages. The District has a program to conduct site visits to each hydrant each year and maintain as needed. There are approximately 30 hydrants that are the old style 2-port. Some of the 2-port hydrants have been recently replaced. The balance need to be on a replacement schedule.

Water Conservation

It is recommended that the District continue its current water conservation efforts, i.e. leak detection and repair. The District has implemented a public education program via brochures. The brochures could recommend installation of water conserving plumbing fixtures and explanation of efficient lawn and garden irrigation.

The implementation of a water conservation rate structure would encourage consumers to conserve water. This rate structure would require major users to pay more and reward customers who minimize their water usage.

Regulatory Requirements

The District should continue to comply with the drinking water regulations outlined in OAR 333 (061) and with all requirements of the Oregon Health Division.

5.2 Cost Estimate

Construction estimates with associated engineering design are provided for the distribution water lines outlined in Section 5.1 The estimates are preliminary only and will need to be re-estimated during the actual design process. The costs are based on 2015 dollars. To determine the costs for future year, add 3% per year (the approximate inflation value). The cost estimates for areas 1-3 and their priorities are shown in Table 5.1. Individual area cost estimates are included in Appendix C.

It is expected that the improvements to the water distribution system would occur over the next 5-7 years. The Boones Ferry/Bryant improvements are dependent on the Boones Ferry redevelopment project and are likely to be constructed in 2017.

5.3 Project Financing

There are several options available to fund improvements. These include:

- Revenue from water sales
- Systems Development Charge (SDC) fund
- General obligation bonds
- Revenue bonds
- Local Improvement District (LID)
- Oregon Community Development Block Grant Program
- Oregon Special Public Works Fund
- Oregon Water Wastewater Fund

These items are discussed in detail in the following sections.

5.3.1 Revenue Generated from Water Sales

An annual audit report is prepared by an outside consultant. This report has been prepared by Grimstad & Associates. Revenues for 2014 were $980,868 and $1,067,537 for 2015, a 9 percent increase. A tiered rate structure that encourages water conservation has been implemented:

Current Tiered Rate Schedule CCF units* (effective 2/1/2016)		
Tier 1	Units 1-6	2.00 ea.
Tier 2	Units 7-20	2.90 ea.
Tier 3	Units 21+	4.55 ea.
*ccf = one hundred cubic feet of water, or 748 gallons.		

5.3.2 System Development Charge (SDC) Fund

The system development charge (SDC) is in addition to the meter cost and installation. The SDC is the impact the new user will have on the system, and a fee for future capital expenditures. The District has an SDC based on meter size and use. The SDC's are included in Table 5.2. With the shift to more commercial development, the need to impose a fire protection charge was recognized.

Table 5.2
System Development Charges

Meter Size	Weighing	Domestic Charge	Fire Main	Fire Protection Charge
5/8-3/4	1	$2,377.50		
1	2.5	$5,943.75	1	$647.80
1 ½	5	$11,887.50	1 ½	$1,295.70
2	8	$19,020.00	2	$2,073.20
3	16	$38,040.00	3	$4,146.40
4	25	$59,437.50	4	$6,478.70
6	50	$118,875.00	6	$12,957.40
8	80	$190,200.00	8	$20,731.80
10	115	$273,412.50	10	$29,802.00

EXAMPLE:
Assume a multi-family development with a 2-inch service meter and 6-inch fire protection line.

Domestic System Development Charge = 2" meter	=	$19,020.00
Fire Protection System Development Charge = 6" θ supply	=	$12,957.40
Total System Development Charge	=	**$31,977.40**

5.3.3 General Obligation Bonds

A general obligation bond is a bond that is secured through a voter election and is retired by property taxes or user fees. Essentially, the community approves a bond and pays its through taxes. These bonds are often used for public improvements that benefit the majority. The improvement projects identified previously generally benefit a smaller portion of the community. Therefore, these bonds are not highly recommended as a source for financing the recommended projects.

5.3.4 Revenue Bonds

A revenue bond is similar to a general obligation bond except that the bond is retired based upon funds generated from sale of the utility. These bonds are easier to approve in that they are not subject to a voter election. However, interest rates tend to be higher due to less security associated with the revenue. The District currently has the ability to impose a tax but requires voter consent. Therefore, if necessary, the District can obtain revenue in this manner.

5.3.5 Local Improvement District (LID)

An LID can be formed by the District in order to fund improvements. The LID process includes public hearings at which a no vote of two-thirds of the affected area can stop the LID process. An approved LID would result in taxed being levied against those properties improved by the LID. LID's might be beneficial for the less costly improvements in the District that only benefit a few properties.

5.3.6 Oregon Community Development Block Grant Program

The Oregon Community Development Block Grant (OCDBG) Program is administered by the Community Development Programs section of the Oregon Economic Development Department. Funding is provided by the US Department of Housing and Urban Development. Public works improvements are an acceptable funding recipient.

One of the criteria for the OCDBG is that only cities and counties are eligible to apply. However, since the Lake Grove Water District lies within Clackamas County, the County could apply for the grant. Grants are available for up to $750,000. Another key criteria of the OCDBG program is that the community have 51 percent or more persons of low and/or moderate income based in the 1990 census. It is not likely that the District meets this criteria.

5.3.7 Oregon Special Public Works Fund

Oregon Special Public Works Fund is a program funded by the Oregon State Lottery and administered by the Oregon Economic Development Department. The fund's goal is to support public works projects that generate economic development (job creation) in the community. The fund may also support those projects that are necessary to retain existing businesses that would leave due to lack of adequate

infrastructure. The fund can provide up to $10,000 per job created. Since the District is currently well developed with residential units with little new growth expected, this source of funding is limited.

5.3.8 Oregon Water Wastewater Fund

The Oregon Water Wastewater Fund is another program funded by the Oregon State Lottery and administered by the Oregon Economic Development Department. In order to receive funding, the applicant must have been issued a regulatory notice of non-compliance from the State. If the applicant indicates the correction would force financial hardship, the community may receive up to 50 percent of the project cost in grant funds.

The District has not received any NOV's (Notice of Violations) in the 1990's. The District is therefore ineligible to receive these funds.

5.4 Recommended Funding

Many of the above funding options are not practical. It is recommended that the District continue with the SDC process and update to current costs. These improvements could be funded over the next 5-10 years. Since there are few recommended improvements, the SDC and sales revenue will be able to fund the projects as needed.
Since the District has only 1,190 service connections, general obligation bonds, revenue bonds and LID's for the proposed improvements are not practical. These sources of funding would create a financial stress on the District's customers.

It is recommended that the District continues gaining funds from sales revenue and the SDC. This source is the most probable funding agency for the District and the least burdensome on its customers.

END OF SECTION

APPENDIX A

LAKE GROVE WATER DISTRICT
CITY OF PORTLAND
WATER CONTRACT
AND
LAKE OSWEGO IGA
TIGARD IGA (PENDING)

WATER SUPPLY

INTERCONNECTION AGREEMENT

THIS AGREEMENT is between the LAKE GROVE WATER DISTRICT (LGWD), a domestic water supply district formed under ORS Chapter 264, and the CITY OF TIGARD (Tigard), an Oregon municipal corporation. LGWD and Tigard are also referred to individually as "Party", and collectively as "Parties".

RECITALS

The Parties agree upon the following Recitals:

A. Tigard supplies municipal water in the Tigard Service Area, which includes the Cities of Tigard, Durham, and King City and the Tigard Water District. "Municipal water supply" means water used for the municipal needs of the Tigard Service Area customers.

B. LGWD serves municipal water to their respective boundary and customers east of Interstate I-5, and obtains water from the City of Portland and Lake Oswego through wholesale agreements. "Municipal water supply" means water used for the municipal needs of the Lake Grove Water District service area customers.

C. Tigard currently obtains its water supply for the Tigard Service Area from its contract with the City of Portland, its Aquifer Storage and Recovery wells and through a partnership agreement with the City of Lake Oswego. Tigard manages demands through a combination of these sources and use of its storage facilities.

D. Tigard has entered into the Lake Oswego Tigard Water Partnership intergovernmental agreement (LOT Project), whereby the Lake Oswego river intake, raw water transmission, treatment plant, finished water pumping, transmission and storage will be upgraded, expanded and replaced as necessary to deliver water to Tigard to enable Tigard

to end its supply contract with the City of Portland by the contract's June 30, 2016 expiration date.

E. LGWD and Tigard have the ability to provide emergency standby water supply through a 12-inch diameter intertie connection located between the parties (Upper Boones Ferry Road – Tigard side, and Roosevelt Avenue – LGWD side).

F. LGWD and Tigard desire to obtain supplemental water supply for emergency purposes only by an intertie between their respective water systems, subject to certain terms and conditions contained in this Agreement.

G. Each Party has the authority to enter into this Agreement under ORS Chapter 190 and execution of this Agreement has been authorized by the governing bodies of each and being fully advised,

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS

Section 1. Recitals. The Recitals above are hereby incorporated by reference as though fully set forth.

Section 2. Obligations of the Parties. LGWD and Tigard agree to provide each other with an emergency standby source of water through an intertie connection between LGWD and Tigard water systems, at the location described and depicted on Attachment A. The intertie is constructed and serviceable. This connection shall be an emergency standby connection (additional water supply piping, valves, and metering as an emergency water source for both parties). Water will only be drawn through this interconnection point when an emergency occurs. An emergency is defined as any event that requires LGWD or Tigard water supply to be augmented on a temporary emergency basis.

2.1. LGWD or Tigard shall notify the other party in writing at least twelve (12) hours in advance of the date that either party desires to receive water through the intertie. In case an emergency requires immediate use of the intertie to protect lives and property, notification should occur as soon as practicable under the

circumstances. Follow-up written notice of such an emergency request and water usage shall be made by LGWD or Tigard to the other party, including an estimated quantity of water used, within three (3) days after the termination of such emergency water usage.

2.2. HOW SHALL THE ASSETS OF THE INTERCONNECTION BE MAINTAINED? WHOSE RESPONSIBILITY? WHO SHARES COSTS? WHO DETERMINES THE NEED FOR MAINTENANCE COSTS? SHALL WE DESIGNATE A MANAGING AUTHORITY OF THE INTERCONNECTION?

Both LGWD and Tigard personnel are required to operate valves to ensure that each party is aware of the use of the interconnection piping system, and that the interconnection is working properly to maintain water quality. Neither party may operate the interconnection without appropriate notification to the other party.

2.3 LGWD and Tigard will use reasonable efforts to provide an uninterrupted supply of water. Neither party shall be liable for any shortage or interruption in the delivery of water. In addition, neither party shall be liable for any failure, interruption or shortage of water, or any loss or damage resulting therefrom occasioned by any cause beyond the control of either party. LGWD and Tigard do not guarantee the availability of water through the intertie at all times because of each party's respective needs and water demand. Further, during critical water shortage periods as determined by either party, LGWD or Tigard may close the intertie until sufficient water supply exists to make such available for the use by either party.

2.4 In the event water is delivered through the intertie, the party receiving such water shall pay the other party for such water delivered at the wholesale rate plus ten percent (10%) by the party delivering such water. The party delivering such water shall bill the party receiving such water for the amount of water delivered. The party receiving such water shall pay the other party within forty-five (45) days of the date of such billing. Any billings not paid by the party within such 45-day period shall accrue interest at the rate of twelve percent (12%) annum until paid.

Section 3. General Provisions. The following general provisions apply regarding emergency standby source of water through an interconnection between the parties:

3.1 Neither party shall, by virtue of this Agreement acquire any proprietary or governmental interest in the water system of the other party. Each party shall be solely responsible for the operation and maintenance of its own system of water distribution and supply.

3.2 LGWD and Tigard agree to hold harmless and indemnify the other party and its officers, employees and agents from any and all claims, damages, costs or other liabilities caused by parties' sole negligence, or the parties' concurrent negligence, but only to the extent of the parties' concurrent negligence and arising by reason of participation in, connection with, or relating to the performance of this agreement.

Section 4. Term. This Agreement shall take effect upon execution of this Agreement after authorization by LGWD board and Tigard city council. This Agreement shall remain in effect until terminated by either party by thirty (30) days' prior written notice to the other party.

Section 5. Limitation of Liability. Notwithstanding any other provision of this Agreement, the parties agree that LGWD or Tigard will not be liable to the other party for breach of this Agreement or damages if LGWD or Tigard is unable to provide water to the other party due to inadequate water supply availability despite availability projections made by LGWD or Tigard in the reasonable exercise of its professional judgment. Additionally, LGWD or Tigard will not be liable for breach or damages if LGWD or Tigard is unable to provide water to the other party by reason of interruptions in LGWD's or Tigard's water systems due to breakdowns, emergency shut-off, or due to any reason other than interruptions caused by the intentional misconduct or gross negligence of LGWD or Tigard, its agents and employees.

Section 6. Dispute Resolution and Remedies. The failure or unreasonable delay by any party to substantially perform any term or provision of this Agreement constitutes a default. In the event of an alleged default of this Agreement (other than non-payment of charges under Section 2), the party alleging such default will

give the other party not less than 30 days' notice in writing specifying the nature of the alleged default and the manner in which the default may be cured satisfactorily. During this 30 days' period, the party charged will not be in default for purposes of termination or instituting legal proceedings. Thereafter, the non-defaulting Party may pursue all remedies in the Circuit Court of the State of Oregon in Clackamas County or Washington County.

Section 7. Limitation of Liability and Indemnity. Tigard will indemnify and hold harmless LGWD, their elected and appointed officials, employees, agents and volunteers from any losses or damages (including but not limited to consequential damages) arising out of or resulting from their inability to provide water to Tigard, or resulting from any connection made by Tigard which is beyond the supply then available, or which creates less than adequate pressures. Tigard will indemnify and hold harmless the LGWD, their elected and appointed officials, employees, agents and volunteers from any losses or damages (including but not limited to consequential damages) arising out of or resulting from any complaint or demand for service to any connection permitted by Tigard, for which the then-available water supply or pressure was inadequate.

LGWD will indemnify and hold harmless Tigard, their elected and appointed officials, employees, agents and volunteers from any losses or damages (including but not limited to consequential damages) arising out of or resulting from their inability to provide water to LGWD, or resulting from any connection made by LGWD which is beyond the supply then available, or which creates less than adequate pressures. LGWD will indemnify and hold harmless Tigard, their elected and appointed officials, employees, agents and volunteers from any losses or damages (including but not limited to consequential damages) arising out of or resulting from any complaint or demand for service to any connection permitted by LGWD, for which the then-available water supply or pressure was inadequate.

