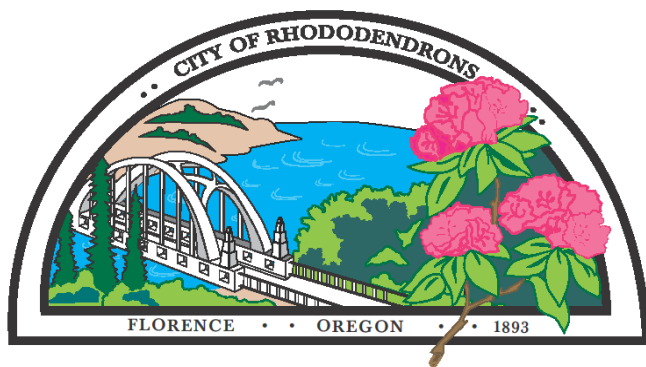

Final

Water Management and Conservation Plan

City of Florence, Oregon



September 2020

Prepared by:

GSI Water Solutions, Inc.
1600 SW Western Boulevard, Suite 240
Corvallis, OR 97333
541.753.0745
www.gsiws.com



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Figure

Figure 2-1. Water System Map

Appendices

A. Letters to Affected Local Governments and Comments

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1. Municipal Water Supplier Plan Elements

This section satisfies the requirements of OAR 690-086-0125.

This rule requires a list of affected local governments to whom the plan was made available, and a proposed date for submittal of an updated plan.

1.1 Overview

OAR 690-086-0125

The City of Florence (City) is located in Lane County along Highway 101 and the north bank of the Siuslaw River on the central Oregon coast. As of 2018, the City provided water to a population of approximately 8,521 persons and served over 4,000 customer accounts. The City's residential customers make up 84 percent of all customer accounts, and some of these residential customers are seasonal. Tourism is a major economic driver for the area, which peaks in the summer and when the City hosts major events.

This Water Management and Conservation Plan (WMCP) describes water management, conservation, and curtailment measures that will help the City wisely manage its water resources. The WMCP has been developed to meet all the WMCP elements required by the Oregon Water Resources Department (OWRD) and to guide the City's management of its precious water supply.

1.2 Plan Requirement

The City is submitting this WMCP to meet a condition of OWRD's final order approving the City's previous WMCP. The Final Order requires the City to submit an updated plan within 10 years and no later than April 9, 2020.

1.3 Plan Organization

This WMCP fulfills the requirements of Oregon Administrative Rule (OAR) Chapter 690, Division 86 as adopted by the Oregon Water Commission in December 2018. The WMCP is organized according to the major sections of the Division 86 rules, as follows:

Section	Requirement
Section 1 – Water Supplier Plan Elements	OAR 690-086-0125
Section 2 – Water Supplier Description	OAR 690-086-0140
Section 3 – Water Conservation	OAR 690-086-0150
Section 4 – Curtailment	OAR 690-086-0160
Section 5 – Water Supply	OAR 690-086-0170

1.4 Affected Local Governments

The following entities are defined as an “affected local government” per OAR 690-005-0015:

- Lane County
- City of Florence

Thirty days before submitting this WMCP to OWRD, the draft plan was made available for review to the affected local governments listed above along with a request for comment related to consistency with the local governments’ comprehensive land use plan. The letters requesting comments and the comment received are included in Appendix A. The City also sent Heceta Water People’s Utility District (HWPUD) and the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI) copies of this WMCP as a courtesy. These two entities are not “affected local governments” as defined by the rule cited above.

1.5 Plan Update Schedule

The City plans to submit an update of this WMCP within 10 years of receiving the final order approving the WMCP. As required by OAR Chapter 690, Division 86, a progress report will be submitted within 5 years of receiving a final order approving this WMCP.

2. Municipal Water Supplier Description

This section satisfies the requirements of OAR 690-086-0140.

2.1 Sources of Supply

OAR 690-086-0140(1)

The City's main source of water is groundwater as evidenced by three groundwater rights totaling 5.89 cfs (3.8 mgd). The City has 13 wells, all of which are completed in dunal sand deposits within the Munsel Creek basin. The City also holds a water right for the use of surface water from Munsel Creek, but the City does not currently use this source of supply. The City has three above-ground, in-line distribution system reservoirs in use.

2.2 Interconnections with Other Systems

OAR 690-086-0140(7)

The City has one metered interconnection with HWPUD, which is located in the northwest corner of the City's service area along Rhododendron Drive, just north of Lighthouse Way, where water flows through an 8-inch-diameter pipe in one direction from HWPUD to the City. A second non-metered emergency intertie with HWPUD is located at Highway 101 and Munsel Lake Road where water flows bi-directionally through a 10-inch-diameter pipe between HWPUD and the City.

The City also has a uni-directional interconnection with the CTCLUSI located at the eastern terminus of Regal Drive; water flows through an 3-inch water meter at this location to CTCLUSI.

2.3 Intergovernmental Agreements

OAR 690-086-0140(1)

The City holds three intergovernmental Agreements (IGA) with two local water providers. In 1997, the City, Lane County (County), and HWPUD entered an intergovernmental agreement (IGA) regarding cooperative planning for public water services. The purpose of the 1997 IGA was improved planning coordination and efficient provision of necessary public water services for residents and businesses in the Florence area. The 1997 IGA included provisions for mutual exchange of information, development of an Urban Services Agreement, notice to HWPUD of land use actions being considered by the City and/or County, and notice to the County and City of new long-range or capital improvement plans or amendments considered by HWPUD.

In 2003, the City and HWPUD signed an IGA for the Sale of Surplus Water to Out-of-District Customers for Municipal Use. This IGA allows the City to purchase surplus water from HWPUD.

In 2014, the City entered into an IGA with CTCLUSI for the provision of surplus water. Under the agreement, the City agrees to furnish and sell surplus water in the amount of 50,000 to 60,000 gallons per day up to a maximum amount of 100,000 gallons per day. The water is delivered from the City's system to CTCLUSI system at the eastern terminus of Regal Drive through a 3-inch metered connection. The 2014 IGA was for an initial two years. In 2016, the City renewed the IGA with CTCLUSI for continued provision of surplus water on a rolling 2-year term.

2.4 Service Area Description and Population

OAR 690-086-0140(2)

The current service area, shown in Figure 2-1, consists of an area within the City limits and two residential accounts outside the City limits, but within the UGB. Several small areas within the City limits are currently served by HWPUD. Water customers outside the City limits, but within the UGB, are served by HWPUD.

In 2018, the City provided water to a service population of approximately 8,521. To calculate this estimate, the City used a land-based approach. Specifically, the City calculated the number of people per acre for the entire city based on the acreage within city limits and an estimate of the City's 2018 population published by Portland State University's (PSU) Population Research Center of 8,795. Using the calculated population density of approximately 2.6 persons per acre, the City multiplied this value by the City's current service area, then increased this population by five persons (estimated 2.5 persons per residence) to account for the additional two residences located outside of City limits for a total service area population of 8,521.¹

2.5 Terminology

Demand refers to total water produced from treatment at the City's water treatment plant (WTP). Demand consists of the sum of metered consumption (residential, commercial, industrial, and municipal), unmetered uses (for example, fire-fighting or hydrant flushing), and water lost to leakage, reservoir overflow, and other factors.

Metered consumption refers to the metered water use within the distribution system.

Connection refers to a metered connection of a customer to the distribution system.

Water loss refers to the difference between production and billed consumption, less authorized, unmetered uses. Measures of water loss includes real and apparent losses. Real losses include water lost to reservoir overflow and leakage. Apparent losses include meter inaccuracies (both production and customer), and data handling errors, for example.