Section 8. No Third Party Beneficiaries. LGWD and Tigard are the only parties to this Agreement and are the only parties entitled to enforce its terms. Nothing in this Agreement gives any benefit or right, whether directly or indirectly, to third persons, including LGWD's or Tigard's retail customers.

Section 9. Notices. Written notices and correspondence under this Agreement may be sent by postage prepaid first-class mail addressed as below set forth, and if so sent, are deemed received three days after deposited in the United States Mail. Written notices and correspondence transmitted in any other manner are deemed given when actually delivered to the other party. Either party to this Agreement may change its address by notice to the other party in the manner provided above.

To Tigard:

Tigard Public Works Director
City of Tigard
13125 SW Hall Blvd
Tigard, OR 97233

Notice to LGWD:

District Manager
16552 Boones Ferry Rd,
Lake Oswego, OR 97035

Section 10. Force Majeure. Performance by either party will not be in default where delay is due to insurrection, strikes, walkouts, riots, floods, drought, earthquakes, fires, casualties, acts of God, contamination of water supply, governmental restrictions imposed or mandated by governmental entities other than a party hereto, enactment of conflicting state or federal laws or regulations, new or supplementary environmental regulation, litigation or similar bases for excused performance that are not within reasonable control of a party.

Section 11. Applicable Law and Attorney Fees. The laws of the State of Oregon apply to this Agreement should either party bring any legal action under this Agreement or to enforce any provision. The prevailing party is entitled to reasonable attorney fees and court costs as fixed by the court. Attorney fees include attorney fees on any appeal and in any bankruptcy proceeding.

Section 12. Recordkeeping. The parties will maintain all fiscal records relating to this Agreement, in accordance with generally accepted accounting principles consistently applied. In addition, the parties will maintain any other records pertinent to this Agreement to clearly document the party's performance. All such fiscal records, books, documents, papers, plans, and writings will be retained by the parties and kept accessible for a minimum of four years, except as required longer by law, following final payment and termination of this Agreement, or until the conclusion of any audit or litigation related to this Agreement.

Section 13. Severability. The parties agree that if any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions will not be affected, and the rights and obligations of the parties will be construed and enforced as if the Agreement did not contain the particular term or provision held to be invalid.

Section 14. Assignment. This Agreement may not be assigned by either party, without the prior written approval of the other party.

Section 15. Other Necessary Acts. Each party will execute and deliver to the other all documents reasonably necessary to carry out this Agreement.

Section 16. Nonwaiver. Failure by either party, at any time, to require performance by the other party of any provision does not affect the first party's rights to enforce the same provision. A waiver by either party of default will not be a waiver of any succeeding default.

Section 17. Compliance with Laws. The Parties will comply with all local, regional, state and federal agency regulations pertaining to water systems of its size and kind, including, but not limited to, requisite sampling to assure compliance with any applicable Federal Requirements for testing and water quality.

Section 18. Access to Records. Each Party agrees that the other Party and its authorized representatives will have access at reasonable times to all books, documents, papers and records which are directly related to the Agreement, for the purpose of making any audit, examination, copies, excerpts and transcripts.

[SIGNATURE PAGE TO FOLLOW]

IT IS SO AGREED AND EFFECTIVE THIS _____ day of _____ _____, 2015.

City of Tigard
an Oregon Municipal Corporation

By: _____
Martha Wine
City Manager

Attest: _____
City Recorder

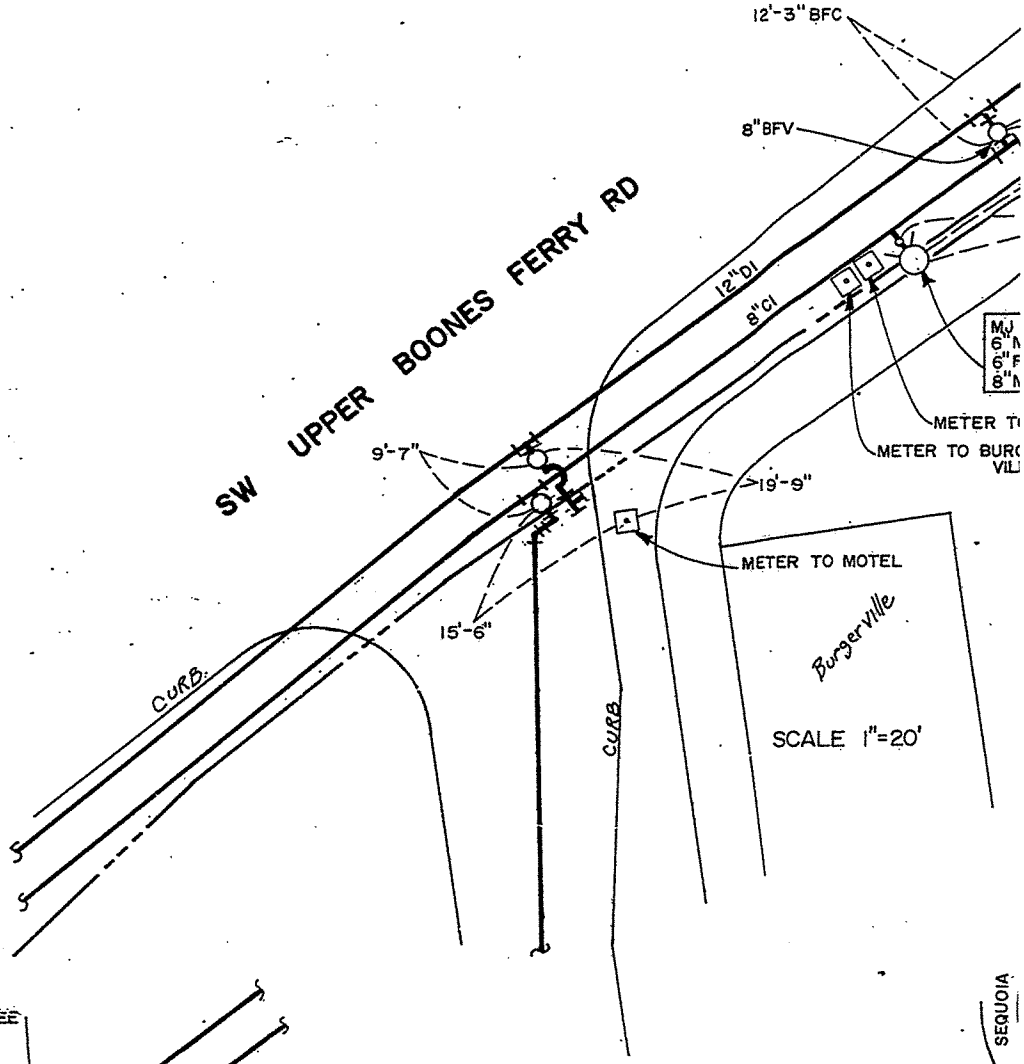
Approved as to Form:

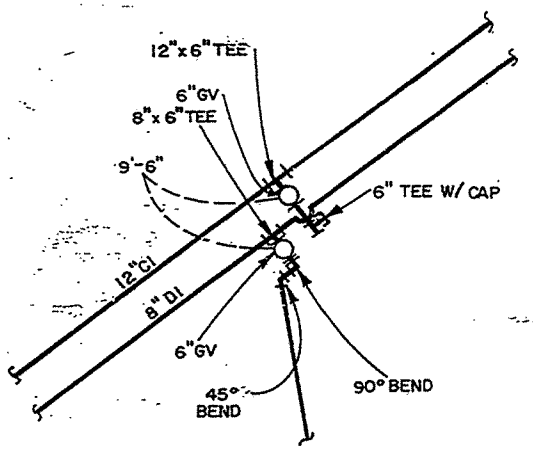
By: _____
City Attorney
Lake Grove Water District

By: _____
CaitLinn Perry
District Manager

Date: _____
Approved as to Form:

By: _____
District Counsel





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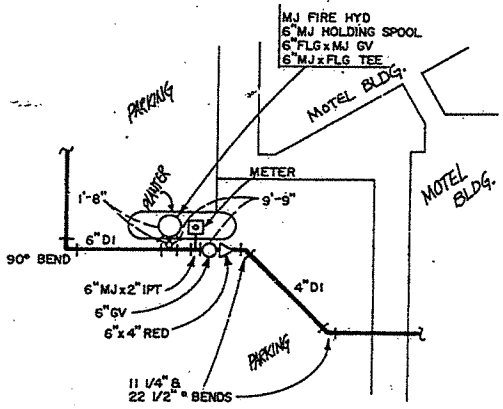

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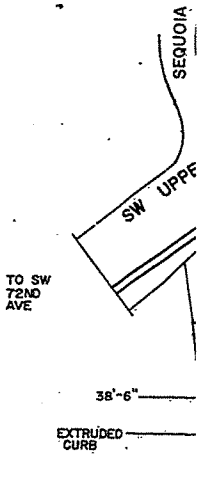

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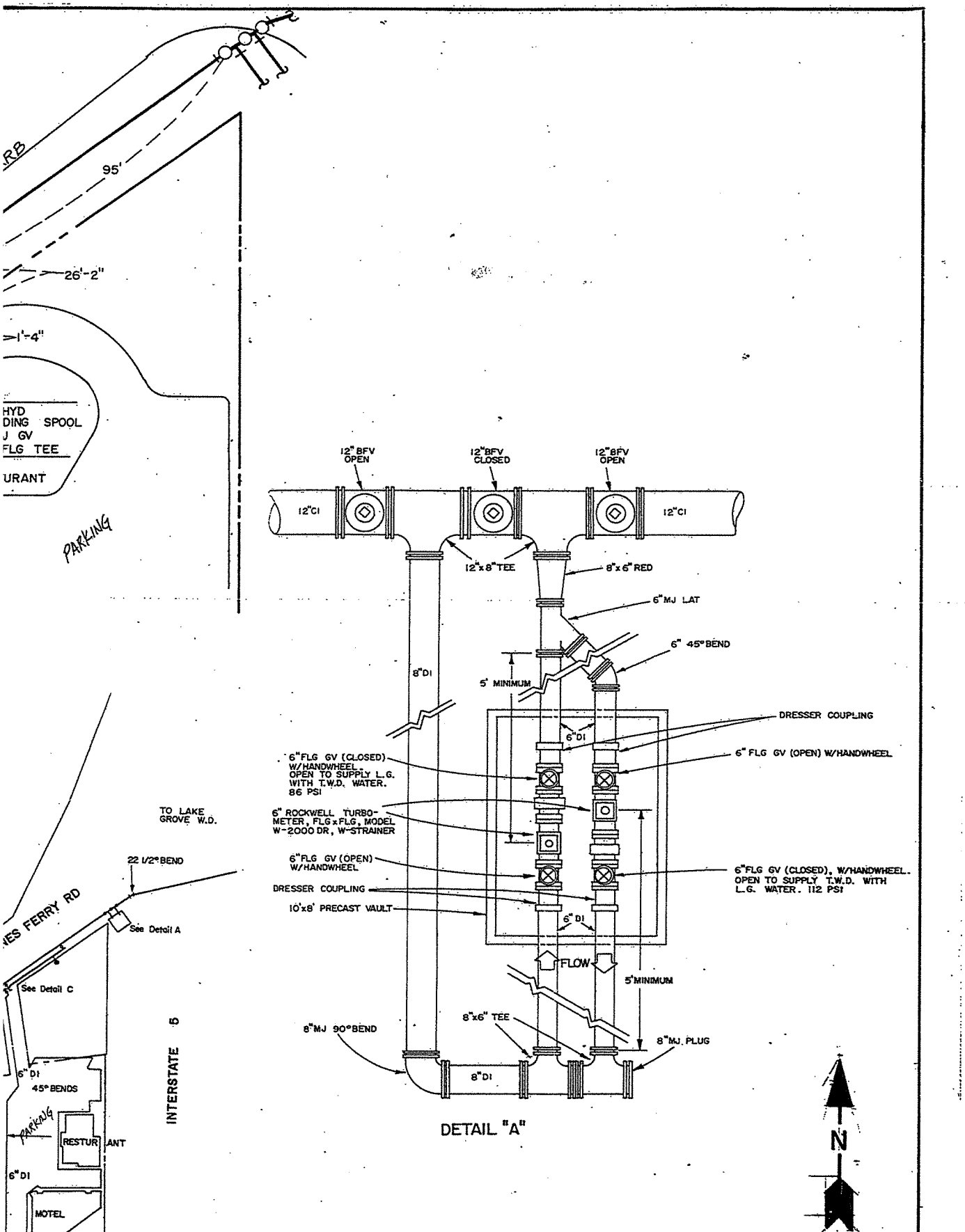

TIGARD WATER DEPT.		
SW UPPER BOONES FERRY RD		
10-95	SCALE AS NOTED	SEW

AGREEMENT FOR WATER SERVICES

THIS AGREEMENT, made and entered into this 25th day of July, 1975, by and between the CITY OF LAKE OSWEGO, a municipal corporation of the State of Oregon, hereinafter called City, and the LAKE GROVE WATER DISTRICT, also a municipal corporation, hereinafter called District.

Witnesseth:

WHEREAS, District desires to obtain water from City and City is willing to furnish such water upon the terms and conditions hereinafter set forth,

WHEREAS, District has constructed or is constructing certain water system improvements at the intersection of Carmen Drive and Davis Lane, including valves, connecting lines and an 8-inch master meter and vault, all of which contemplate the purchase of surplus water from Lake Oswego, and

WHEREAS, it is necessary, desirable and in the public interest that City and District now agree to the terms and conditions upon which surplus water from City will be made available to District,

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, the parties hereto agree as follows:

1. The services and commodity provided by City under the terms and provisions of this Agreement are a special contract service and not provided by City as a common utility service.

2. District shall construct or complete construction, at its own expense, all water system improvements necessary to connect the District water system to the City water system at the Carmen Drive-Davis Lane intersection as approved by the Director of Public Works of the City.

3. District recognizes and agrees that City will furnish and sell only surplus water under the terms and provisions of this Agreement, and that it is the duty of City to furnish water at normal volume and pressure to its own patrons and inhabitants before selling or furnishing surplus water hereunder to District; however, City will endeavor to maintain a normal volume and pressure on its distribution system at the point of connection to the District water system.

308

4. Within thirty days following execution of this Agreement, District agrees to furnish to City a map showing the boundaries of District, all existing mains in District's water distribution system, and the location and capacity of all water storage tanks. Such map and descriptions shall be filed with the LAKE OSWEGO Director of Public Works.

   No water shall be sold by District outside of its boundaries, as shown on the above-named map, without first obtaining written permission from City. District agrees to inform City of any changes made to its boundaries by way of annexations and to obtain written permission from City to serve any newly-annexed areas of District.

5. District agrees that City will be their primary source of supply during the effective period of this Agreement.

6.

7. District agrees to pay monthly to City, on or before the 21st day of each month, for all water passing through the 8-inch master meter during the immediately preceding calendar month such rates as are or may hereafter be established. Such current rates are as follows:

   Minimum Monthly Rate for First 400 Cubic Feet

Meter Size Inches	Minimum Monthly Rate
8	$100

   Bulk Rate for All Over 400 Cubic Feet

Service Level	All Over 400 Cu. Ft.
Forest Highlands Level	35¢/100 cu. ft.

8. Should the meter at any time fail to measure accurately the surplus water passing through said meter, the charge for surplus water used during the time the meter is out of order shall be based on the estimated volume of surplus water supplied, as City may determine by using averages and statistics for prior periods or other methods deemed appropriate.

City reserves the right at any time to review the rate and schedule of charges for surplus water heretofore made a part of this Agreement, and to make such adjustment in the rates as may be found necessary in the sole discretion of City. In the event that City adjusts and/or increases such surplus water rates, any increase shall not become effective until not less than 60 days written notice of such rate change is given to District.

9. This Agreement shall be effective, except as hereinafter provided, for an initial period of Two Years from the date of execution by City, and shall automatically be renewed for subsequent Two-Year periods, subject to the provisions hereinafter set forth.

This Agreement may be terminated by City at the end of the initial Two-Year period, or the end of any subsequent Two-Year period, upon the giving of not less than Six Months written notice to District. Termination may be effected by District upon the giving of not less than Six Months written notice to City for such reasons as District, in its sole discretion, might determine.

In addition to the foregoing, City may terminate this Agreement by giving at least Six Months written notice of its intention to do so upon City's good faith determination that insufficient water is available to meet District's requirements and the requirements of the City's own citizens and other water customers.

At any time City may curtail or interrupt deliveries of surplus water to District without giving notice of City's intention to terminate this Agreement, upon City's good faith determination that insufficient water is available to meet District's requirements and the requirements of City's own citizens and other customers, but in such event will make every reasonable effort to give advance notice of service curtailment to District. District, in turn, agrees to utilize other available supply sources at such time as requested by City to alleviate water shortages for the City's citizens or the City's other water customers who have no alternate source.

Termination of this Agreement by either party for any lawful reason, or non-delivery of water by City by reasons of unavailability of surplus water, shall not relieve District of any obligation for payments theretofore accrued under this Agreement.

10. City shall own, operate, maintain, repair or replace all water system facilities necessary to furnish water to the outlet side of the master water meter used for measuring the quantity of water delivered to District. Said water system facilities shall include the master water meter, meter vault, valves, and other appurtenances necessary for the delivery of water to District. City shall make

no separate charges to District for maintenance, repair or replacement of said water system facilities, once they have been installed and accepted by City.

11. It is agreed that City has made no representation or warranties as to how much surplus water will be available for sale under this Agreement, or as to how long surplus water may be available. The District is entering into this contract based on its own independent evaluation of the probable availability of City water, and the District assumes the risks of water not being available from the City.

12. This Agreement shall become effective upon execution by City and District, and charges hereunder shall commence the day and month water is first delivered by City to District.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

LAKE GROVE WATER DISTRICT

BY _____ 2/25/75
Chairman

ATTEST:

BY _____ 2/5/75
Secretary

APPROVED AS TO FORM:

_____
Attorney for District

CITY OF LAKE OSWEGO

BY _____
City Manager

ATTEST:

BY _____
Recorder

APPROVED AS TO FORM:

_____
Attorney for City

52743

Regional Water Sales Agreement

10 Year

Presented to

Lake Grove Water District

April 3, 2006

REGIONAL WATER SALES AGREEMENT
(10 YEAR)

TABLE OF CONTENTS

EXHIBITS

EXHIBIT 1 – GUARANTEED PURCHASE QUANTITY, SEASONAL PEAKING FACTOR, DAILY PEAKING FACTOR, AND PRESSURES

EXHIBIT 2 – DEFINITION OF WATER SERVICE CHARACTERISTICS

EXHIBIT 3 – RATE BASE ASSETS

EXHIBIT 4 – FUNCTIONAL ASSET GROUPS

Regional Water Sales Agreement (10 Year)

THIS AGREEMENT is entered into by and between _____Lake Grove Water District_____, herein called "Purchaser," and the CITY OF PORTLAND, a municipal corporation of the State of Oregon, herein called "City."

The parties recite:

A. Purchaser is a municipal corporation of the State of Oregon and is authorized by its charter or by state law or both to operate a municipal water system.

B. City is a municipal corporation of the State of Oregon and is authorized by Chapters 2 and 11 of the Charter of the City of Portland to maintain water works for the furnishing of water to the city, its property, its inhabitants, and to non-inhabitants. The Council of the City is further authorized to enter into contracts for the supply of water by the city and to sell water to persons, public and private, outside the city, on terms and conditions the Council finds appropriate.

C. City is further authorized by Section 2-105(a)4 of its Charter to enter into agreements, without limitation as to term, as the Council finds appropriate for cooperation, consolidation and maintenance of services with any other public corporation or unit of government.

D. ORS 190.003 to 190.110 authorize units of local government to enter into intergovernmental agreements for the performance of their duties or for the exercise of powers conferred upon them.

E. The service and commodity provided by City pursuant to this Agreement are a special contract service and are not provided by City as a common utility service.

SECTION 1 – NATURE OF SERVICE

A. Subject to the terms and conditions contained herein, City agrees to furnish and sell, and Purchaser agrees to purchase a firm supply of potable water on an annual basis for the life of this Agreement. The City further agrees to furnish and sell an interruptible supply of water to be made available for purchase at the City's discretion subject to terms of this agreement.

B. Water is to be delivered to the purchaser at the place or places, at such pressure or pressures, and at such flow rate or flow rates as are set forth on Exhibit 1. Provided that the City is not obligated to meet Purchaser's demands for water during any period of time that Purchaser operates its system not in compliance with operational rules established pursuant to Section 4.D.1.

C. The City shall deliver water to the purchaser from the same source or sources of water that City delivers to City inhabitants. The City shall meet all applicable drinking water regulatory requirements up to the purchaser's point of delivery.

D. Purchaser's supply of water shall be reduced or terminated only in accordance with the terms of this agreement.

E. Purchaser recognizes and agrees that no liability for damages shall attach to the City on account of any failure of supply or changes in pressure, flow rate, or water quality due to circumstances beyond the reasonable control of the City acting in accordance with standards of care common and usual in the municipal water supply industry. Examples of such circumstances include, but are not limited to, natural events such as earthquakes, landslides and floods, and human-caused events such as terrorism, malevolent acts, contamination of the water supply, and acts of war.

F. The parties agree and acknowledge that the City of Portland is the owner and operator of the water supply, storage, transmission, and treatment system, and all facilities and infrastructure associated with the storage, treatment, transmission, and distribution systems used in its utility operations. The purchase of water or any other commodity or service under this agreement shall not constitute purchase of ownership rights to water or any portion of the water system owned and operated by the City, except as may be specified herein or may be established by separate agreement. Nothing in this agreement shall preclude the parties from entering separate agreements involving joint ownership or joint operation of system elements.

SECTION 2 – WATER REGULATIONS

A. Purchaser hereby agrees to abide by and be bound by the terms and provisions of Chapter 21.28 of the Code of the City of Portland, Oregon, as it presently exists or as may be amended to comply with federal and state law, during the life of this agreement, to the extent to which such terms and provisions do not conflict with any material provisions of this agreement.

SECTION 3 – DURATION OF AGREEMENT AND RENEWAL

A. Initial Term

This agreement shall become effective on July 1 of 2006 and shall continue in effect thereafter under the terms of this section, unless terminated as provided herein. Each "contract year" shall run from July 1 through June 30.

B. Initial Five Year Non-Renewal Notice

At any time during the five-year period from July 1, 2011, through June 30, 2016, either party may give a written notice of non-renewal. If such notice is issued, the contract will terminate on the next June 30 at least five years but not more than six years from the date of the notice.

C. First Renewal in 2016

If neither party gives notice of non-renewal on or after July 1, 2011, and prior to July 1, 2016, the contract shall continue for another ten years, through June 30, 2026.

D. Subsequent Renewals After June 30, 2026

If this contract is renewed pursuant to Subsection 3.C. above, then the contract shall also be repeatedly renewed for ten year intervals after June 30, 2026, and every ten years thereafter, unless one of the parties gives a notice of non-renewal under the terms of Subsection E below.

E. Five-Year Non-Renewal Notice

Either party may provide a written non-renewal notice any time during the second five years of each ten-year renewal period. If either party gives a notice of non-renewal during the non-renewal notice period, the contract will terminate on the next June 30 at least five years but not more than six years from the date of the notice.

For example, if this contract is renewed through June 30, 2026, pursuant to Subsection C above, then the non-renewal notice period during that term of the contract shall run from July 1, 2021, through June 30, 2026. If either party gives written notice of non-renewal during that period of time, the contract shall terminate on the next June 30 five years or more but less than six years from the date of the notice. If no party gives notice of non-renewal during that period, the contract will be automatically extended through June 30, 2036. If the contract is extended to June 30, 2036, the next non-renewal notice period would then run from July 1, 2031, through June 30, 2036.

SECTION 3 – (Continued)

F. Effect of Renewals on Cost Cap and Supply Reliability

The five-year period used to judge the City's compliance with the cost cap established by Subsection 7.I. shall be restarted at each renewal of this contract. The ten-year period used in calculating the City compliance with its reliability obligations described in Section 5.F.2 shall be restarted at each renewal of this contract.

SECTION 4 – WATER MANAGERS ADVISORY BOARD

A. General

A Water Managers Advisory Board (WMAB) shall be established no later than thirty (30) days after five or more Purchasers have approved a Water Sales Agreement with the City that includes this provision, and will continue during the term of this agreement. Purchaser is eligible for participation in the WMAB. The WMAB shall consist of two representatives of the City Bureau of Water Works, to be named by the Administrator, and one representative of each participating entity that has signed a contract to purchase water from the City containing a provision allowing its participation on the WMAB. The City of Portland Water Bureau will provide staff support to the WMAB and will be responsible for keeping the official records.

B. Meetings and Bylaws

The WMAB shall meet regularly to communicate with and make recommendations to the Administrator regarding matters relating to the City's sale of water to participating purchasers. The WMAB may adopt such bylaws concerning its organization and governance as a majority of the membership shall see fit. The role of this Board is advisory in nature and, except as specified herein, no rule, bylaw, or action of the WMAB may alter any term of this agreement.

C. Committees

The WMAB shall be responsible for establishing committees as needed to address ongoing needs, which may include:

1. Water Resource Conservation – Possible responsibilities for such a committee are outlined in Section 13 – Water Resource Conservation;

2. Operations Coordination – Possible responsibilities for such a committee may include coordinating supply system routine and emergency operations among the City and its wholesale Purchaser with the goal of providing efficient and cost-effective system operations; and

3. Other committees, as identified by the WMAB.

D. Creation of Operating and Information Standards

1. The WMAB shall recommend to the Administrator standard water system operating practices necessary or advisable to enhance the efficiency, reliability, and cost-effectiveness of the supply, transmission, and storage of water provided under this agreement. These standard operating practices will address issues such as, but not necessarily limited to, forecasting seasonal demands, forecasting peak demands, managing the system to minimize the impact of peak demand periods,

SECTION 4 – (Continued)

security and emergency management, use of storage, and timing of deliveries of water. Pending recommendations from the WMAB, the Administrator shall adopt interim operating practices and upon receipt of the recommendations, the Administrator shall adopt the recommendations, with such alterations as he or she deems necessary or advisable. The Purchaser agrees to operate its system in a manner consistent with such established operating practices and in keeping with responsible use of the City's water supply system.

2. The WMAB shall recommend to the Administrator what information and data he or she shall require each participating Purchaser to provide, in order to allow efficient, reliable, and cost-effective provision of water under this Agreement. The Administrator shall adopt these recommended information requirements, with such alterations as he or she deems necessary or advisable. Such information may include, but is not necessarily limited to:

   (a) System maps with mains, pump stations, tanks, and supply connections;

   (b) Connections and usage from other supply sources;

   (c) Total existing and new service connections by category;

   (d) Key benchmarks to be identified by the Operations Group such as but not limited to standards for operational norms, notification deadlines, protocols for communication;

   (e) Water quality data;

   (f) Purchaser facilities' standards for operation to minimize peak and emergency events; and

   (g) Emergency contact information for each provider and any agreements that have been signed by individual providers to address emergency response.

3. The WMAB shall periodically evaluate Purchasers' compliance with the information requirements and standard operating procedures and shall provide the Water Bureau Administrator with findings and recommendations to assure ongoing compliance.

SECTION 4 – (Continued)

E. Rate Review

In order to provide timely notification to Purchaser of proposed changes in rates, charges, and rate design and an opportunity for Purchaser to evaluate such proposals and be heard before the City Council, City agrees that the following steps shall be taken annually.

1. Capital Improvement Program.

   (a) On an annual basis, Purchaser, through the WMAB, shall be invited to participate in development of that portion of the Water Bureau's Capital Improvement Plan addressing capital improvements used to serve Purchaser or other participating Purchasers;

   (b) Capital planning will take place in a manner sufficiently timely to ensure Purchaser effective participation in the City's capital budget deliberations each year;

   (c) City and WMAB will identify criteria to be considered in prioritizing capital improvement projects. City will also share its proposed ranking of projects for funding and completion and its proposed schedule for such capital improvements. Purchaser will be provided reasonable opportunity to present suggestions and recommendations for changes to the proposed Capital Improvement Plan, specific capital projects, and for improvements in the capital planning and financing process;

   (d) At a minimum, the City will host at least one meeting a year to discuss the Water Bureau's Capital Improvement Plan on a schedule sufficient to allow Purchaser participation in the City's capital budget deliberations each year.