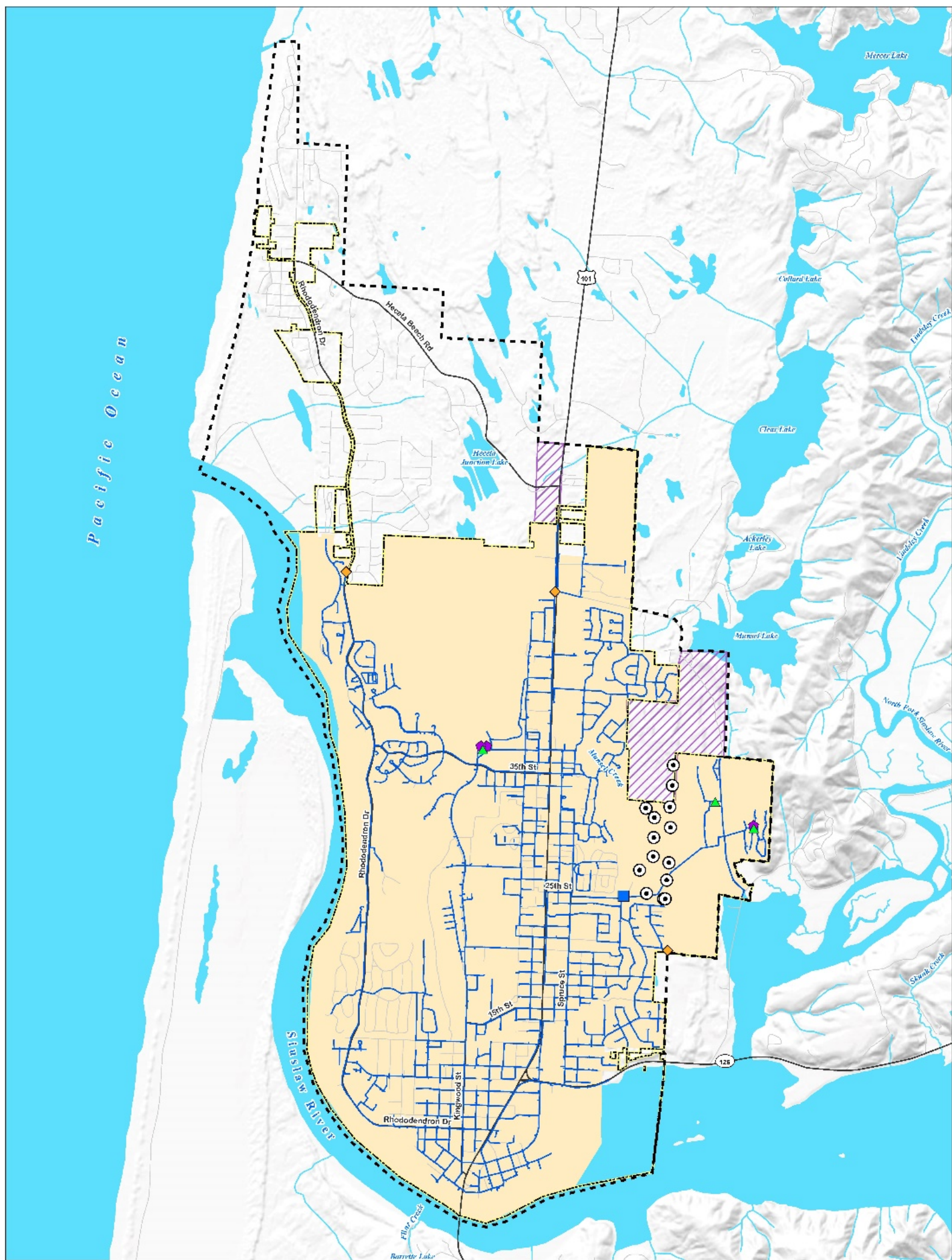
¹ Approximately 320 acres of undeveloped land is within the City's service area—this acreage was removed during the calculation of population so as not to overestimate the City's service area population.

Specific demand terms include:

- Average day demand (ADD): total annual demand divided by 365 days.
- Maximum day demand (MDD): the highest daily demand during a calendar year.
- Maximum monthly demand (MMD): the demand measured during the calendar month with the highest total demand.
- Monthly demand: Monthly demand is expressed either as a total volume produced per month or as an average daily demand per month by dividing the monthly volume by the number of days in the month.
- Peaking factor: a ratio of one demand to another. The most common peaking factor and the peaking factor used in this WMCP is MDD to ADD.
- MDD is an important value for water system planning. The City's supply facilities and water rights must be capable of meeting MDD. If MDD exceeds the City's supply capacity on any given day, finished water storage levels will be reduced.

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Figure 2-1. Water System Map

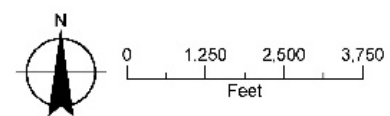


- LEGEND**
- Well
 - Water Treatment Plant
 - Water Pump
 - Drinking Water Storage
 - Intertie
 - Water Main
 - Water Service Area
 - Future Service Area
 - Urban Growth Boundary
 - City Limits
 - Major Road
 - Road

FIGURE 2-1
WMCP
Florence, Oregon

Date: March 3, 2020
Data Sources: USGS, ESRI, City of Florence

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2.6 Demand

OAR 690-086-0140(4) and (9)

2.6.1 Annual Demand

Exhibit 2-1 summarizes the City's average day, maximum day, and maximum month demand data for the period 2014 through 2018. The City did not purchase water from another water provider during this period.

Exhibit 2-1. Annual Demands, 2014-2018

	Annual Demand (MG)	ADD (mgd)	MDD (mgd)	Peaking Factor	MMD (mgd)	Month of MMD
2014	359.4	1.0	1.7	1.7	46.7	August
2015	391.2	1.1	1.9	1.8	51.8	July
2016	378.9	1.0	1.8	1.8	49.0	August
2017	371.8	1.0	2.0	2.0	50.9	August
2018	410.9	1.1	1.9	1.7	53.6	July
Average	382.4	1.0	1.9	1.8	50.4	-
Maximum	-	1.1	2.0	2.0	53.6	-

As shown in Exhibits 2-1 and 2-2, four of the five years of demand were below 400 MG, whereas 2018 represented the highest demand recorded during this period. The City attributes its 2018 demand to higher outdoor demand during peak season due to weather. The City's peaking factor averaged 1.8 over five years, which is lower than some coastal communities, but within the expected range. For example, the City of Waldport had a five-year average peaking factor of approximately 2.5. The MDDs and MMDs occurred in July and August, reflecting outdoor water use during the summer months and likely reflecting the impacts of seasonal tourism and seasonal residential use.

Exhibit 2-2. Annual System Demands (MG), 2014-2018

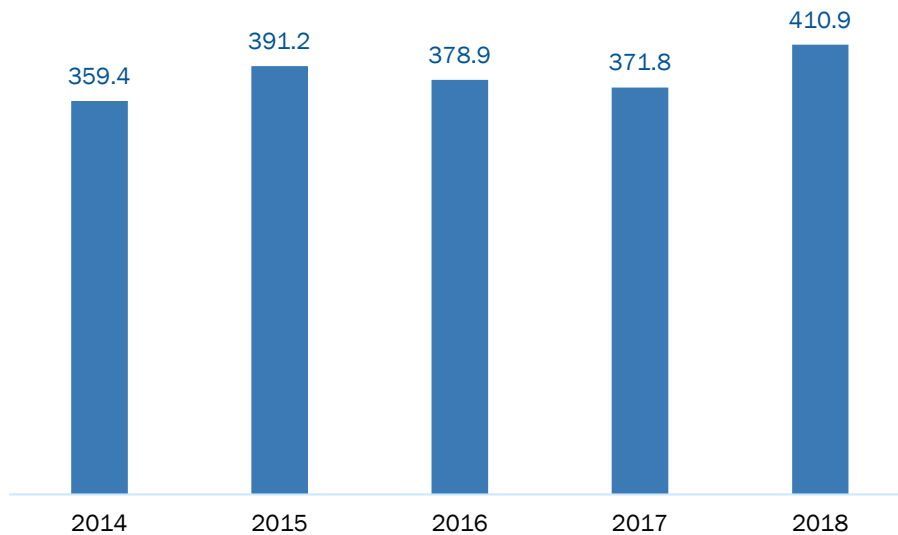


Exhibit 2-3 presents per capita system demands calculated by dividing system demand by the service area population.

Exhibit 2-3. Annual Per Capita Demands, 2014-2018

	Est. City Population ¹	Est. Service Area Pop	ADD	Per Capita ADD (gpcd)	MDD	Per Capita MDD (gpcd)
2014	8,565	8,286	0.98	118.8	1.72	207.0
2015	8,620	8,344	1.07	128.5	1.90	227.2
2016	8,680	8,403	1.04	123.5	1.84	219.5
2017	8,745	8,462	1.02	120.4	1.99	234.8
2018	8,795	8,521	1.13	132.1	1.87	219.5

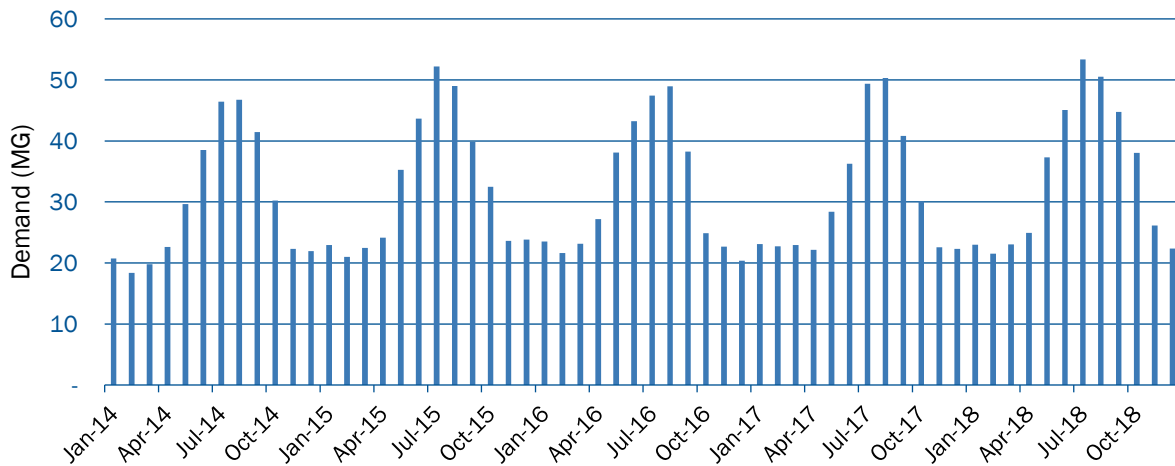
¹ The City's annual populations were obtained from annual estimates published by PSU's Population Research Center.

Per capita demand using ADD ranged from 118.8 gpcd to 132.1 gpcd and, using MDD, ranged from 207.0 to 234.8.

2.6.2 Monthly and Seasonal Demands

Exhibit 2-4 shows the City's monthly demand and the seasonal demand pattern from January 2014 to December 2018. The City designated the summer period as June through September, representing the season of highest demand. Demand is lowest during the winter season, defined as November through February.

Exhibit 2-4. Monthly Demands



The City’s higher demand during the summer months is attributable to outdoor water use primarily. Generally, the individual or combined effects of the following weather-related factors will increase outdoor use of water, such as irrigation by customers.

- Maximum temperatures
- Several consecutive days at high temperatures
- Low precipitation levels
- Extended consecutive days without precipitation

In addition to weather, demand is also impacted by tourism and seasonal residents.

2.7 Consumption

OAR 690-086-0140(6)

Consumption data from billing records are used to analyze and describe the ways in which water is used by customers. All customers served by the City have water meters.

2.7.1 Customer Categories

The City has six customer categories: Residential, Multifamily, Commercial, Irrigation, City, and Hydrant Meter. The Residential category includes single-family residences and duplexes. The Multi-family category includes multi-family buildings with three or more units. Irrigation accounts are accounts that are not associated with a sewer account and are used solely for purposes of irrigation, and City accounts are used for public buildings and irrigation of public parks and landscaping. The Hydrant Meter category includes water use by contractors and others at City hydrants. Water use at hydrants is measured by a mobile meter rented to these users by the City. This category also includes water use by the City, contractors, bulk water for domestic use, and Fire Department at the City’s metered bulk water station located at the City’s public works facility, located at 2675 Kingwood Street, which was installed in 2018. Examples of

uses of water from the bulk water station include street cleaning, sewer line cleaning, hydro-excavation, people trucking water for domestic use, and filling of Fire Department and construction tanker trucks. The Commercial category refers to water consumed by businesses, institutions, industry, water sold to the CTCLUSI, and the consumption of other users not captured in the other customer categories.

Exhibit 2-6 provides the number of accounts per category as of December 2018.

Exhibit 2-6. Customer Categories and Number of Accounts, December 2018

Customer Category	Count	Percent of All Accounts
Commercial	434	10.7%
Hydrant Meter	7	0.2%
Irrigation	156	3.8%
Multi-family	42	1.0%
Municipal	22	0.5%
Residential	3,396	83.7%
Total	4,057	100%

2.7.2 Annual Consumption

Exhibit 2-7 summarizes annual consumption data by customer category from 2006 through 2018. Data for 2006 through 2008 was obtained from the City’s 2010 WMCP and data from 2009 through 2014 was obtained from the City’s WMCP Progress Report. As shown in Exhibit 2-7, the Residential category historically has consumed the most water annually. Therefore, the City is very interested in the water consumption trend of this category for planning purposes. The Residential category shows an overall decrease in residential consumption during the 13-year period, with a significant decrease occurring in 2016 that was sustained in the following two years. The City attributes this trend to its water conservation efforts, tightening federal water efficiency standards for water-using fixtures and appliances over this time, wetter than normal summers in 2016 and 2017, and two increases in water rates totaling over 12 percent in 2016 and 2017.

The Multi-family category remained relatively stable from 2009—the year the City began reporting consumption of the Multi-family and Commercial categories separately—through 2018, fluctuating from a low of 31.7 MG in 2012 to a high of 51.5 in 2009. The Commercial category shows a large decrease in 2009 when the City uncoupled Multi-family accounts from Commercial accounts, giving Multi-family its own category and allowing the City to track Multi-family consumption separately. Since then, Commercial consumption has trended slightly upward and the Multi-family category has remained relatively stable. The Irrigation category dropped from a high of 51 MG in 2006 to a low of 26.9 MG in 2011 and consumption remained in the high 20s to mid-30s thereafter except for 2018, when consumption increased to the highs observed in 2006 and 2007. This City category increased over the 13-year period, with an

average of 7.2 from 2014 to 2018 compared to an average 13-year period of 4.6 MG. The City attributes the recent increases in the City category to recording water usage at the municipal wastewater treatment plant (WWTP) and irrigation usage at City parks. These connections have always been metered, however the meter reads were not recorded since the meter reads were not tied to an invoice. Overall, the annual average water volume for 2014-2019 of 362.5 MG for all classes is similar to the 13-year average of 359.0 MG.

Exhibit 2-7. Annual Metered Consumption by Customer Category (MG)

	Residential	Multi-family	Commercial	Irrigation	City	Hydrant Meter	Annual Total
2006	227.0	-	136.0	51.0	2.0	-	416.0
2007	208.0	-	114.0	47.0	2.0	-	371.0
2008	205.0	-	112.0	35.0	2.0	-	354.0
2009	222.7	51.5	68.4	36.8	2.5	-	381.9
2010	205.6	38.1	66.4	28.2	1.9	-	340.1
2011	197.8	35.1	69.1	26.9	1.6	-	330.5
2012	193.8	31.7	69.2	27.7	5.3	-	327.8
2013	195.5	33.1	70.6	27.4	7.2	-	333.8
2014	202.0	33.8	73.4	28.6	7.0	0.1	345.0
2015	203.2	41.5	86.0	33.7	7.1	0.4	371.9
2016	184.1	51.3	82.3	35.9	7.4	0.4	361.3
2017	186.6	48.3	83.2	32.2	7.0	1.0	358.3
2018	186.9	43.8	88.7	48.8	7.4	0.4	375.9
2014-2018 Avg.	192.6	43.7	82.7	35.8	7.2	0.5	362.5
2006-2018 Avg.	201.4	-	86.1	35.3	4.6	-	359.0

Exhibit 2-8 depicts water consumption volumes by customer category from Exhibit 2-7.

Exhibit 2-8. Consumption by Customer Category, 2006-2018

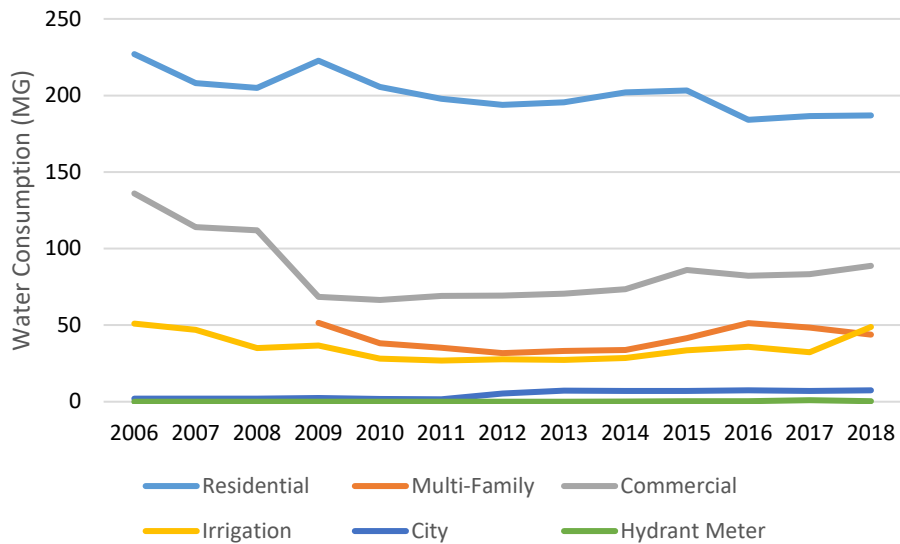
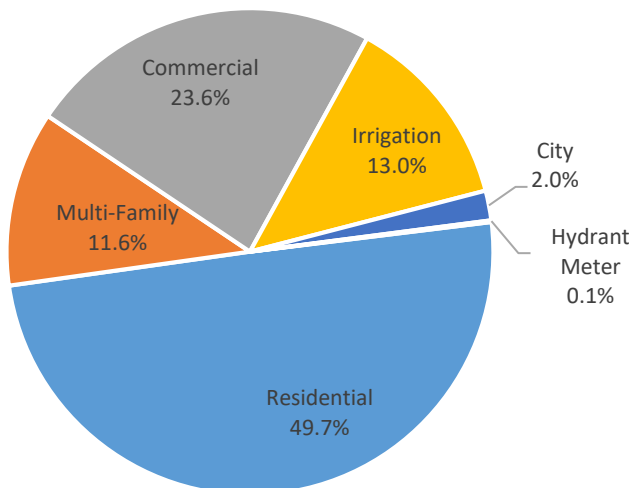