2. Operation & Maintenance Budget

   (a) On an annual basis, Purchaser, through the WMAB, shall participate in review of the Water Bureau's Operations and Maintenance budget for the water supply system used to serve Purchaser or other participating Purchasers;

   (b) Water Bureau O & M budget development and review will take place in a manner sufficiently timely to ensure Purchaser effective participation in the budget deliberations each year;

   (c) The WMAB will be provided the opportunity to participate in the budget development and review process, including steps such as:

SECTION 4 – (Continued)

(i) The Administrator will report to WMAB at the commencement of annual financial plan and budget preparation, and report each month to the WMAB on progress in the budget preparation and any particular budgetary issues or concerns related to that part of the water supply system used to serve the Purchaser and other members of the WMAB. Reports may be in writing or at WMAB meetings.

(ii) A reasonable time, but no less than two weeks, prior to submission of the Water Bureau budget to the Mayor, the Administrator shall report to the WMAB on the current state of budget and financial plan preparation and provide his or her best estimate of the final budget for submission to the Mayor related to that part of the water supply system used to serve the Purchaser and other members of the WMAB and shall consult with the WMAB about the budget to be proposed to the Mayor.

(iii) The Administrator will provide WMAB a presentation concerning the Water Bureau budget request to the Mayor and the Water Bureau financial plan for the following fiscal year and provide copies of the budget request and financial plan for review and comment. The budget request and the financial plan will be made available to WMAB on or as soon as reasonably possible after the date they are submitted to the Mayor.

(iv) The City will advise Purchaser in writing of significant changes in the proposed Water Bureau Budget after its submission to the Mayor.

(v) When the City Bureau of Water Works files its annual rate ordinance with the City Council Clerk, a copy of said ordinance will be forwarded to Purchaser, accompanied by a letter giving the dates on which the City Council is scheduled to consider rates.

3. Purchaser, through the WMAB, may offer comments on the annual rate ordinance in writing or in personal testimony before the City Council.

F. Protection of Confidential Information

Information submitted to or produced by the WMAB or otherwise exchanged by the parties to this Agreement and similar wholesale water agreements may include documents related to the vulnerability or security of water supply systems. The parties agree that if either receives a public document request for such information, the party receiving that request shall, prior to release of any documents, expeditiously notify the entity about whose system information is sought and shall, in addition, assert all applicable exemptions to release of the documents available under the Oregon Public Records Law.

SECTION 5 – GUARANTEED PURCHASE WATER QUANTITIES

A. General Guaranteed Purchase Payment Obligations

Unless excused by some other provision of this Contract, Purchaser agrees to pay City each year a sum of money (its "guaranteed purchase payment") equal to the annual water rate applicable to Purchaser for that year times the Purchaser's "guaranteed purchase" quantity of water. Payments shall be made as provided in Section 15, Billing and Payment..

B. Guaranteed Purchase Quantities And Peaking Factors

1. Guaranteed Purchase Quantity. For purposes of calculating annual rates and determining Purchaser's minimum payment, Purchaser's guaranteed purchase quantity (expressed in annual average daily demand and in total monthly demands) shall be the quantity identified in Exhibit 1 to this contract, unless changed pursuant to the terms of this contract.

2. Seasonal Peaking Factor.

a. Except as otherwise provided in this agreement, for purposes of calculating monthly demands and annual rates and determining Purchaser's minimum payment, Purchaser's "seasonal peaking factor" shall be the seasonal peaking factor identified in Exhibit 1 to this contract unless changed pursuant to the terms of this contract. "Seasonal peaking factor" is the ratio of the Purchaser's guaranteed purchase average daily demand placed on the City system during the "peak season" to the Purchaser's guaranteed purchase annual average daily demand. For this calculation "peak season" is the period of time from July 1 through September 30. For purposes of ratemaking and calculating monthly demands, the seasonal peaking factor excludes purchases of interruptible water.

b. For purposes of Section 5 of this agreement, the Purchaser's "actual seasonal peaking factor" shall be the ratio of the Purchaser's actual average daily demand placed on the City system during the peak season (as determined from City water supply data) to the Purchaser's guaranteed purchase annual average daily demand.

3. Daily Peaking Factor.

a. Except as otherwise provided in this agreement, for purposes of calculating annual rates and determining Purchaser's minimum payment, Purchaser's "daily peaking factor" shall be the daily peaking factor identified in Exhibit 1 to this contract unless changed pursuant to the terms of this contract. "Daily peaking factor" is the ratio of the daily average derived from the Purchaser's highest three consecutive days of purchases to its annual average daily demand for the contract

SECTION 5 – (Continued)

year. For purposes of ratemaking and calculating monthly demands, the daily peaking factor excludes purchases of interruptible water.

b. For purposes of Section 5 of this agreement, the Purchaser's "actual daily peaking factor" shall be ratio of the daily average derived from the Purchaser's actual highest three consecutive days of purchases (based on City data) to its guaranteed purchase annual average daily demand for the contract year.

C. Changes In Guaranteed Purchase Quantities

1. Reductions In Guaranteed Purchase Quantities

Except as specifically provided for in this contract, Purchaser's guaranteed purchase quantity may not be reduced during the term of this contract except by a contract amendment.

2. Increases in Guaranteed Purchase Quantities

On any March 15 during the term of this contract, Purchaser may request that its guaranteed purchase quantity be increased. The Administrator may accept or reject such request, in whole or in part. The Administrator shall respond to any request for an increase in guaranteed purchase by May 1 of the same year the request is made. Unless otherwise agreed by Purchaser and the City, any increases in guaranteed purchase agreed to under this provision shall be effective for the remaining term of the contract.

If on any March 15, more than one Purchaser under a similar wholesale water agreement requests an increase in guaranteed purchase and the Administrator determines that he or she can prudently approve some increase in guaranteed purchases, but cannot approve all pending requests in total, then the Administrator may grant such overall increase in guaranteed purchase as he or she deems prudent, provided that when granting partial approvals of more than one request, the Administrator shall grant such approvals in proportion to the then existing guaranteed purchase quantity of each requesting Purchaser compared to the total of then existing guaranteed purchase quantities of all requesting Purchasers. If the Administrator cannot grant Purchaser's original request in total, the Purchaser may elect to withdraw its requested increase in guaranteed purchase quantity. All increases in guaranteed purchase quantities shall be confirmed in writing and signed by both parties.

3. Transfers of Guaranteed Purchase Quantities

With approval of the Administrator, which shall not be unreasonably withheld, Purchaser may alter its guaranteed purchase quantity (and its guaranteed purchase obligation) by transferring all

SECTION 5 – (Continued)

or some of its guaranteed purchase quantity to another municipal entity with a valid similar wholesale water agreement with the City. Withholding approval shall be deemed reasonable in the following circumstances only: the Administrator determines that the transfer would require changes in the City water system infrastructure or reduce the reliability of the water supply system. In these two circumstances, nonetheless, the Administrator shall endeavor to approve transfers with such conditions as he or she deems necessary or advisable to avoid the need to make changes in the City water system infrastructure or reduction in the reliability of the water supply system.

4. Sale of Guaranteed Purchase Water

Purchaser may sell water purchased from the City as part of its guaranteed purchase quantity to other water suppliers, upon approval of the Administrator, which will not be unreasonably withheld. Withholding approval shall be deemed reasonable in the following circumstances only: the Administrator determines that the transfer would require changes in the City water system infrastructure, or reduce the reliability of the water supply system. In these two circumstances, nonetheless, the Administrator shall endeavor to approve sales of water with such conditions as he or she deems necessary or advisable to avoid the need to make changes in the City water system infrastructure, or reduction in the reliability of the water supply system.

D. Changes in Seasonal Peaking Factor

1. Requested Changes to Seasonal Peaking Factor

Subject to limitations of Section 5.D.2(a) below, at any time prior to December 1 of each year of the second through fifth year of this contract, Purchaser may request in writing that its seasonal peaking factor for Years 3 through 6 of this Contract be changed from that identified for Year 1, as set out in Section 5.B.1(b) above. Purchaser's requested seasonal peaking factor shall be no less than the average of the Purchaser's actual seasonal peaking factor for the previous years under this contract.

Prior to December 1 of Contract Year 6 and every year thereafter, Purchaser may request in writing a change in Purchaser's seasonal peaking factor. Any requested change shall take effect on the first day of the next contract year and shall continue as Purchaser's seasonal peaking factor thereafter unless changed pursuant to the terms of this contract. Purchaser's requested seasonal peaking factor shall be no less than the average of the Purchaser's actual seasonal peaking factor for the five previous years under this contract.

Upon receiving such a request, the City shall adjust the Purchaser's seasonal peaking factor unless the Administrator determines that to do so would reduce the reliability of the water supply system.

SECTION 5 – (Continued)

2. Excess Seasonal peaking factors

(a) Except as provided in Section 5.D.2(b) below, if in any year Purchaser's actual seasonal peaking factor exceeds by more than 10% the seasonal peaking factor set by the terms of this contract for the purposes of calculating rates in that year, the Administrator shall recalculate the year's rates and in the next available contract year shall impose on the Purchaser a surcharge equal to the difference in the Purchaser's guaranteed purchase payment under the original rates and the Purchaser's guaranteed purchase payment under the rates as recalculated using the Purchaser's actual seasonal peaking factors. When calculating rates for the year in which the surcharge is to be collected, the City shall treat the surcharge as an offset to the otherwise estimated annual revenue requirements for all wholesale and retail customers of the system. The Administrator may also increase the Purchaser's seasonal peaking factor to the actual excessive seasonal peaking factor for the purpose of calculating rates for a period of five years and the Purchaser shall not be entitled to reduce its seasonal peaking factor as described in Section 5.D.1 during this same five year period. If the Administrator determines that honoring Purchaser's actual excessive seasonal peaking factor for the five year period would reduce the reliability of the system or threaten the water supply of any other wholesale purchaser of water from the City, he or she may refuse to honor the increased seasonal peaking factor and take steps he or she deems necessary or advisable to protect the system and other Purchasers, as provided in Section 5.F, Excess Demand.

(b) The provisions of Section 5D.2(a) shall not apply if the excess seasonal peaking factor resulted from the direct result of Acts of God, malevolent acts, contamination of the water supply, or events beyond the Purchaser's control if the consequences of any such circumstance or event could not have been avoided through the exercise of the standards of care common and usual in the municipal water supply industry.

E. <u>Changes In Daily Peaking Factor</u>

1. Daily Peaking Factors For Contract Years 2 Through 5

(a) Except as it is changed upon Purchaser's request as provided in Section 5.E.1(b), for rate-making purposes in the second through fifth contract year, Purchaser's peaking factor shall be the average of its actual daily peaking factor for all previous contract years, based on demand data collected by the City.

SECTION 5 – (Continued)

(b) At any time prior to December 1 of the first through fourth contract years, Purchaser may request that its daily peaking factor for the next year, as calculated in Section 5.E.1.(a), be altered up or down by no more than 20 percent. Except as provided in Section 5.E.3, for ratemaking purposes in the next year, the City shall use the daily peaking factor identified by the Purchaser consistent with this section, unless the Administrator determines that honoring the requested peaking factor would reduce the reliability of the system or threaten the water supply of any other wholesale purchaser of water from the City.

2. Daily Peaking Factors For Contract Years 6 And Thereafter

(a) Except as it is changed upon Purchaser's request as provided in Section 5.E.2.(b), for rate-making purposes in the sixth and subsequent contract years, Purchaser's peaking factor shall be the average of its actual daily peaking factor for the five preceding years, based on demand data collected by the City.

(b) By December 1 of the fifth contract year and each year thereafter, Purchaser may request that its daily peaking factor for the next year, as calculated in Section 5.E.2.(a) , be altered up or down by no more than 10 percent. Except as provided in Section 5.E.3., for ratemaking purposes in the next year, the City shall use the daily peaking factor identified by the Purchaser consistent with this section, unless the Administrator determines that honoring the requested peaking factor would reduce the reliability of the system or threaten the water supply of any other wholesale purchaser of water from the City.

3. Excess Daily Peaking Factors

(a) Beginning in contract year 3, and for each year thereafter, except as provided in Section 5.E.3(b) below, if in any year Purchaser's actual daily peaking factor exceeds by more than 20% the daily peaking factor set by the terms of this contract for purposes of calculating rates in that year, the Administrator shall recalculate the year's rates and in the next available contract year shall impose on the Purchaser a surcharge equal to the difference in the Purchaser's guaranteed purchase payment under the original rates and the Purchaser's guaranteed purchase payment under the rates as recalculated using the Purchaser's actual daily peaking factors. When calculating rates for the year in which the surcharge is to be collected, the City shall treat the surcharge as an offset to the otherwise estimated annual revenue requirements for all wholesale and retail customers of the system. In addition, for five years after the year in which the Purchaser's actual daily peaking factor exceeds by more than 20% the daily peaking factor set by the terms of this contract for purposes of calculating rates in that year, the Administrator need not honor any request by Purchaser to alter the Purchaser's calculated daily peaking factor pursuant to Sections 5.E.1(b) or 5.E.2(b).

SECTION 5 – (Continued)

(b) The provisions of Section 5E.3(a) shall not apply if the excess daily peaking factor resulted from the direct result of Acts of God, malevolent acts, contamination of the water supply, or events beyond the Purchaser's control if the consequences of any such circumstance or event could not have been avoided through the exercise of the standards of care common and usual in the municipal water supply industry.

F. Release Of Purchaser From Guaranteed Purchase Obligations

1. Changes in Guaranteed Purchase Quantities In Case Of Short-Term Curtailment

(a) Reduction or Shift of Guaranteed Purchase Quantity

Purchaser's guaranteed purchase quantity (and, as appropriate, its guaranteed purchase annual payment) shall be altered, at Purchaser's request, for any year in which the Purchaser acts on a request by the City to reduce or curtail demand below its established guaranteed purchase quantity for more than five consecutive days. Any request must be made in writing to the City within 30 days after the Purchaser is no longer reducing or curtailing demand upon the City's request. At Purchaser's option, the quantity of water it did not purchase during a reduction or curtailment period of more than 5 consecutive days shall either: (a) be excluded from that year's guaranteed purchase quantity or (b) be shifted to another time of the year when curtailment is not in effect. Provided, however, that the Administrator need not honor a request to shift quantities to other times if he or she determines that to do so would threaten the reliability of the water system.

(b) Quantification of Reduction or Shift in Guaranteed Purchase Quantity

For purposes of Section 5.F.1, the Administrator shall calculate the reduction in water used by the Purchaser (and, therefore, the amount of the guaranteed purchase quantity reduction or shift) by considering the difference between the Purchaser's actual water usage during the period of curtailment or water use reductions and the Purchaser's guaranteed purchase demand projections for the same period and such other information available to the Administrator that he or she determines can be used to assist in making the calculations.