Exhibit 2-9 presents a pie chart showing the percentage of water used by each customer category in 2018. In 2018, the Residential category accounted for nearly 50 percent of total metered water use. The Commercial category accounted for the next highest percentage of use, over 23 percent. Irrigation consumption accounted for approximately 13 percent of total metered use, City use accounted for 2 percent of annual metered water use and Hydrant consumption was less than 1 percent.

Exhibit 2-9. Percentage of Annual Water Use by Customer Category, 2018



2.7.3 Top Water Users

Exhibit 2-10 presents the largest 10 individual water accounts for 2018. These accounts represented approximately 4.4 percent of all metered consumption in 2018. The highest water-using account is the City’s irrigation account which captures irrigation volumes at city facilities, such as parks. The next account is a multi-family account followed by a commercial account. The commercial account represents the volume of water purchased by CTCLUSI in 2018. CTCLUSI’s volume translates into approximately 4,700 gpd, which is less than the 100,000 gpd allowed under the City-CTCLUSI IGA.

Exhibit 2-10: Top 10 Water Users by Customer Category, 2018.

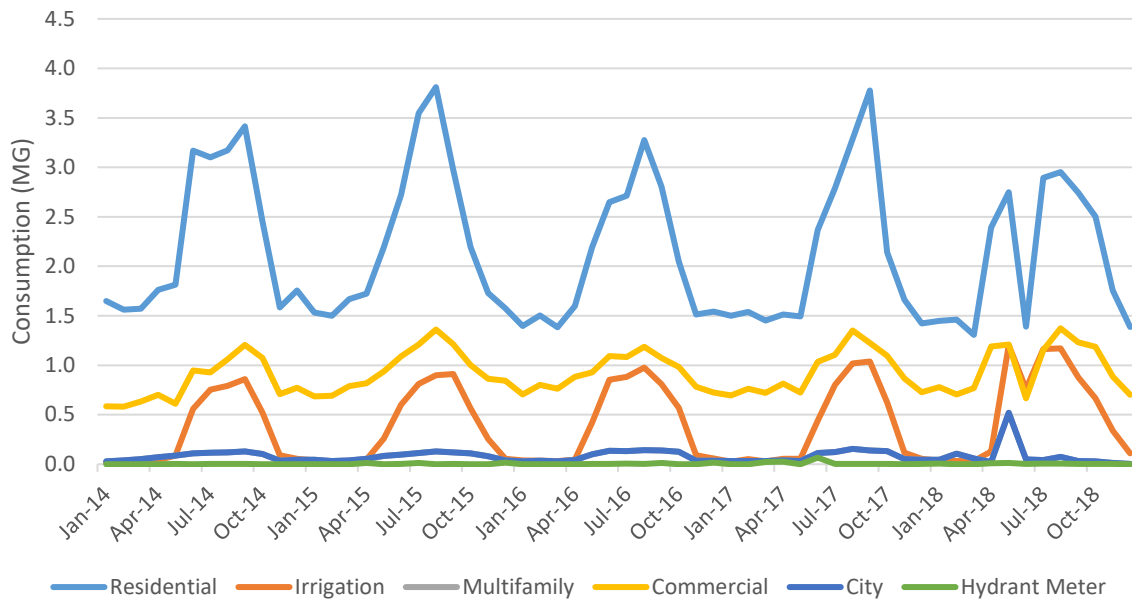
Customer Category	Total Usage (gal.)	Percent of Total
Irrigation (Municipal)	11,453,820	57.3%
Multi-family	1,846,220	9.2%
Commercial (CTCLUSI)	1,722,590	8.6%
Multi-family	1,540,000	7.7%
Irrigation (Commercial)	771,100	3.9%
Multi-family	744,438	3.7%
Municipal	511,567	2.6%
Commercial	506,705	2.5%
Irrigation	481,100	2.4%
Commercial	420,754	2.1%
Total	19,998,294	100.0%

2.7.4 Monthly and Seasonal Consumption

Exhibit 2-11 shows monthly metered consumption by customer category from 2014-2018. As shown, metered consumption for all categories increased during the summer months, defined for this WMCP as June through September. The large increases in Residential use during this period is attributed to a combination of outdoor water use, such as irrigation, and to a lesser degree a seasonal resident population and tourism. November through February represents the period during which little outdoor use occurs.

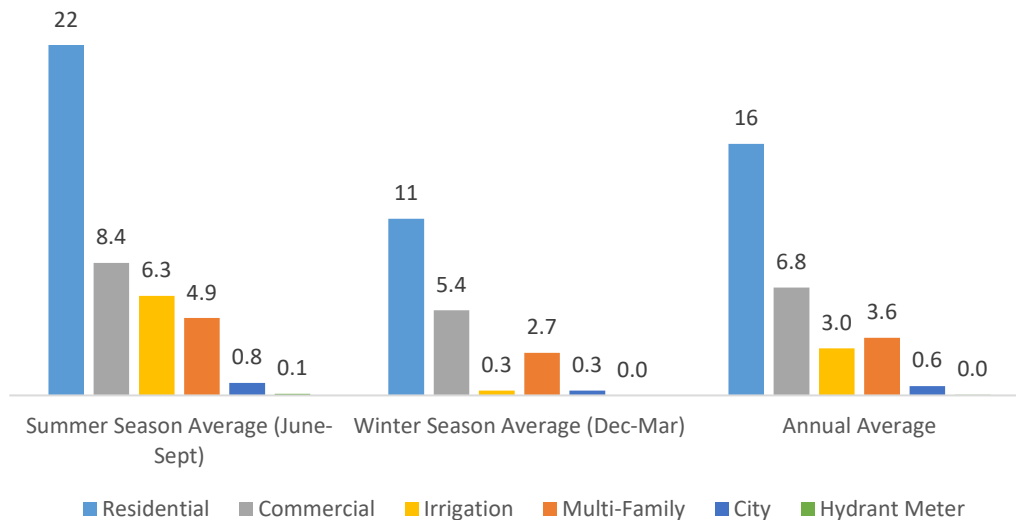
Note that in June 2018, all customer categories show unusual decrease in consumption, with a recovery the following month. This occurrence is due to the process associated with integrating Automatic Meter Read (AMR) data into the Utility Billing system for the first time. For example, the initial transfer of read information into the billing database translated into some long monthly reads (45 days) and an accompanying short monthly period (15-20 days).

Exhibit 2-11. Average Monthly Metered Consumption by Customer Category, 2014-2018



Seasonal trends are further illustrated in Exhibit 2-12, which shows the average seasonal consumption for each of the City’s six customer categories for the previous five years, and for comparison, the annual average consumption by customer category during the same five-year period. Monthly consumption for the Hydrant Meter category is relatively small in comparison to other customer categories, accounting for approximately one tenth of one percent of total metered consumption in 2018 as noted in Exhibit 2-9. Commercial and Multi-family customers’ use increases during the summer months by factors of approximately 1.5 compared to the winter months. The consumption by the Irrigation customer category showed an increase from the winter months as expected, but it also showed winter season use. The City attributes consumption in the Irrigation category during the winter to irrigation system leaks and meter reading errors. Summer Residential consumption approximately doubled in comparison to winter consumption. A summer season to winter season ratio of approximately two to one is typical of many communities in western Oregon for the Residential category. For example, the nearby coastal community of Waldport had a peaking factor of 2.3 in 2018.

Exhibit 2-12. 5-Year Average Customer Category Monthly Consumption by Season (MG), 2014-2018



2.7.5 Residential Per Capita Consumption

Annual single-family residential per capita demands were estimated based on the service area population for 2014 to 2018 and on metered consumption for this customer category for this same time period. These are presented in Exhibit 2-13. A growth factor of 0.7 percent was used to estimate the service area population from 2014 through 2017. The method to calculate population for the year 2018 was previously described.