(c) Seasonal Peaking Factor Effects

SECTION 5 – (Continued)

Reductions or shifts of guaranteed purchase quantities pursuant to Section 5.F.1 shall not alter the Purchaser's seasonal or daily peaking factors for purposes of future ratemaking.

2. Changes in Guaranteed Purchase Quantities In Case of Failure of Supply

(a) Except as provided in Section 5.F.2(d) below, if the City fails to supply Purchaser's guaranteed purchase demand for more than 30 consecutive days more than one time in any period of ten consecutive years, the Purchaser may declare its intention to reduce its guaranteed purchase quantity pursuant to this Subsection.

(b) For purposes of Section 5.F.2, the Administrator shall determine if there has been a failure to meet guaranteed purchase obligations by considering the difference between the Purchaser's actual water usage during the period of curtailment or reduced water supply and the Purchaser's guaranteed purchase demand projections and such other information available to the Administrator that he or she believes can be used to assist in making the determination.

(c) Procedure to Reduce Guaranteed Purchase Quantities

i. To reduce its guaranteed purchase quantity under this Subsection, Purchaser must give written notice to the City of its intent to do so. The notice must be given any time after the 31st day of the failure of supply, but not more than 60 days after supply has been fully reestablished.

ii. Having given notice under Subsection 5.F.2(c)i, Purchaser may thereafter reduce its guaranteed purchase from the City by up to 10% of the guaranteed purchase quantity in effect the day before the failure of supply each year for the remaining years of the then current contract term and the next ten year term if the contract is renewed. To reduce its guaranteed purchase for any contract year, Purchaser must provide written notice of the reduction to the City no later than December 31 of the preceding contract year. Provided that to continue reducing its minimum quantity after any contract renewal, Purchaser must give written notice to the City of its intent on or before the date of renewal.

SECTION 5 – (Continued)

iii. If Purchaser elects to reduce its guaranteed purchase quantities pursuant to the terms of this Subsection, all other terms of the contract shall continue in effect.

(d) Purchaser shall not have the option to reduce its guaranteed purchase obligation under this Subsection if the City's failure to supply Purchaser's guaranteed purchase was caused by Acts of God, malevolent acts, contamination of the water supply, or events beyond the City's control if the consequences of any such circumstance or event could not have been avoided through the exercise of the standards of care common and usual in the municipal water supply industry.

(e) The ten year period for judging this obligation shall restart at each renewal of this contract. (See Section 3.F.)

G. Excess Demands

1. Reduction in Supply

Should Purchaser place demands on the system in excess of that agreed to between City and Purchaser or not in compliance with the Operating Standards adopted pursuant to Section 4, WMAB, in a manner that jeopardizes the reliability and safety of the Portland water system or compromises the City's ability to meet its obligations to other customers, the Administrator may take such steps as are necessary or advisable to protect the system. Such actions may include, but are not limited to reducing the supply of water flowing to the Purchaser. If the water system infrastructure does not allow the Administrator to make such supply reductions, the Administrator may construct control devices as may be needed to suitably control Purchaser's demands. The cost of such improvements shall be fully recovered through a surcharge billed to Purchaser and added in equal installments to the Purchaser's monthly invoices during the four months following completion of construction.

2. Calculation of Excess Demands

For purposes of Section 5.G, the Administrator shall determine whether Purchaser has imposed excess demands on the system using any information available to the Administrator that he or she determines can be used to assist in making the determination. The Administrator's determination shall be subject to review and comment by the WMAB.

H. Increased System Capacity To Meet Increased Guaranteed Purchase Quantities

1. If Purchaser requests an increase in its guaranteed purchase quantity pursuant to Section 5.C.2 that, in the judgment of the Administrator, cannot prudently be granted

SECTION 5 – (Continued)

because it exceeds the capacity of the system to deliver water to Purchaser, the Purchaser may request that the City undertake a study to determine what, if any, enhancements or alterations to the system, would produce sufficient system capacity to meet the increased guaranteed purchase quantity.

2. Upon Purchaser's written agreement to fund such a study of system enhancements or alterations, the City shall undertake the study. Provided that the City's obligation shall be contingent on the negotiation of a mutually satisfactory intergovernmental agreement between the City and Purchaser establishing the nature, timing, and funding of the study.

3. Upon completion of any system study provided for in this subsection, the Purchaser funding the study may request the City to undertake system enhancements or alterations sufficient to meet the increased Purchaser's proposed increased guaranteed purchase quantity.

4. Upon request for system enhancements or alterations, the City may agree to undertake the enhancements or alterations requested, under such terms and conditions as the City and Purchaser (or others) in writing mutually agree. The parties may utilize joint funding agreements, as provided for under Section 16 of this Agreement, or such other arrangements as are determined to be mutually beneficial at the time.

SECTION 6 - INTERRUPTIBLE WATER

A. In General

Purchaser may purchase water over and above its guaranteed purchase quantities under the terms and conditions set forth herein. Such water shall be termed interruptible water. Except as provided herein, the City is not obligated to sell interruptible water to Purchaser. Further, City may cease providing interruptible water at any time under procedures of Section 6.F below, even after the Administrator has accepted an offer to purchase interruptible water under procedures of Sections 6.B, 6.C and 6.D below.

B. Winter Interruptible Water

From October 1 through May 31, Purchaser may offer to purchase winter interruptible water on one day's verbal or written notice to the City. The City may provide interruptible water to Purchaser if the Administrator determines it is prudent to do so and if the Administrator accepts the Purchaser's offer either verbally or in writing.

C. Summer Interruptible Water

1. From June 1 through September 30, Purchaser may request to purchase summer interruptible water using the procedures established in this Section 6.C.

2. No later than March 15 of each year, Purchaser may submit to the City, in writing, its offer to purchase summer interruptible water supplies. The offer must identify the quantities of water to be purchased, by month, for the next June through September period.

3. No later than April 15, City of each year shall respond in writing to Purchaser's request for interruptible water, based on the Administrator's prudent estimates of system capacity and operational requirements. If the Administrator accepts Purchaser's offer without changes, then the Purchaser is obligated to purchase and the City is obligated to sell the designated quantity of summer interruptible water under the terms of this contract.

4. If the Administrator determines that it would not be prudent to agree to meet all timely requests for summer interruptible water from all Purchasers, he or she shall offer the total quantity of interruptible water he or she deems to be prudent to all requesting Purchasers as follows: each Purchaser shall be offered a quantity of interruptible water proportional to its guaranteed purchase quantity in comparison to the total of the guaranteed purchase quantities of all requesting Purchasers.

SECTION 6 – (Continued)

5. If the Administrator offers to supply Purchaser less than the full amount of summer interruptible water requested by the Purchaser, Purchaser must, within 15 days of the Administrator's offer, accept or reject the offer. If Purchaser accepts the offer, then Purchaser is obligated to purchase and the City is obligated to sell that quantity of summer interruptible water under the terms of this contract.

D. Additional Sales of Interruptible Water

Notwithstanding the other provisions of Section 6, each contract year after the Administrator has confirmed sales of summer interruptible water under Subsection 6.C. above, the Purchaser may buy and the City, acting through the Administrator, may sell additional interruptible water at that year's summer season interruptible rate and on such other terms as are mutually agreeable.

E. Confirmed Summer Interruptible Water Payment

1. Purchaser's Obligation to Make Payment

Once Purchaser and the City have agreed on a quantity of interruptible water under the terms of this section, and subject to the billing provisions of Section 15 of this Contract, except as provided in Section 6.E. 2 below, the Purchaser shall pay the City for that quantity of water agreed to at the price established by Section 8 of this Contract. The amount due shall be termed the confirmed interruptible water payment.

2. Reduction in Confirmed Interruptible Water Payment

If the City fails to deliver any of the confirmed quantity of interruptible water, the Purchaser shall be excused from paying a portion of its confirmed interruptible water payment equal to the quantity of water not delivered times the price of interruptible water.

F. Reduction or Elimination of Interruptible Water

In the event of an emergency or other condition under which continued supply of interruptible water jeopardizes the reliability of the water system, the City may cease providing interruptible water at any time on one day's written or verbal notice to the Purchaser. Under all other circumstances, the City may cease providing interruptible water at any time on 21 days written or verbal notice to the Purchaser.

SECTION 7 – RATES AND CHARGES FOR GUARANTEED PURCHASE WATER QUANTITY

A. Rate Making In General

1. The rate structure for Purchaser's guaranteed purchase quantity of water shall consist of (a) a fixed monthly charge calculated using the cost of service of typical non-volumetric services such as, but not limited to, meter reading, billing, meter purchases, meter maintenance, and relevant overhead and (b) a volume charge calculated using volumetric rates established as provided herein times the Purchaser's guaranteed purchase quantity.

2. The City shall annually establish rates and charges for the Purchaser's fixed monthly charge and guaranteed purchase quantities that do not exceed charges calculated using the principles and standards of this Section 7.

   (a) Determination of revenue requirements using the utility basis of revenue requirements and cost of service principles as described in Manual of Water Supply Practices – M1. Principles of Water Rates, Fees and Charges. Fifth Edition. Denver: 2000 published by the American Water Works Association (hereafter "AWWA Manual M1") or in such updates as may occur from time to time, except for such deviations from AWWA Manual M1 as are described or permitted by this contract. A cost of service computer model will be used to calculate the revenue requirements, cost allocations, and resulting rates.

   (b) The components used to determine the revenue requirements under the utility basis shall be:

      1. Operation and Maintenance (hereafter "O & M") costs;
      2. Return on Investment; and
      3. Depreciation.

   (c) Purchaser shall not be charged for the costs incurred by the City that are incurred for the sole purpose of serving the City's retail customers. For the costs incurred serving both the Purchaser and the City's retail customers, Purchaser shall be charged an amount that equals its proportionate share of the cost, using standard cost-of-service principles, as generally described in AWWA Manual M1, unless stated otherwise herein.

   (d) The parties understand that the City may enter into similar wholesale water sale agreements with other water utilities. If the City does so, the charges to Purchaser shall continue to be based on the Purchaser's proportionate

SECTION 7 – (Continued)

share of the cost to serve the Purchaser, based on the Purchaser's proportionate share of total demand on the system, including demand of other purchasers under similar wholesale water agreements and the City's retail customers.

(e) The City shall treat surcharges collected under Section 5.D.2 of this agreement as an offset to the otherwise estimated annual revenue requirements for all wholesale and retail customers of the system.

B. Cost Allocations—In General

1. Costs shall be allocated to the Purchaser in accordance with generally accepted ratemaking practices and procedures, as described in AWWA Manual M1, as it may be updated from time to time, except to the extent that the procedures specified herein may deviate from the practices and procedures of AWWA Manual M1. In general, unless specified otherwise in the agreement, costs shall be allocated based on the proportionate share of costs of the assets and other revenue requirements, as provided in AWWA Manual M1.

2. Cost allocation for purposes of this contract shall be based on the "commodity demand" methodology, as defined in AWWA Manual M1, unless otherwise agreed to by Purchaser and the Administrator.

C. O & M Cost Allocation

1. Definition

For purposes of this agreement O & M expenses include the operations, maintenance, and associated overhead expenses of the City's water supply system as adopted in the City's annual budget process for the year for which the rate will be in effect except that costs for water planning studies that are expensed rather than capitalized shall be included in the O & M expenses at their actual cost rather than budgeted or anticipated costs. When use of actual costs for such studies results in a delay of recovery of costs associated with such studies, Purchaser shall also be charged interest on the funds expended from the time the costs were incurred by the City until the start of the following contract year. The interest rate shall be equivalent to the rate earned on the City's internal investment pool managed by the City Treasurer.

2. Allocations

The City shall allocate O & M costs to cost functions applied in accepted cost of service rate-making contemplated by AWWA M-1, such as commodity, peak season demand (referred to as the seasonal peaking factor under this contract), peak three days system-wide demand (referred to as the daily peaking factor under this contract), customer, and equivalent meter service based on

SECTION 7 – (Continued)

the City's best professional engineering judgment. The City shall then allocate O & M costs allocated to these respective cost functions to the Purchaser based on the Purchaser's proportionate share of retail demand and non-retail guaranteed purchase quantities for annual average demand, peak season demand, total annual non-retail bills, meters, and size of meters respectively. Allocations may also be based on peak day or peak three day demands, but for those purposes the City may include Purchaser's total demands on the Portland water system, including guaranteed purchase quantities and actual purchases of interruptible water. Definitions of allocation factors are found in Exhibit 2, which is hereby incorporated and made part of this Agreement.

3. ~~Special~~ Allocation ~~to~~ to Avoid Cost Cap

In any year that the Administrator determines that standard allocation of the O & M expenses contained in the City Budget will cause specified O & M expenses to exceed the O & M cost cap as defined in Section 7.I., the Administrator may alter the O & M component of Purchaser's rates in a manner that avoids that result.

D. Capital Cost Allocations

1. Capital costs are those expenditures that result in the acquisition of or addition of fixed assets that become part of the rate base.

2. Except as specifically provided herein, capital costs shall be allocated based on Purchaser's guaranteed purchase quantity in a five-step process using best professional judgment. First, system assets included in the rate base shall be allocated to functional asset groups. Second, the resulting system assets by functional asset group shall be allocated to water service characteristics. Third, the assets allocated to each water service characteristic shall be allocated to customer classes based on their respective percentages of the water demands related to each water service characteristic. The City shall classify customer classes as retail and wholesale and shall treat each wholesale customer that serves more than 200 service connections as an individual customer class. Fourth, the asset costs allocated to each customer shall be multiplied by the rate of return to determine the return on investment for each customer class. Fifth, the working capital component of the rate base shall be allocated to customer classes in proportion to the allocation of all other rate base assets.

3. In performing these allocations, items that solely serve the City's retail customers shall be allocated to retail customers. Items that solely serve the Purchaser and other wholesale customers shall be allocated to wholesale customers. Items that serve the City and any wholesale customers shall be allocated proportionately to

SECTION 7 – (Continued)

the City, based upon its retail water demand, and the respective wholesale customers, based upon each customer's guaranteed purchase amount.

4. For the purposes of these allocations, functional asset groups are collections of common water system assets or facilities that are used to provide water service to customers. The City's functional asset group designations shall be specific enough that customer classes are not allocated costs to support assets or facilities that do not provide service or benefit to them. Definitions of functional asset groups and their allocations to customers shall be consistent with the findings contained in a document entitled *Functional Asset Groups* unless circumstances change, in which case the allocations will also be changed to reflect the use or benefit of assets and facilities under normal operating conditions. Any changes in definitions of functional asset groups shall be presented to the WMAB for review and comment. The Administrator shall provide a written explanation if WMAB recommendations are not implemented and consult with WMAB regarding his determination.

5. For the purposes of these allocations, water service characteristics may include such things as commodity, peak season demand, peak three days demand, customer, equivalent meter, and fire. For purposes of peak day and peak three day analysis, the City may include Purchaser's total demands on the Portland water system, including guaranteed purchase quantities and Purchaser's actual purchases of interruptible water. Definitions of these water service characteristics are provided in Exhibit 2.

6. The allocations of assets to functional asset groups and subsequently to water service characteristics may vary from time to time as changes to the system and its operation may occur. The revised allocations, if any such revisions occur, shall be used in the annual rate setting process, and if no revisions occur, then the previously adopted allocations shall be used for annual rate setting. The entire set of these allocations, including the initial allocations and any subsequent changes, shall be reviewed in the Cost Allocation Audits, as described in Section 7.E. below.

E. Cost Allocation Audits

1. In Contract Year 5 and every five years thereafter during the term of this contract and any extensions, an independent third party shall be retained to conduct an audit of all steps of the then-currently employed process to allocate assets and O & M to customer classes. The expert shall be instructed, as the result of its audit, to recommend any changes necessary to ensure the continued accuracy of the cost allocations consistent with the terms of this contract and the AWWA M-1 manual.

SECTION 7 – (Continued)

The expert shall be selected by a majority vote of the WMAB and the auditor expense shall be included in O & M expenses and allocated accordingly. The expert's report shall be completed by December 1 of the contract year in which the expert is hired.

2. Expert recommendations for cost allocations shall be reviewed by the WMAB and shall be implemented by the Administrator in the contract year following receipt of the recommendations unless: (1) a majority of the WMAB and the Administrator concur that the recommendations should not be implemented or (2) the Administrator determines that it would be imprudent to adopt any or all of the recommendations. In case the Administrator reaches a determination of imprudence, he or she shall explain his or her determination in writing to the WMAB and consult with WMAB concerning his or her determination.

F. Depreciation of Capital Assets

1. Depreciation expense shall be the annual depreciation expense on assets that are used, in total or in part, to serve the Purchaser, either directly or indirectly. Depreciation shall be calculated on the original cost of the assets and on a straight-line basis, using City accounting estimates of the useful lives of the assets in accordance with Generally Accepted Accounting Principles, which may differ from the actual useful lives of those assets.

2. The parties understand and agree that the assets being depreciated for these purposes may include backup facilities and other redundant facilities that may be idle for long periods of time, but which the City has determined still provide a service function to the system and the Purchaser by virtue of their backup and redundancy functions.

3. Depreciation shall not be charged for assets that are no longer able to provide service to the Purchaser or whose accounting life has expired, unless otherwise agreed to by the parties.

G. Return On Investment

Return on investment shall equal the rate of return multiplied by the value of system assets (the rate base) that serve the Purchaser.

1. Rate of Return

The rate of return for each year shall be the percentage rate of the Bond Buyer Revenue Bond Index as published by the newspaper The Bond Buyer on the previous December 1 or the City Water Bureau's embedded cost of debt on the previous December 1, whichever is higher, plus

SECTION 7 – (Continued)

one percentage point (1.0%). If the Bond Buyer Revenue Bond Index ceases to be available, the Administrator shall notify the Purchaser and consult with WMAB regarding identification of a substitute index. The substitute index shall be selected by the Administrator, in consultation with the WMAB, and shall be widely available to dealers in municipal securities, and measure the interest rate of high quality, long-term, fixed rate municipal securities. If available, an index measuring the interest rates on high quality, long-term, fixed rate municipal revenue bonds will be selected by the Administrator over a comparable general obligation bond index. Upon identification of a substitute index, the rate of return on this contract shall be the percentage rate of a substitute index plus one percentage point (1.0%).

2. Rate Base

The rate base shall equal:

(a) Working capital, consisting of an amount equal to an average of 45 days of operation and maintenance costs for the water system supply, transmission, storage and pumping facilities that are incurred to provide service directly or indirectly to non-retail customers.

(b) The remaining un-depreciated value, i.e., book value, of all assets that provide service, directly or indirectly, in whole or in part, to the Purchaser, including water system supply, transmission, storage, and pumping facilities, equipment, and appurtenances and any other water system assets that provide service directly or indirectly to the general water supply and transmission portion of the water system, thereby providing water supply to non-retail water customers of the City. These assets may include backup facilities and other redundant facilities that may be idle for long periods of time, but which the City has determined still provide a service to the system and Purchaser. For such assets providing water supply benefit to both retail and non-retail customers, the assets included in the rate base shall be allocated proportionately as previously described herein.

(c) The assets initially included in the Rate Base, as of the date of this agreement, are listed in Exhibit 3. Each year, the City shall produce a new Rate Base asset list and provide it to Purchaser during the rate-making process as provided in Section 4, WMAB.

(d) After the first year of this contract, the assets included in the Rate Base assets shall be updated each year to include all water system capital assets listed and valued in Water Bureau documents used to produce the City's most recent Comprehensive Annual Financial Report and its supporting

SECTION 7 – (Continued)

documentation, which may include capitalized interest on some or all of the relevant assets.

3. Rate Base Exclusions

The Rate Base shall exclude the following items:

(a) Construction work in progress.

(b) Assets that are fully depreciated, even though such assets may be still in service.

H. Prepayment of Capital Cost Share

The Purchaser may elect to pay its share of capital cost allocations for new water system assets in a lump sum cash payment or other mutually agreed upon payment terms in lieu of paying annualized rates for depreciation and rate of return for the new facilities. If Purchaser makes such cash payment, the portion of the asset cost being prepaid by the Purchaser shall be deducted from the value of the specified assets in the rate base used to calculate the Purchaser's rates. By making such cash payment, Purchaser does not obtain an ownership interest in the specified assets unless Purchaser and the City have entered into a supplemental joint ownership agreement as specified in Section 16, Joint Funding of Capital Improvements.

I. Operations And Maintenance Cost Control

To help ensure stability and predictability of wholesale rates and to permit recovery of costs of service, increases in specified O & M expenses shall be subject to limitations described below. These limits do not apply to capital costs, recovery on investment, or O & M expenses that are ~~not~~ specified O & M expenses.

1. O & M Cost Cap

The O &M Cost cap is the prior year's specified O & M expense any portion of which was allocated to Purchaser or any other wholesale purchasers under similar water sale agreements increased by the sum of two percentage points (2%) plus the annual rate of change of the selected CPI.

(a) Selected CPI shall mean the CPI-Urban, West Urban (ref CUUR0400SAO) for January 1 of the year new rates are calculated, e.g., CPI of January 1, 2006, will be used to assess O & M increases in rates for July 1, 2006. If this referenced index ceases to be available, the Administrator shall notify the Purchaser and consult with WMAB regarding identification of a substitute index.

SECTION 7 – (Continued)

(b) Specified O & M expenses are those City O & M expenses defined in Subsection I.3 below, Specified O & M Expenses and Exclusions.

2. Cost Cap Limitation

The City may not more than once in any consecutive five year period include in the calculation of Purchaser's rates, specified O & M expenses that exceed the O & M cost cap. If, however, the City's actual O & M spending (including, but not limited to specified O & M expenses) is 90% or less than the City's budgeted O & M expenses for each of the prior four years, the increase in the fifth year shall be limited to the formula of 7.I.1 above. A new five year period shall commence at each renewal of this contract.

3. Specified O & M Expenses And Exclusions

Specified O & M expenses shall be those O & M expenses, including associated overhead, incurred by the City's water system to serve directly or indirectly, in whole or in part, the Purchaser and other purchasers under similar wholesale water agreements and any portion of which is properly allocated to Purchaser or any other purchasers under similar wholesale water agreements under the terms of their contracts, except for expenses or classes of expenses excluded by this Section 7.I. The Administrator shall make a determination of specified O & M expenses and exclusions in consultation with the WMAB each year during the ratemaking processes.

4. Specified O & M expenses shall not include and shall therefore, exclude, the following expenses or classes of expenses:

(a) Pass-Through Costs. These are costs that the parties agree are generally beyond the reasonable control of the City water system to influence. For purposes of this contract, pass through costs are those listed here.

i. Utilities, including electricity, water, sewer, natural gas, garbage and telephone.

ii. Equipment rental, such as hoists, excavators, tools and other miscellaneous equipment not included in the City's fleet.

iii. Operating supplies, such as treatment chemicals, lubricants and consumables related to system operation and maintenance.

iv. Communication Services, including but not limited to telephone, radio, microwave and fiber-optic transmission of data, voice, video and related information.

SECTION 7 – (Continued)

v. Insurance or the expenses of self-insurance, other than workers compensation, including but not limited to costs for general liability, property, casualty and fleet coverage.

vi. Additional costs identified by the Administrator from time to time that are beyond the control of the City to influence in a manner similar to the specific costs listed in this subsection. Provided that the City may not exempt any such additional costs from the cost cap without first presenting proposed additions to the WMAB for review and comment.

(b) The costs of PERS Pension Obligation Bonds (POBs) paid by the City of Portland Water Bureau.

(c) Costs In Response to Unexpected Events or Circumstances

i. These are costs that arise unexpectedly or as the result of Acts of God, malevolent acts, contamination of the water supply, or events beyond the City's control, the consequences of which events or circumstances could not have been avoided through the exercise of the standards of care common and usual in the municipal water supply industry.

ii. The City and Purchaser shall, within 120 days of the onset of such unexpected costs commence good faith negotiations to determine what, if any, of the costs of responding to the event or circumstances, which are otherwise excluded, should be included within the Specified O & M expense.

(d) Costs Associated With Planning Studies

These are costs to pay for City planning studies related to the Water Supply System including those studies in the City's Water Bureau Capital Improvement Program that are expensed rather than capitalized.

(e) Costs Associated With New Facilities Or Programs

i. These are first time or initial increases to O & M expenses (which may affect more than one fiscal year) associated with operation and maintenance of new facilities or the functioning of new programs. New programs may include such things as responses to new state or federal mandates or regulations, or activities to improve the

SECTION 7 – (Continued)

efficiency, reliability, security or quality of the water supply. The WMAB will be consulted regarding initial O & M costs of new facilities and new programs. The parties understand and agree that O & M costs may increase in any given year in order to implement new programs or to operate or maintain new facilities without exceeding the cost cap.

ii. Once O & M expenses for new programs or facilities are established and have become a routine part of the City's water system budget, however, those of the expenses that are not otherwise excluded from "specified O & M costs," (pass through costs, PERS expenses listed in Subsection 2 above, costs in response to unexpected events or circumstances, or costs associated with planning studies) shall be included in future calculations of the increase in specified O & M expenses.

iii. As O & M expenses for new facilities or new programs arise, the Administrator shall consult with WMAB concerning the expenses and then determine which of those expenses should be excluded from cost cap calculations as "new O & M" and which expenses should be included within the cost cap on what schedule. The Administrator shall advise Purchaser and WMAB of his determination.

(f) Costs Incurred on Behalf of the Purchaser or WMAB

These are costs to be paid by the City by mutual agreement of the City and Purchaser or the City and the WMAB.

SECTION 8 - RATES AND CHARGES FOR INTERRUPTIBLE WATER

A. Winter Interruptible Water

The price of winter interruptible water shall be twenty percent (20%) of the Purchaser's rate for that year for its guaranteed purchase water quantity, plus any extra delivery costs (such as extra pumping) incurred by the City to deliver the water that are not included within the rate for the guaranteed purchase quantity.

B. Summer Interruptible Water

The price of summer interruptible water shall be forty-five percent (45%) of the Purchaser's rate for that year for its guaranteed purchase water quantity, plus any extra delivery costs (such as extra pumping) incurred by the City to deliver the water that are not included within the rate for the guaranteed purchase quantity.

SECTION 9 - WATER SYSTEM PLANNING AND COOPERATION

To facilitate regional water planning and resource development, Purchaser and the City agree as follows:

A. Purchaser Projected Water Usage

1. Each five years, at a minimum, starting on July 1 of Contract Year 5, Purchaser shall provide to the City estimates of the Purchaser's water demand to be purchased from the City by year, annual seasonal peaking factor, and daily peaking factor for a period of ten years including any anticipated increases in guaranteed purchase quantity.

2. In addition, in any other Contract Year in which unforeseen developments have significantly altered Purchaser's five year estimates, Purchaser shall provide the City with its revised estimates of it preferred use of Portland water for a ten year period.

3. The estimates provided for in this provision are for planning purposes only and do not commit the City or the Purchaser to either buy or supply any particular quantities of water.

4. The City shall provide WMAB a summary of the City's projected demands for all wholesale and retail demands by no later than May 1 of each year.

B. City Evaluation of Capacity of Portland Water System

1. Whenever it receives revised demand and peaking factor estimates from the Purchaser, the City shall provide the Purchaser with estimates of the capacity of the Portland water system to meet all projected system loads over the ten year planning horizon.

2. If the City determines that the Portland water system cannot meet the projected demands Purchaser and others have proposed to place on it over the ten year planning horizon, the City and Purchaser (together with other Purchasers who may wish to join the discussions) may initiate negotiations to determine if and how the Portland water system could meet the projected loads, either through reduction in demand or development of additional water system capacity.

3. In no case, however, does this contract obligate the City to sell, or Purchaser to pay for, water beyond the guaranteed purchase quantities established herein.

SECTION 10 - RESERVATION OF SYSTEM CAPACITY

At any time during the term of this contract, Purchaser and the City may enter a separate reserve capacity agreement. A reserve capacity agreement would enable Purchaser to take a specified amount of additional water from the system at a specified future time. At a time to be specified in the reserve capacity agreement, the quantity of water reserved will be added to the Purchaser's guaranteed purchase quantity under this contract and will be used to calculate the Purchaser's guaranteed purchase payment thereafter.

Unless specified otherwise in the reserve capacity agreement, costs for reserve capacity shall be charged at a rate equivalent to the rate of return on the proportionate share of the capital assets that would be used to make such capacity available, and shall be billed to the Purchaser in equal monthly installments.

Purchaser will possess no right to use the additional capacity identified in its reserve agreement until the specified future time. The City may use any or all of the reserve capacity prior to the specified future time.