Exhibit 2-13. Residential Per Capita Consumption, 2014-2018

	Estimated Service Area Population	Annual Residential Consumption (MG)	Per Capita Consumption (gal)
2014	8,285	202.0	66.8
2015	8,343	203.2	66.7
2016	8,402	184.1	60.0
2017	8,461	186.6	60.4
2018	8,521	186.9	60.1

Residential per capita consumption ranged from 60 gallons per capita per day (gpcd) to 67 gpcd. As both annual consumption by residential customers and the population of the customers served by the City have remained relatively stable, except for the decrease in consumption from 2015 to 2016, and so too have per capita consumption volumes. These per capita rates fall within the range of other coastal communities. For example, the per capita residential consumption for the City of Cannon Beach averaged 98 gpcd from 2015 to 2017, whereas the City of Waldport’s residential per capita rate was 60 gpcd for the 2010-11 fiscal year based on data obtained from those cities’ WMCPs.

2.8 Water Loss

OAR 690-086-0140(9)

Exhibit 2-14 graphically displays the City’s estimated annual water losses for 2014 through 2018. The causes of water loss may include apparent losses, such as meter inaccuracies or utility billing errors, or real losses, such as leakage. The City attributes its water loss to both types of water losses.

To calculate water loss, the City estimated volumes consumed during unmetered, authorized activities, including system flushing, usage by the fire department and at the WTP, and reservoir cleaning. These volumes are shown in Exhibit 2-14.

Exhibit 2-14. Water Loss

	Demand (MG)	Metered Customer Consumption (MG)	Other Authorized Consumption (MG)					Water Loss (MG)	Water Loss (% of Demand)
			System Flushing	Fire Dept. Usage	Reservoir Cleaning	Other ¹	Total		
2014	359.4	345.0	N/A	0.1	N/A	0.6	0.7	13.8	3.8%
2015	391.2	371.9	N/A	0.2	N/A	0.6	0.7	18.6	4.7%
2016	378.9	361.3	N/A	0.2	N/A	0.6	0.7	16.9	4.4%
2017	371.8	358.3	N/A	0.1	N/A	0.6	0.7	12.8	3.5%
2018	410.9	375.9	0.5	2.0	1.8	0.6	4.8	30.1	7.3%
Average	382.4	362.5	-	-	-	-	-	18.4	4.8%

N/A = Data not available.

¹ Other includes WTP Clarity Sample Tap and auto-flusher installed in new subdivision.

The City’s annual water loss has been below the OWRD goal for municipal systems of 10 percent every year of the last five years, averaging 4.8 percent over this period.

2.9 Water Rights

OAR 690-086-0140(5)

The City holds three groundwater rights for the use of up to a total of 5.89 cfs (3.8 mgd) and one surface water right for the use of up to 0.8 cfs (0.5 mgd). Exhibit 2-15 provides detailed information about each of the City’s water rights.

2.9.1 Groundwater

The City’s three groundwater rights authorize appropriation of up to 5.89 cfs (3.8 mgd) total and are evidenced by Certificate 81398, Certificate 87428, and Permit G-16885.

Certificate 81398 has a priority date of September 16, 1965, and authorizes the use of up to 2.0 cfs (1.3 mgd) of groundwater from Wells 1 through 7 for municipal use. Certificate 87428 has a priority date of July 1, 1976, and authorizes the use of up to 0.89 cfs (0.57 mgd) of groundwater from Wells 1 through 7 for municipal use.

Permit G-16885 has a priority date of February 5, 2001, and authorizes the use of up to 3.0 cfs (1.9 mgd) of groundwater from Wells 8 through 13 for municipal use. This superseding permit was issued after Permit Amendment T-11282 added an additional point of appropriation (Well 13) to Permit G-15056. This permit also describes the extended time limit for development of this permit, which is October 1, 2025. The City submitted a Claim of Beneficial Use (COBU) to OWRD demonstrating partial perfection of Permit G-16885 and requesting a certificate for a 2.4 cfs portion of the 3.0 cfs total authorized rate of diversion; this request is pending. Permit G-16885 contains conditions for mitigating impacts to surface water, which require delivery of water to the wetlands adjacent to Munsel Creek during the last two weeks of October and diversion of clarified backwash from the City's WTP to the wetlands anytime the permit is being exercised.

2.9.2 Surface Water

The City holds Certificate 32115 that authorizes diversion of up to 0.8 cfs from Munsel Creek for municipal use. This right is currently not used by the City to meet its demands, but the City continues to hold this right in reserve for future use.

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Exhibit 2-15. Water Rights Table

App.	Permit	Certificate	Transfer or Permit Amendment	Source	Priority Date	Deadline for Completion Date	Type of Beneficial Use	Maximum Instantaneous Rate Allowed	Maximum Annual Quantity of Water Allowed (MG)	Maximum Instantaneous Rate Diverted to Date	Average Monthly/Daily Diversions for Previous Year (MG)	Average Monthly/Daily Diversions for Previous 5 Years (MG)	Streamflow-dependent Species listed by State or Federal Agency as Sensitive, Threatened, or Endangered that are Present in the Source	Listed Water Quality Limitations and Parameters	Source in Critical Groundwater Area?
G-3234	G-3040	81398	-	Groundwater Wells 1-7	9-16-1965	-	Municipal	2.00 cfs	N/A	2.00 cfs	22.4/0.06	19.7/0.01	N/A	N/A	No
G-7319	G-6864	87428	T-9301	Groundwater Wells 1-7	7-1-1976	-	Municipal	0.89 cfs	N/A	0.89 cfs			N/A	N/A	No
G-15295	G-16885 ¹ G-15056	-	T-11282 (Permit Amend.)	Groundwater Wells 8-13	2-5-2001	10-1-2025	Municipal	3.00 cfs	N/A	2.40 cfs	13.6/0.04	13.4/0.01	N/A	N/A	No
S-23345	S-24525	32115	-	Munsel Cr.	8-6-1948	-	Municipal	0.80 cfs	N/A	0.80 cfs	0	0	See Section 2-11 of the WMCP	None	N/A

¹A partial perfection of G-16885 is pending for 2.4 cfs.

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2.10 Aquatic Resource Concerns

OAR 690-086-0140(5)(i)

The City's water supply is from groundwater sourced from a dunal sand aquifer. This aquifer is not in an OWRD-designated Critical Groundwater Area or Groundwater Limited Area. However, the wells are located within a Sole Source Aquifer area designated by the Environmental Protection Agency (EPA) in 1987. This designation allows the EPA to review some types of development to help protect the aquifer from contamination.

The City holds a water right to divert water from Munsel Creek, though the City is not currently using this right. The City's diversion point on Munsel Creek is less than a mile upstream of the confluence of Munsel Creek and the Siuslaw River. The mouth of Munsel Creek enters the Siuslaw River at approximately river mile 5.5. Munsel Creek is not on the Oregon Department of Environmental Quality's (DEQ) 303(d) list as water quality limited for any parameters. Exhibit 2-16 shows the listed fish species that may occur downstream of the diversion point on Munsel Creek and in the Siuslaw River.

Exhibit 2-16. Potential Listed Fish Species Downstream of Munsel Creek Diversion Point

Species	Location	Status
Federal Listing		
Coho salmon (<i>O. kisutch</i>)	Oregon Coast	Threatened
Eulachon (<i>T. pacificus</i>)	Range-wide	Threatened
State Listings		
Chinook Salmon-Spring (<i>O. tshawytscha</i>)	Coastal SMU/ESU	Sensitive
Steelhead-Summer (<i>O. mykiss</i>)/Coastal Rainbow Trout (<i>O. irideus</i>)	Coastal SMU/Oregon Coast ESU	Sensitive
Western brook lamprey (<i>L. richardsoni</i>)	Range-wide	Sensitive
Pacific lamprey (<i>E. tridentate</i>)	Range-wide	Sensitive
Western River Lamprey (<i>L. ayresii</i>)	Range-wide	Sensitive
Chum Salmon	Coastal SMU/Pacific Coast ESU	Sensitive-Critical
Coho salmon (<i>O. kisutch</i>)	Coastal Coho Salmon SMU/Oregon Coast ESU	Sensitive
Millicoma Dace (<i>R. cataractae</i>)	Range-wide	Sensitive
Umpqua Chub (<i>O. kalawatseti</i>)	Range-wide	Sensitive-Critical

Sources:

- https://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/salmon_and_steelhead_listings/salmon_and_steelhead_listings.html.
- https://www.fisheries.noaa.gov/species-directory/threatened-endangered?species_title=&field_species_categories_vocab_target_id=1000000031&field_species_status_value=All&field_region_vocab_target_id=1000001126
- https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive_Species_List.pdf

2.11 Evaluation of Water Rights/Supply

OAR 690-086-0140(3)

2.11.1 Groundwater Rights

The City holds groundwater rights that authorize the use of up to 5.89 cfs (3.8 mgd), appropriated from dunal sand deposits. These deposits have a relatively high effective porosity and permeability that creates an aquifer with a high capacity to store and transmit groundwater. Historically, the characteristics of the sand deposits coupled with the high annual recharge rates from rainfall along the Oregon Coast created a productive and reliable municipal water supply. However, the aquifer also is shallow and unconfined and has been affected over time by changes in precipitation rates.² For example, multiple years of low precipitation may correlate with reduced productivity of the City's wells. Although the aquifer is sensitive to annual precipitation volumes, the City's groundwater supply has reliably met City demands to date and the City expects this supply source to continue to be reliable over the next 20 years.