Unless specified otherwise in the reserve capacity agreement, Purchaser shall provide the City written notice at least 90 days prior to the specified future time identifying if the Purchaser will (a) exercise its option to use the additional system capacity after the specified future time, (b) allow the reserve capacity agreement to expire without further action, or (c) request a new or amended reserve capacity agreement with a new specified future time.

If a request for reserve capacity can only be met by adding new assets to the system, the City will not reserve capacity for the Purchaser until the parties have reached an agreement on the method for financing and the schedule for adding the assets to the system.

SECTION 11 - CONNECTIONS AND METERING

A. Meter Ownership and Responsibility

Upon execution of this agreement, all existing water meters used to measure the water supplied by the City to the Purchaser, and associated facilities such as vaults, shall become the property of the City. In addition, when a new meter or meters are required, the City shall install on Purchaser's main, at a point near the connection with the City's main, a water meter or meters that will at all times measure the water supplied by City to Purchaser. City shall maintain the meter or meters in proper working condition, including periodic testing, calibration, maintenance and replacement of the meter(s) based on generally accepted industry standards. City agrees to notify Purchaser prior to repairing the meter.

B. Meter Costs

The cost of replacing the meter or meters and their operations and maintenance shall be included by the City in calculating Purchaser's rates.

C. Meter Access

The Purchaser shall be allowed reasonable access to meters and facilities for purposes of installing and maintaining telemetry equipment or other equipment related to the metering function.

SECTION 12 - PURCHASER-SUPPLIED WATER TO CITY RESIDENTS

A. Water Supplies To City Residents

To the extent permitted by law, Purchaser agrees, when requested by the Administrator, to provide water supply to City residents in areas adjacent to Purchaser's water mains subject to limitations of the available capacity of Purchaser's water distribution system. Water so delivered shall be metered by the City at its residents' individual services.

B. Master Metering

The City and Purchaser shall review each situation where such arrangements exist and attempt to reach agreement on the need and feasibility of installing a master meter or master meters to register the volume of water delivered to City residents. The Purchaser agrees the water delivered to City residents will be from the same source or sources as water that Purchaser delivers to its customers and shall meet all applicable drinking water regulatory requirements. The Purchaser may request the City install a master meter if the local distribution system is shown to have demonstrated leakage or unaccounted water losses in excess of 10% of the average day demand of the City residents served by system or by mutual agreement of the parties. Improvements to the local distribution system shall be made by mutual agreement of the parties.

C. Charges For Water

1. The Purchaser may charge the City up to one hundred twenty-five percent (125%) of the guaranteed purchase wholesale water rate the City charges the Purchaser. The City will credit this amount to Purchaser. Such water will not be included in the calculation of total water purchases made by the Purchaser from the City.

2. Notwithstanding the foregoing, the Purchaser may conduct a cost-of-service study to determine the cost of serving City residents. If the cost-of-service exceeds the 125% of the wholesale water rate, Purchaser may adjust the charge to the City accordingly, but not above the actual cost of service.

SECTION 13 - WATER RESOURCE CONSERVATION

A. General

1. The obligations in this Section will apply to both the City and Purchaser. Both parties to this agreement intend that water to which the City holds water rights shall be used beneficially, efficiently, and without waste.

2. The parties encourage the development of joint conservation programs where such partnerships are of mutual benefit and produce increased efficiencies in program costs or water savings. Provided, however, that funding for joint conservation programs will be established by separate agreement between the interested parties.

B. Water Managers Advisory Board

The WMAB will foster and promote efficient use of water and best management practices as outlined further in this Section. It will also be the role of the WMAB to implement the provisions of this Section. In doing so, WMAB may assign tasks to a WMAB committee or to staff of participating purchasers' subject in all cases to WMAB review and approval.

C. Water Conservation Obligations and Submission of a Water Conservation Plan

1. The Purchaser must operate water systems that are fully metered at the individual customer level or have an implementation program to complete installation of such meters by the end of the fifth contract year.

2. Unless Purchaser serves a population of 1,000 or less, Purchaser shall, on or before the end of the second contract year, and every five years thereafter, submit a Water Conservation Plan for its water system to the WMAB.

3. If Purchaser is a participant in the ORS 190 Agreement for the Regional Water Providers Consortium, it may submit the regional conservation programs as part of its Conservation Plan, but the Consortium programs, by themselves, do not constitute a Conservation Plan for the individual Purchaser.

4. Each Conservation Plan submitted must include programs specified in State of Oregon Water Resource Department Water Management and Conservation Plan Rules, as they are from time to time amended.

D. Review of Conservation Plan

1. The WMAB may, if it deems it advisable, adopt guidelines for the submission of water Conservation Plans.

SECTION 13 – (Continued)

2. Upon receipt of a Purchaser Conservation Plan, the WMAB will review the plan pursuant to the standards of this Section. In reviewing a Conservation Plan, the WMAB shall consider, at a minimum, the following factors:

   (a) Whether the program contains the following mandatory programs

      i. Leak detection and repair programs, if required by State Rule, that meet Oregon Administrative Rule (OAR) 690-86-150(4)(e) and, if applicable, Subsection (6)(a).

      ii. Education and outreach programs required under OAR 690-86-150(4)(f).

      iii. Rate structures based on the quantity of water metered at the service connection as required by OAR 690-86-150(4)(d).

      iv. A meter testing and maintenance program as required by OAR 690-86-150(4)(c).

      v. An annual water audit as required by OAR 690-86-150(4)(a).

   (b) Whether the Plan includes the following discretionary programs or a showing that a particular discretionary program is neither feasible nor appropriate to the Purchaser's service area.

      i. Technical and financial assistance programs to encourage and aid residential, commercial and industrial customers.

      ii. Supplier financed retrofitting or replacement of existing inefficient water using fixtures, including distribution of residential conservation kits and rebates for customer investments in water conservation.

      iii. Adoption of rate structures, billing schedules, and other associated programs that support and encourage water conservation.

      iv. Water reuse, recycling, and non-potable water opportunities.

      v. Other measures identified by the water supplier that would improve water use efficiency.

      vi. Operation measures to reduce peak event impacts on the Portland system.

SECTION 13 – (Continued)

3. Within 180 days of receipt of the Purchaser's Conservation Plan, the WMAB shall approve or disapprove the Plan and advise the Purchaser in writing of its decision.

(a) A Water Management and Conservation Plan approved by and updated as required by the State of Oregon pursuant to the Department of Water Resources Water Management and Conservation Plan Rules will in all cases be deemed sufficient to meet the requirements for a Conservation Plan under this agreement.

(b) If the WMAB disapproves the Purchaser's Water Conservation Plan, it shall notify the Purchaser and provide the Purchaser with comments on the Plan's deficiencies. Within 180 days thereafter, Purchaser shall submit a revised Plan for review by the WMAB.

E. Periodic Conservation Plan Reporting

1. Purchaser shall report annually to the WMAB regarding the implementation of its Conservation Plan.

2. Each five years after approval of its Conservation Plan, Purchaser shall report to the WMAB the estimated actual water savings from its Conservation Plan.

SECTION 14 – WATER CURTAILMENT AND PROTECTION OF THE WATER SYSTEM

A. During times when water supplies are not adequate to meet the aggregate of all demands placed upon the Portland water system, the City and participating Purchasers need to have a plan in place to reduce or curtail demands so that fire, life, safety and other high priority needs are met. It is to the benefit of all of the users of the Portland water system that plans for curtailment be agreed upon in advance and that plans for curtailments be coordinated among water providers.

B. By signing this agreement, Purchaser and City acknowledge that unforeseen or unavoidable circumstances may limit the amount of water available to City for sale and distribution, whether temporarily or permanently. Should the available supply fall below the aggregate of all demands placed on the City system, or should it be reasonably predicted that supply will fall below demands before other supplies are available, the Administrator of the Bureau of Water Works may declare that a water shortage is in effect.

C. WMAB shall develop and recommend to the Administrator a Curtailment Plan. The Administrator shall adopt the recommended Curtailment Plan with such alterations as he or she deems necessary or advisable. The Curtailment Plan shall be designed to accomplish reductions in demand necessary, in the event of a water shortage, to protect the system's capacity to supply water for fire, life, safety, and other high priority needs. The curtailment plan shall establish procedures, as well, whereby two or more participating Purchasers may coordinate their demand reductions to accomplish, jointly, total necessary system demand reductions imposed on them, even if one or more Purchasers individually do not meet the reductions required of its separate system.

D. Whenever the Administrator has declared a water shortage, any adopted Curtailment Plan shall be in effect. If there is no adopted Curtailment plan, the Administrator shall require implementation of measures he or she deems necessary or advisable to reduce all demands, retail and wholesale, proportionally based on annual retail usage for the previous contract year and on annual guaranteed purchase quantities (excluding interruptible water) furnished under this agreement for the previous contract year.

E. If the Administrator declares a water shortage, Purchaser shall implement measures sufficient to meet the requirements of the Curtailment Plan (or other requirements of the Administrator for proportional reduction in demand if no Curtailment Plan has been adopted). Purchaser may do this through implementation of measures contained in the Curtailment Plan, similarly effective measures found in Purchaser's own plan adopted under OAR Division 86 or required as part of a State declared drought under ORS 536.720-740, or through agreements with other Purchasers of water under similar wholesale water agreements that result, jointly among the agreeing Purchasers, in a total

SECTION 14 – (Continued)

reduction in system demand equivalent to that required in the Curtailment Plan or, if there is no Plan, the Administrator's order for proportional reductions.

F. The City shall monitor compliance with Curtailment Plan on a schedule established in the Plan or at least every two weeks throughout the duration of the declared water shortage.

G. If, after the Administrator declares a water shortage, Purchaser is unable individually, or in cooperation with other purchasers as contemplated by Subsection E. above, to achieve the required reductions in the use of water supplied under this contract, the Administrator may act to reduce the amount of water supplied to the purchaser so that it does not exceed that amount specified under curtailment measures.

SECTION 15 – BILLING AND PAYMENT

A. Guaranteed Purchase Payment

1. Monthly Billing

The City shall bill Purchaser its fixed monthly service charge plus a portion of its annual guaranteed purchase volumetric payment obligation each month. The monthly volumetric charge shall be the product of the monthly usage estimates, as determined in Sections 15.A.2(a) or (b) below, times that year's rate per unit of water.

2. Monthly Usage Estimates

(a) No later than March 15 of each year, Purchaser shall submit to the City a projection of its demands for the next year, by month, which demands must total to the Purchaser's guaranteed purchase quantity and must be consistent with the Purchaser's seasonal peaking factor. It is recognized these demand projections will be estimates and actual demands may vary from projected demands but such departures from estimates do not relieve the Purchaser from obligations such as guaranteed purchase quantity and adherence to seasonal peaking factor, as specified elsewhere in this agreement.

(b) If the Purchaser has not by March 15 of each year submitted its projected demands for the next year or if a timely submission is inconsistent with the Purchaser's then current contractual guaranteed purchase quantity and seasonal peaking factor, the Administrator shall consult with Purchaser to obtain new or revised projected demands. If thereafter the Purchaser does not submit projected demands that are consistent with its then current contractual guaranteed purchase quantity and seasonal peaking factors, the Administrator may use the previous year's demand projections or other projections that are consistent with Purchaser's contractual guaranteed purchase quantity and seasonal peaking factors, to make rates and to operate the system.

B. Summer Interruptible Water

If the Purchaser and City have agreed to the sale of summer interruptible water, the City shall bill the Purchaser for the total confirmed interruptible water payment in four equal amounts for the months of June, July, August, and September. Provided, that if the City fails to deliver interruptible water requested by the Purchaser, the Purchaser shall be excused from paying the portion of its confirmed interruptible water payment equal to the quantity of water not delivered times the price of interruptible water.

SECTION 15 – (Continued)

C. Billing for Water Purchases Above Guaranteed Purchase Amounts and Above Confirmed Peak Season Interruptible Water Quantities

Within 62 days of the end of each contract year (that is, by September 1), the City shall review the Purchaser's meter records for the previous contract year under this agreement. If the Purchaser has taken water above either its guaranteed purchase amount or its confirmed peak season interruptible water quantities, the City shall bill Purchaser for those water deliveries no later than September 30. Charges shall be calculated as follows:

If the Purchaser has taken at least its annual guaranteed purchase quantity over the full contract year, then water supplied to Purchaser from October 1 to May 31 in excess of its estimated monthly guaranteed purchase quantity for those same months shall be charged the appropriate rate for winter interruptible water times the quantity of excess water taken.

If the Purchaser has taken at least its annual guaranteed purchase quantity over the full contract year, then water supplied to Purchaser from July 1 through September 30 and from the subsequent June 1 through June 30 in excess of the total of its estimated monthly guaranteed purchase quantity for those same months and its confirmed summer interruptible water quantities (if any) for those same months shall be charged the appropriate standard rate applicable to its guaranteed purchase quantity times the quantity of excess water taken.

D. Payment Schedule

Bills are due upon receipt, and subject to a collection fee if not paid on or before the thirtieth day following the billing date. Collection fees shall be established each year in the annual City ordinance establishing rates.

E. Charges In Case of Meter Failure

Should any meter fail to measure accurately the water passing through said meter, the charge for water used during the time the meter is out of service shall be based on the City's estimates of the volume of water supplied based on usage patterns and statistics for prior periods.

F. Disputes

In the case of disputes over billings for water, Purchaser shall pay the undisputed amount when due and the disputed amount shall be resolved through Dispute Resolution. The Purchaser shall pay interest at a rate equivalent to the rate earned on the City's internal investment pool managed by the City Treasurer on any disputed amounts found through dispute resolution or litigation to be due the City.

SECTION 16 –JOINT FUNDING OF CAPITAL IMPROVEMENTS

The City and Purchaser or group of Purchasers may enter into separate agreements for the purpose of mutually funding capital improvements where such improvements are determined to be in their mutual interest. The City and Purchasers or others involved in mutually funding capital improvements may also enter into separate agreements for the conditions and pricing of sale for water supplies derived from such mutually funded improvements. Such separate agreements may include provisions for acquisition of ownership of assets and/or capacity by Purchaser. If provided in the joint funding agreement, Purchaser may include its proportionate ownership share of such assets in its calculation of system develop charges and rates.

SECTION 17 – DISPUTE RESOLUTION

In case of disputes arising out of this agreement, including disputes regarding the interpretation of any provision of the agreement, subject to the terms of this Section, either party may seek all remedies available at law or in equity. The parties agree, however, prior to commencement of any suit, they shall first engage in dispute resolution as provided in the Section.