The City's 13 wells draw groundwater from the North Florence Sole Source Dunal Aquifer, designated as a "sole source" aquifer by the EPA in 1987 under Section 1424(e) of the Safe Drinking Water Act of 1974. The aquifer continues to be the only "sole source" aquifer in the State of Oregon. The EPA defines a sole source aquifer as an underground water source that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend upon the aquifer for drinking water. All streams, creeks, lakes and wetlands (surface waters) in the aquifer boundary are "hydrologically connected" with the groundwater system. This designation does not impact how the City is able to utilize its groundwater, but allows more stringent regulation of developments within the aquifer that receive federal financial assistance in order to protect the aquifer from contamination.

Infrastructure limitations currently constrain the City's ability to fully utilize the water supply under its groundwater rights. First, the production capacity of the City's wells is currently lower than the designed capacity of the wells due to frequent mineral build-up on the well screens. As a result, the City's reliable pumping rate for all wells combined is 1,950 gpm (2.8 mgd). This production capacity is insufficient to produce the authorized combined rate of appropriation under all the City's groundwater rights, which is 5.89 cfs (3.8 mgd). Given this current production capacity limitation, the City has a program to maintain or improve water production at its existing wells, which includes hydropulsing the wells and other well rehabilitation measures. In addition, the City is considering the construction of a new well within the City's wellfield as a means to increase raw water production capacity.

Second, the City's WTP does not currently meet its designed capacity. The WTP is currently designed for 3 mgd, which is attained by running the WTP for 24 hours. However, daily backwashing of the

² Drinking Water Protection Plan for the City of Florence, Oregon Department of Human Services Drinking Water Program (December 2003).

WTP's filters takes the plant offline, a process that reduces the time in which the WTP can treat raw water. A WTP upgrade would be needed to increase the firm capacity of the WTP to 3 mgd, which the City is considering.

2.11.2 Surface Water Right

The City currently does not divert water from Munsel Creek under Certificate 32115, the City's only surface water right. In order to divert this water, the WTP must be upgraded to treat surface water to water quality standards. Given the adequacy of the City's existing groundwater rights, the City has not allocated resources to-date needed to upgrade its WTP to enable the City to treat this source. The City continues to hold this surface water right in reserve for future use.

2.12 Water System Description

OAR 690-086-0140(8)

The City draws its water supply from 13 wells located in the eastern portion of the city. This water is treated at the City's WTP. The WTP has a capacity of 4.64 cfs or 3 mgd. This capacity is currently 1.24 cfs (0.8 mgd) less than the rate of appropriation authorized under the City's existing groundwater rights. The City has three aboveground reservoirs in its distribution system in use for a total of 4.5 MG of storage: a 500,000-gallon steel tank on the east hills; and two 2,000,000-gallon tanks near the Sand Pines Golf Course. In addition, Florence has an elevated 250,000-gallon tank near its former City shop on Spruce Street which has been offline and not in use for 20 years. The major components of the water system are shown in Figure 2-1.

3. Water Conservation

This section addresses the requirements of OAR 690-086-0150(1) – (6). This rule requires a description of specific required conservation measures and benchmarks, and additional conservation measures implemented by the City.

3.1 Progress Report

OAR 690-086-0150(1)

This is the City of Florence's second WMCP. OWRD approved the City's previous WMCP and associated conservation measures in 2010. **Exhibit 3-1** describes the City's progress implementing the conservation measures identified in the City's 2010 WMCP.

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Exhibit 3-1. Progress Report for the City of Florence’s 2010 Conservation Benchmarks

Section Requirement	Sub-section Requirement	2010 WMCP Benchmarks	Benchmark Status
<p>OAR 690-086-150 (4) A description of the specific activities, along with a schedule that establishes five-year benchmarks, for implementation of each of the following conservation measures that are required of all municipal water suppliers:</p>	<p>(a) An annual water audit that includes a systematic and documented methodology for estimating any un-metered authorized and unauthorized uses</p>	<p>Conduct an annual City-wide water audit using a systematic and documented methodology for estimating water produced and consumed, unaccounted-for water, and unmetered authorized and unauthorized uses.</p>	<p>The City conducts an annual City-wide water audit that is systematic and based on a documented methodology for estimating water production and water consumption. The City is in the process of incorporating unmetered authorized and unauthorized uses into its audits.</p>
		<p>Separate the data and tracking of multi-family accounts from the commercial accounts to better characterize those user categories. This will help clarify the extent of commercial and residential use.</p>	<p>The City's billing system has been modified to separately track multi-family account consumption data from commercial account consumption data, as shown in this WMCP.</p>
		<p>Maintain City utility billing records for at least 5 years to provide historical water consumption data.</p>	<p>The City maintains utility billing records for at least five years.</p>
	<p>(b) If the system is not fully metered, a program to install meters on all un-metered water service connections.</p>	<p>Continue to require meters for all development within the City.</p>	<p>The City continues to require that all new service connections have meters within the City. All customer connections are metered.</p>
	<p>(c) A meter testing and maintenance program</p>	<p>Continue to conduct annual meter testing and maintenance for 3-inch and larger meters.</p>	<p>The City continues to conduct annual meter testing and maintenance for 3-inch and larger meters.</p>
		<p>Continue to retrofit meters to radio read. Over the next 5 years, approximately 500 residential meters will be retrofitted and checked for age and function.</p>	<p>By 2018, the City had completed its retrofitting effort, retrofitting approximately 2,500 meters. In addition, the City replaced approximately 1,500 meters with new meters.</p>
	<p>(d) A rate structure under which customers' bills are based, at least in part, on the quantity of water metered at the service connections</p>	<p>The City will continue to use an inclining block water rate structure that supports and encourages water conservation.</p>	<p>The City continues to use an inclining block rate water billing system for its residential customers that supports and encourages water conservation and to charge commercial customers a unit cost for water.</p>
	<p>(e) If the annual water audit indicates that system leakage exceeds 10 percent, a regularly scheduled and systematic program to detect leaks in the transmission and distribution system...</p>	<p>Continue routine water system surveillance and response to reported leaks.</p>	<p>The City continues to conduct routine water system surveillance and to respond to reported leaks.</p>
	<p>(f) A public education program to encourage efficient water use and the use of low water use landscaping that includes regular communication of the supplier's water conservation activities and schedule to customers</p>	<p>Provide more detailed conservation messages and tips in monthly water bills, including reminders to turn off irrigation systems during the winter.</p>	<p>The City now provides more detailed conservation messages and tips within a special section of its monthly water bills. The City has included reminders to turn off irrigation systems during the winter within its water bills.</p>
		<p>Expand the City's website to include tips and techniques for indoor, outdoor, and commercial water conservation.</p>	<p>The City provides water conservation messages in annual water quality reports posted on its Web site. The City also periodically provides conservation messages and tips in its monthly newsletter, which it sends out electronically to customers and posts on its Web site. By April 2015, the City added additional water conservation information and YouTube videos about Xeriscaping to its Web site.</p>
		<p>Host a water conservation booth at annual City events and festivals.</p>	<p>The City promotes water conservation at booths during four annual public events, including the Green Fair, Power of Florence, the Community Block Party, and the Public Works Open House event. At these events, the City hosts a booth offering water conservation information to event attendees. Information may be in the form of written content, such as brochures and video content, such as videos about Xeriscaping among other conservation topics, and may provide free water conservation items, depending upon the event.</p>
		<p>Provide informative materials (brochures, samples) in the City's building department where people come to apply for permits.</p>	<p>The City provides brochures at the City's building department, such as water quality reports that contain water conservation messages and water conservation brochures created by the American Water Works Association. The City has DVDs about Xeriscaping and water conservation that customers can borrow, as well.</p>

Section Requirement	Sub-section Requirement	2010 WMCP Benchmarks	Benchmark Status
OAR 690-086-150 (6) If the supplier serves a population greater than 1,000 and proposes to expand or initiate diversion of water under an extended permit for which resource issues have been identified under OAR 690-086-0140(5)(i), or if the supplier serves a population greater than 7,500, description of the specific activities, along with a schedule that establishes five-year benchmarks, for implementation of each of the following measures; or documentation showing implementation of the measures is neither feasible nor appropriate for ensuring the efficient use of water and the prevention of waste	(a) A system-wide leak repair or line replacement program to reduce system leakage to 15 percent and if the reduction of system leakage to 15 percent is found to be feasible and appropriate, to reduce system leakage to 10 percent	The City's unaccounted-for water, and therefore its system leakage is less than 10 percent. The City will continue its leak detection and repair activities, as described above.	The City's water loss (i.e. Unaccounted-for water) was less than 10 percent from 2004 to 2018. The City continues to implement its leak detection and repair activities.
	(b) Technical and financial assistance programs to encourage and aid residential, commercial, and industrial customers in implementation of conservation measures;	Post "how-to" technical information about conservation on the City's website for residential and commercial users.	By April 2015, the City added "how-to" technical information about water conservation and embedded an online video about Xeriscaping on its Web site.
		Conduct three property manager workshops on conservation at multi-family residences.	The City contacted property managers of multi-family facilities about providing water conservation workshops and none were interested. Consequently, the City was unable to conduct the workshops. The City does not plan to pursue this effort further in the near-term.
		Conduct an evaluation of conservation opportunities at multi-family residential facilities, and conduct water audits of the three largest water users in that category.	The City has not conducted evaluations of conservation opportunities or water audits for multi-family facilities as a result of the property managers' lack of interest.
	(c) 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;	Make available 100 indoor conservation kits. Kits could include faucet aerators, low-flow showerheads, toilet leak detectors, and a list of other indoor water conservation options and techniques.	The City partnered with Central Lincoln Utility District in 2016 to make at least 100 indoor conservation kits available to City customers.
		Make available 100 outdoor conservation kits. Kits could include lawn watering measuring cans, rain gauges, hose nozzles with variable spray, and packages of drought-resistant plant seeds.	The City provided at least 100 outdoor conservation kits for free to City customers at the Florence Green Fair in 2012.
	(d) Adoption of rate structures, billing schedules, and other associated programs that support and encourage water conservation;	The City will continue to use an inclining block rate water billing system that supports and encourages water conservation.	The City continues to use an inclining block rate water billing system for its residential customers that supports and encourages water conservation and to charge commercial customers a unit cost for water.
		The City will continue to use a monthly water billing cycle.	The City continues to bill its water customers monthly.
		The City will provide more detailed conservation messages and tips in monthly water bills, including reminders to turn off irrigation systems during the winter.	The City began providing more detailed conservation messages and tips in a special section of its monthly water bills, which have included reminders to turn off irrigation systems during the winter.
	(e) Water reuse, recycling, and non-potable water opportunities; and	Evaluate opportunities to reuse water and expand use of non-potable water.	The City uses non-potable water to irrigate a city park and reuses water at its wastewater treatment plant for landscape irrigation and in-plant needs, such as washdown water.
(f) Any other conservation measures identified by the water supplier that would improve water use efficiency.	Provide messages in water bills during the winter reminding customers to make sure that automated irrigation systems are turned off during the winter.	In winter months, the City has provided reminders to turn off automatic irrigated systems during the winter in monthly water bills and its monthly newsletters.	

The City recognizes that on-going conservation measures are needed to maximize the efficient use of water and thereby help to slow the growth of demand for water. The City's current water management and conservation measures are designed to meet these goals and are described below.

3.2 Water Use and Reporting Program

OAR 690-086-0150(2)

The City collects its water use data at its well meters. This data is compiled on a monthly basis and then submitted to OWRD on an annual basis. Florence's measurement and reporting program meets these conditions and complies with the measurement standards in OAR Chapter 690, Division 85. The City's water use records can be found at https://apps.wrd.state.or.us/apps/wr/wateruse_query/.

3.3 Required Conservation Programs

OAR 690-086-0150(4)(a-f)

OAR 690-086-150(4) requires that all water suppliers establish 5-year benchmarks for implementing the following water management and conservation measures:

- Annual water audit
- System-wide metering
- Meter testing and maintenance
- Unit-based billing
- Water Loss Analysis
- Public education

During the next five years, the City plans to initiate, continue, or expand the following conservation measures that meet these requirements, as described below.

3.3.1 Annual Water Audit

OWRD defines a water audit as an analysis of the water system that includes a thorough accounting of all water entering and leaving the system. The results of the City's historical water audits for the years 2014 through 2018 were presented in Section 2-8, averaging 4.8 percent with an estimated loss of 7.3 percent in 2018. The City has inconsistently tracked unmetered, authorized consumption historically, such as use associated with flushing activities, but the City has committed to consistently tracking sources of unmetered, authorized consumption in the future.

The City performed an analysis of its own water use in the past and has taken steps to reduce this use. For example, the City installed a metered bulk water station in 2018 at its Public Works facility to replace an older metered and non-automated station. The station is used by the City for street sweeping, sewer line cleaning, and other City uses. The station is also used by contractors to fill water trucks which supply water to job sites and by the fire district for filling pump trucks. By having an automated and metered bulk water station, water theft is greatly reduced and metering is much more accurate such that contractors who use the station are more likely to use water more efficiently. An additional benefit of this new metered station is that the accuracy of the City's future water audits will

improve. Previously the City was not incorporating this metered use into its water audits which had the effect of increasing water loss estimates. In future audits, the City will include these volumes into the water audits. The City will continue to evaluate its water use in order to identify alternatives to increase efficiency.

Five-Year Benchmark

- The City will conduct an annual City-wide water audit using a systematic and documented methodology for estimating water produced and consumed, unmetered authorized and unauthorized uses, and an analysis of the City's own water use to continue to identify alternatives to increase efficiency.

3.3.2 System-wide Metering

All customers served by the City are metered. As of 2018, all of the City's meters have Automatic Meter Read (AMR) technology. See Section 3.3.3 for more information.

Five-Year Benchmark

- The City will continue to require meters for all connections within the City's service area.

3.3.3 Meter Testing and Maintenance

Currently, the City conducts annual meter testing and maintenance for large meters (3-inch or greater). These large meters are typically found in multi-family residential complexes, hotels, other businesses, and schools that use relatively large amounts of water. As part of the City's meter maintenance and repair program, the City completed a multi-year effort to replace all customer meters ten years or older and retrofit all other meters with Automatic Meter Read (AMR) hardware. New meters installed also included the AMR technology. The primary benefit of AMR technology is it provides a more efficient method of collecting consumption data from meters. The City replaced approximately 1,500 meters with new meters and retrofitted approximately 2,500 meters. By replacing over a third of all of its older meter with new meters, the City effectively improved the accuracy of its consumption measurements since older meters tend to under-measure volume.

Five-Year Benchmarks

- Continue to conduct annual meter testing and maintenance for meters 3-inches and larger.
- Test and, as needed, recalibrate, repair, or replace all master meters located at the WTP and wellheads by the end of 2022 and every ten years thereafter.

3.3.4 Water Rate Structure

The City adopted an inclining block water rate structure for Residential customers that increase the cost per unit of water as more water is used. This provides a direct financial incentive for the City's water customers to maximize conservation. The Residential customer current tiered rates are as follows:

- Zero to 1,500 cubic feet: \$0.02156 per cubic foot
- Greater than 1,500 cubic feet: \$0.23704 per cubic foot

Commercial customers are charged \$0.02 per cubic foot of water consumed. Bulk water sales are charged \$2.16 per 100 cubic feet of water consumed.

The City plans to continue using this rate structure as a key component of its water conservation measures.

Five-Year Benchmark

- The City will continue to use an inclining block water rate structure in order to encourage water conservation.

3.3.5 Water Loss Analysis

The City's annual water audits show water loss was 7.3 percent in 2018, continuing the trend since at least 2004 with water loss below 10 percent. A measure implemented by the City to keep water loss below 10 percent include a line replacement program to replace potentially older leaking lines.

Five-Year Benchmark

- Continue routine water system surveillance and response to reported leaks.
- Continue to implement a line replacement program.