Step 1. Notice of Dispute

Prior to commencement of litigation of a dispute, either party must first provide the other with a written notice describing the dispute and submitting the dispute to resolution under this Section. Such notice shall commence the dispute resolution process.

Step 2. Negotiation

Each party shall designate a person or persons to negotiate the dispute on its behalf, shall make a good faith effort to exchange information and data related to the dispute, and shall meet to negotiate a dispute resolution. If the dispute is resolved at this step, the parties will memorialize the agreement by a written determination of such resolution, signed by the designated representatives of the parties.

Step 3. Mediation

If the dispute has not been resolved within 45 days of the date of the notice of dispute, or such longer time as is mutually agreed by the parties, the parties shall submit the matter to mediation. The parties shall attempt in good faith to agree on a mediator. If they cannot agree, they shall request a list of five mediators from an entity or firm providing mediation services. The parties shall attempt in good faith mutually to agree on a mediator from the list provided, but if they cannot agree, each party shall select one name. The two selected shall select a third person and the dispute shall be heard by a panel of three mediators.

Any common costs of mediation, including the cost of mediation, shall be borne equally by the parties. Each party shall bear its own individual costs therefore. Mediation shall not continue more than 105 days past the initial notice of dispute unless mutually agreed by the parties. If the dispute is resolved at this step, a written determination of such resolution shall be signed by the designated representatives of the parties.

Step 4. Arbitration

If the dispute has not been resolved through negotiation or mediation with the time set by this agreement, within 15 days of the end of mediation, or such other time as is mutually agreed, the parties may submit the dispute to arbitration under mutually agreeable terms. In the absence of

SECTION 17 – (Continued)

such an agreement, the dispute resolution process under this agreement shall be deemed ended and the parties shall be free to pursue other remedies.

Any litigation between the parties arising under or regarding this agreement shall be conducted in the Multnomah County Circuit Court of Oregon. In any litigation, each party shall bear its own costs and attorney's fees.

IN WITNESS WHEREOF, Purchaser has, pursuant to official action of its governing body on the 12th day of June, 2006, duly authorizing the same, caused its proper officers to execute this instrument on its behalf and its corporate seal to be affixed hereto, and City has caused this instrument to be signed by its Mayor and Commissioner-in-Charge of the Bureau of Water Works, all of which is in triplicate.

PURCHASER:

Purchaser

By _____

CHAIRMAN (Title)

Approved as to form:

_____
Purchaser's Attorney

Attest

(Title)

LAKE GROVE WATER DISTRICT
P O BOX 1173
16552 SW BOONES FERRY RD
LAKE OSWEGO, OREGON 97035

Date 6/12/06

Christine Toops
Registered Agent

CITY OF PORTLAND:

By _____
Mayor

Approved as to form:

By _____
Commissioner-in-Charge

_____
City Attorney

Date 10 26 06

Exhibit 1

Water District Usage Characteristics

Lake Grove Water District		
Guaranteed Purchase Quantity	0.30	MGD
Seasonal Peaking Factor	1.14	
Daily Peaking Factor	1.14	

Purchase Quantities by Month by Fiscal Year
Estimated Monthly demand data - Updated annually by March 15

Lake Grove Water District					
Month	Daily Average – MGD	Month Total – MG	Month	Daily Average MGD	Month Total – MG
July	0.34	10.60	January	0.20	6.20
August	0.34	10.60	February	0.28	7.84
September	0.34	10.26	March	0.30	9.30
October	0.20	6.20	April	0.30	9.00
November	0.20	6.00	May	0.40	12.40
December	0.20	6.20	June	0.50	15.00

Peak Season Purchase	0.342	MGD
Highest Three Consecutive Days	0.3420	MGD

Existing Meter Connections				
Location	Meter #	Size	Pressure Range	
WS Boones Ferry -24'S MALL SN 10'W S/W	1103370	6	95	72

Exhibit 2.

Definitions of allocation factors

Allocation to Water Service Parameters

The functionalized items shall be allocated to the water service parameters listed below by the retail customer, wholesale customer and specific groups following the Commodity-Demand method described in the AWWA's Manual M1.

Commodity Items

Commodity items shall be identified as described in the AWWA Manual M1. These are items whose cost varies almost entirely directly with the amount of water supplied.

Peak-Season Demand

Items that are designed to meet the peak-season needs of the system shall be allocated as Peak Season Demand.

Peak Day or Peak Three-Day Demand

Items that are designed to meet the peak day or peak three-day needs of the system shall be allocated as Peak Day or Peak Three-Day Demand.

Customer

Items allocated to customer shall be allocated based on the number of accounts for each customer class.

Equivalent Meter

Items allocated to equivalent meter shall be allocated based on the number of equivalent meters. The equivalent meter ratios used to relate meters by size to the number of equivalent meters shall relate to the City's estimated costs of owning and maintaining the meters. Whenever possible, the values listed in the AWWA Manual M1 shall be used.

Fire

Any cost related to fire (either direct fire or indirect fire) shall be allocated to the parameter of fire. Since fire-related costs are incurred solely for the City, no fire related costs, except for the cost of water passing through the purchaser's meter, shall be included in the cost of water for the purchaser.

Exhibit 3

Fixed Assets as of June 30, 2005

Fixed Asset Cost Pools	Rate Base Value	Annual Depreciation
Arlington Heights	329,363	22,258
Arnold	1,510,800	52,514
Burlingame 643	1,081,402	72,778
Burlingame Regulated	117,331	9,180
Calvary	278,239	9,125
Council Crest	240,711	16,391
Indirect	7,633,800	1,039,261
Joint	117,679,576	5,555,781
Mt. Tabor 411	3,229,474	229,372
Parkrose 261	912,239	32,239
Pipe	176,262,331	4,893,188
Portland Heights	195,271	10,503
Portland Retail	103,610,826	4,277,385
Sam Jackson PS	107,265	6,679
Washington Park 229	763,432	31,804
Washington Park 299	1,911,795	98,048
Washington Park Common	2,229,103	192,106
Washington Park PS	585,406	57,830
Totals	418,678,362	16,606,439

Exhibit 4

Functional asset groups include the following general categories (see also Cost Pool Table below):

- Source of Supply
- Terminal Storage and Conduits
- Treatment
- Treatment Chemicals and Power
- Burlingame 643 Pumping and Storage / Power
- Arnold Pumping and Storage / Power
- Arlington Heights Pumping and Storage / Power
- Tabor 411 Storage
- Parkrose 261 Storage
- Portland Heights Pumping and Storage / Power
- Washington Park 229 Storage, Pumping, and Treatment / Power & Chemicals
- Council Crest Pumping and Storage / Power
- Calvary Pumping and Storage / Power
- Burlingame Regulated Pumping and Storage / Power
- Washington Park 299 Pumping and Storage / Power
- Joint Equivalent Meters
- Washington County Supply Line – Portland Only
- Retail Direct and Indirect
- Indirect Storage / Pipe
- Indirect

Regional Water Sales Agreement (10 Year)
April 3, 2006

City of Portland - Wholesale Rate Model
CustChar 7 - Percentage of Customer's Demand Through Cost Pools

Customer	Arlington Heights	Arnold	Burlingame 643	Burlingame Regulated	Calvary	Council Crest	Joint	Mt. Tabor 411
Service Area 1 Water Cos.							100%	
City of Gresham							100%	
Lusted Water District							100%	
Pleasant Home Water District							100%	
Rockwood Water PUD							100%	3%
Palatine Hill Water District							100%	100%
Burlington Water District							100%	100%
Lake Grove Water District		100%	100%				100%	100%
City of Tigard			100%				100%	100%
Valley View	22%				22%	78%	100%	100%
West Slope Water District	100%						100%	100%
TVWD			6%				100%	6%
Raleigh Water District			2%				100%	2%
City of Tualatin			2%				100%	2%
City of Portland	80%	1%	8%	2%	3%	0%	100%	95%

Customer	Parkrose 261	Portland Heights	Portland Retail	Sam Jackson PS	Washington Park 229	Washington Park 299	Washington Park PS	WCSL
Service Area 1 Water Cos.								
City of Gresham	3%							
Lusted Water District								
Pleasant Home Water District								
Rockwood Water PUD								
Palatine Hill Water District					100%	100%		
Burlington Water District					100%	100%		
Lake Grove Water District						2%		
City of Tigard						2%		
Valley View		78%		70%		100%	30%	
West Slope Water District						100%	100%	
TVWD								96%
Raleigh Water District								100%
City of Tualatin								100%
City of Portland	3%	1%	49%	4%	10%	21%	5%	1%

ORDINANCE No. 180020

*Authorize the Water Bureau to offer a new water sales agreement to its wholesale customers for approval. (Ordinance)

The City of Portland ordains:

Section 1. The Council finds:

1. Pursuant to City Code Section 21.28.030 "Water Supply to Distributors by Contract" when an outside distributor desires to purchase water from the Bureau, the Mayor and the Commissioner-In-Charge of the Bureau may enter into and execute contracts to supply water in accordance with the rates established by the Council and subject to all the provisions of the Charter and ordinances, and may include special terms and provisions found by the Commissioner-In-Charge to be reasonable and appropriate in the particular circumstances.

2. Portland has provided drinking water to neighboring cities and water districts for 100 years. The revenues the City receives from these water sales reduce the rates of in-City retail customers and help pay for the supply infrastructure of the Portland water system.

3. Most of the current water sales agreements between Portland and the wholesale customers were negotiated in the 1970s and will expire on June 30, 2007.

4. City officials have negotiated two proposed new wholesale water sales agreements with officials of the City's wholesale customers the City's to replace the existing expiring contracts.

5. The two new agreements are substantially similar in their basic terms, but one carries an initial term of 10 years and the other carries an initial term of 20 years. Under the 20-year agreement, the rate of return earned by the City is also lower than the rate of return earned under the 10-year agreement. In addition, each contract contains a unique "guaranteed purchase water quantity" for each potential customer

6. By the terms of the proposed agreements, each wholesale customer will be charged based on "cost of service" pricing, which is a standard utility pricing approach. Wholesale customers purchase different amounts of water from Portland and require different amounts of infrastructure to receive water. The wholesale customers also pay, proportionate to their use of the system, a share of the maintenance and replacement costs for the infrastructure required to serve them.

7. Portland has developed a rate model to incorporate the terms of the proposed agreements and the details of how much infrastructure and maintenance costs each wholesale customer requires to receive drinking water. The rate model produces specific rates for each wholesale customer based on the proposed agreements.

8. The proposed new contracts were developed on the assumption that all or most of the City's existing wholesale customers would execute one or the other of the new contracts so that all customers and the City could benefit from its new provisions.

NOW, THEREFORE, The Council directs:

a. That the Commissioner in Charge of the Water Bureau is hereby authorized to transmit to the City's existing wholesale customers a letter extending an offer to enter into one or the other of two water sales agreements substantially similar to the attached agreements, Exhibits A and B. For each individual customer, the offer shall include the guaranteed purchase quantity, seasonal peaking factor, daily peaking factor, and pressures shown in Exhibit C to this Ordinance.

b. The letter from the Commissioner in Charge shall state that the offer is contingent upon his determination that a sufficient number of customers have accepted the contracts, by no later than May 22, 2006, to allow the agreements' projected benefits to flow to the City and the accepting wholesale customers.

c. Upon a determination by the Commissioner in Charge that a sufficient number of customers have accepted the contracts in a timely fashion, then the Commissioner in Charge and the Mayor are further authorized to execute all accepted contracts on behalf of the City.

Section 2. The Council declares that an emergency exists because the contracts must be signed soon in order for them to be implemented starting with the new fiscal year, July 1, 2006. Therefore this ordinance shall be in full force and effect from and after its passage by the Council.

Passed by the Council: MAR 22 2006
Commissioner Leonard
Prepared by: Terence L. Thatcher:lgm
March 16, 2006

GARY BLACKMER
Auditor of the City of Portland
By Susan Parsons
Deputy

IN WITNESS WHEREOF, Purchaser has, pursuant to official action of its governing body on the 12th day of June, 2006, duly authorizing the same, caused its proper officers to execute this instrument on its behalf and its corporate seal to be affixed hereto, and City has caused this instrument to be signed by its Mayor and Commissioner-in-Charge of the Bureau of Water Works, all of which is in triplicate.

PURCHASER:

Purchaser

By _____

CHAIRMAN (Title)

Approved as to form:

_____
Purchaser's Attorney

Attest

(Title)

LAKE GROVE WATER DISTRICT
P O BOX 1173
16552 SW BOONES FERRY RD
LAKE OSWEGO, OREGON 97035

Date 6/12/06

Christine Toops
Registered Agent

CITY OF PORTLAND:

By _____
Mayor

By _____
Commissioner-in-Charge

Approved as to form:

_____
City Attorney

Date 10 26 06

APPENDIX B

CROSS-CONNECTION ORDINANCE

APPENDIX C

SUPPORTING CALCULATIONS

Area 1 – Shakespeare to Lake Forest

Item	Description	Unit	Qty	Unit Cost	Sub-Total
1	Mobilizing/Clearing	L.S.	1	$1,500	$1,500
2	6' Ductile Iron Pipe Complete w/Street Reconstruction	L.F.	300	$50	$15,000
3	6' Gate Valve	EA.	2	$800	$1,600
4	Misc. Appurtenances	L.S.	1 job	$1,000	$1,000
				Estimated Construction Cost	$19,100
				Contingency and Engineering	$4,800
				Total Area 1	$23,900

Area 2 – Denny Court to Gassner Lane

Item	Description	Unit	Qty	Unit Cost	Sub-Total
1	Mobilizing/Clearing	L.S.	1	$1,000	$1,000
2	6' Ductile Iron Pipe Complete w/Street Reconstruction	L.F.	200	$50	$10,000
3	6' Gate Valve	EA.	1	$800	$800
4	Misc. Appurtenances	L.S.	1	$2,000	$2,000
				Estimated Construction Cost	$13,800
				Contingency and Engineering	$3,500
				Total Area 2	$17,300

Area 3 – Boones Ferry to Bryant

Item	Description	Unit	Qty	Unit Cost	Sub-Total
1	Mobilizing/Clearing	L.S.	1	$1,500	$1,500
2	6' Ductile Iron Pipe Complete w/Street Reconstruction	L.F.	1,440	$50	$1,500
3	6' Gate Valve	EA.	6	$1,200	$7,200
4	Misc. Appurtenances	L.S.	4*	$1,000	$4,000
				Estimated Construction Cost	$157,800
				Contingency and Engineering	$42,200
*new services				Total Area 3	$200,000