3.3.6 Public Education

The City provides public education through a variety of means in order to reach as many customers as possible. The City uses digital and written media as well as direct customer communication. Its digital content includes a web page devoted to indoor and outdoor water conservation along with a video on the topic of Xeriscaping. A video about Xeriscaping is also available for loan to customers. The City's annual Water Quality Report contains a section devoted to water conservation tips; this document is posted on the City's web page, supplied at public facilities, including City Hall, Public Works, the Senior Center, public library, and hospital. Florence also broadcasts publication and availability of the report through various print and radio media. In addition to the City's water quality report, written content targeting customers includes a monthly newsletter with periodic water conservation messaging and a water conservation brochure published by the American Water Works Association, which the City makes available at the City's Building Department.

The City promotes water conservation directly to customers at booths during four annual public events, including the Green Fair, Power of Florence, the Community Block Party, and the Public Works Open House event. At these events, the City provides water conservation information to event attendees through written content, such as brochures, or video content, such as a video about Xeriscaping. The City also has provided free water conservation items, such as leak detection kits, depending upon the event.

Five-Year Benchmarks

- The City will continue to maintain indoor and outdoor water conservation content on its website and to loan a video on the topic of water conservation to customers.
- The City will continue to provide periodic written conservation messaging to its customers via monthly water bills and in the City's water quality reports, and to place a brochure devoted to conservation at a location frequented by customers, such as City Hall.
- The City will continue to host a water conservation booth at one or more annual events.

3.4 Additional Conservation Measures

OAR 690-086-0150(5)(a)-(d)

OAR 690-086-0150(5) requires water suppliers with populations greater than 7,500 address five additional conservation measures. Florence has a population that exceeds this threshold and therefore describes below how it will meet these measures. The measures are:

- Technical and financial assistance
- Supplier-financed retrofitting or replacement of fixtures
- Rate structure, billing schedules, and other associated programs
- Water re-use, recycling, and non-potable opportunities
- Other conservation measures

3.4.1 Technical and Financial Assistance

The City provides "how to" technical information about conservation on the City's website for residential and commercial customers. Information on the City's website encourages efficient water use in the bathroom, kitchen and laundry, such as taking shorter showers or installing water displacement items in toilet tanks. The webpage also describes where to and how to identify indoor leaks, describes the water savings associated with replacing water-using fixtures, and encourages efficient irrigation practices in landscapes and lawns. In addition to this information on the City's website, some of the conservation kits provided by the City include leak detection tips as a form of technical assistance.

The City continues to provide technical assistance by helping customers identify leaks. Florence profiles customers' meter reads for unusual changes in water use, communicates with these customers about unusual use, and explores possible reasons for the change with these customers. With the installation of a system-wide AMR system, Florence is able to access hourly use data from the meters in question and review data for signs of leaks, such as evidence of 24 hours use. Florence can then relay results of the City's data reviews to these customers for speedy leak repair if the City suspects leaks.

Five Year Benchmark

- The City will continue providing "how to" technical information on their website.
- The City will continue to provide technical assistance to customers regarding suspected leaks.

3.4.2 Supplier-financed Retrofit or Replacement of Fixtures

Florence has provided up to 100 indoor and 100 outdoor conservation kits to customers upon request in the past. These indoor kits included items such as faucet aerators, low-flow showerheads, toilet leak detectors, and a list of other indoor water conservation options and techniques. The outdoor kits included items such as lawn watering measuring cans, rain gauges, hose nozzles with variable spray, and packages of drought-resistant plant seeds.

Five Year Benchmark

- The City will make available 100 indoor and 100 outdoor water conservation kits to customers upon request at no cost starting in 2021.

3.4.3 Rate Structures, Billing Schedules, and Other Associated Programs

The City has an inclining block rate structure and bills its customers monthly. In addition, the City provides conservation messaging in its water bills periodically.

Five Year Benchmarks

- The City will continue to use an inclining block water rate structure in order to encourage water conservation.
- The City will continue to use a monthly water billing cycle.
- The City will continue to provide periodic conservation messages and tips in monthly water bills.

3.4.4 Water Re-use, Recycling, and Non-potable Opportunities

The City currently irrigates Miller Park with non-potable water from a well. In addition, the City reuses water at its WWTP for in-plant needs, such as washdown water, and for irrigating landscaped areas at the WWTP.

5 Year Benchmark

- The City will continue to irrigate Miller Park with non-potable water and reuse water at its WWTP.

3.4.5 Other Conservation Measures

OR 690-086-0150(3) and (5)(e)

System Development Charges The City assesses a water system development charge for new commercial construction based on the area to be landscaped. For fiscal year 2019/20, the City will

charge \$4,110 for every 2,500 square feet of lawn grass areas and for every 4,000 square feet of shrubbery or native vegetation. This structure incentivizes developers to plant native vegetation and use less grass, which results in less water used for irrigation.

5 Year Benchmark

- The City will continue to evaluate its SDCs as a means to encourage water conservation and will adopt changes to its SDC requirements as appropriate.

Landscaping Code The City encourages the use of native vegetation through a landscaping preservation credit applied to City landscape requirements. A "preservation credit" bestowed upon a project allows a reduction in the overall landscape area and planting requirements at a ratio of 2:1 if existing significant vegetation on the site is preserved. In other words, every one square foot of preserved significant vegetation is counted as two square feet in meeting the total required landscape area for a site. This approach is intended to save water because existing native vegetation may not require as much irrigation as non-native plantings.

5 Year Benchmark

- The City will continue to evaluate its landscaping code as a means to encourage water conservation and adopt changes to its landscaping code as appropriate.

Exhibit 3-2. Summary of 2020 Conservation Measures

Section Requirement	Sub-section Requirement	2020 Benchmarks
<p>OAR 690-086-150 (4)</p> <p>A description of the specific activities, along with a schedule that establishes five-year benchmarks, for implementation of each of the following conservation measures that are required of all municipal water suppliers:</p>	<p>(a) An annual Water Audit that includes a systematic and documented methodology for estimating any un-metered authorized and unauthorized uses, and an analysis of the water supplier's own water use to identify alternatives to increase efficiency;</p>	<p>The City will conduct an annual City-wide water audit using a systematic and documented methodology for estimating water produced and consumed, unmetered authorized and unauthorized uses, and an analysis of the City's own water use to continue to identify alternatives to increase efficiency.</p>
	<p>(b) If the system is not fully metered, a program to install meters on all un-metered Water Service Connections. The program shall start immediately after the plan is approved and shall identify the number of meters to be installed each year with full Metering completed within five years of approval of the water management and conservation plan;</p>	<p>The City will continue to require meters for all connections within the City's service area.</p>
	<p>(c) A meter testing and maintenance program</p>	<p>Continue to conduct annual meter testing and maintenance for meters 3-inches and larger.</p> <p>Test and, as needed, recalibrate, repair, or replace all master meters located at the WTP and wellheads by the end of 2022 and every ten years thereafter.</p>
	<p>(d) A rate structure under which customers' bills are based, at least in part, on the quantity of water metered at the service connections</p>	<p>The City will continue to use an inclining block water rate structure in order to encourage water conservation.</p>
	<p>(e) If the annual Water Audit indicates that the system's Water Losses exceed 10 percent:</p> <p>A) Within two years of approval of the water management and conservation plan, the water supplier shall provide a description and analysis identifying potential factors for the loss and selected actions for remedy;</p> <p>(B) If actions identified under subsection (A) do not result in the reduction of Water Losses to 10 percent or less, within five years of approval of the water management and conservation plan, the water supplier shall:</p> <p>(i) Develop and implement a regularly scheduled and systematic program to detect and repair leaks in the transmission and distribution system using methods and technology appropriate to the size and capabilities of the Municipal Water Supplier or a line replacement program detailing the size and length of pipe to be replaced each year; or,</p> <p>(ii) Develop and implement a water loss control program consistent with American Water Works Association's standards.</p>	<p>Continue routine water system surveillance and response to reported leaks.</p> <p>Continue to implement a line replacement program.</p>
	<p>(f) A public education program commensurate to the size of the Municipal Water Supplier to encourage efficient indoor and outdoor water use that includes regular communication of the supplier's water conservation activities and schedule to customers;</p>	<p>The City will continue to maintain indoor and outdoor water conservation content on its website and to loan a video on the topic of water conservation to customers.</p> <p>The City will continue to provide periodic written conservation messaging to its customers via monthly water bills and in the City's water quality reports, and to place a brochure devoted to conservation at a location frequented by customers, such as City Hall.</p> <p>The City will continue to host a water conservation booth at one or more annual events.</p>

Exhibit 3-2. Summary of 2020 Conservation Measures (continued)

Section Requirement	Sub-section Requirement	2020 Benchmarks
OAR 690-086-150 (5)	(a) Technical and financial assistance programs commensurate to the size of the Municipal Water Supplier to encourage and aid residential, commercial and industrial customers in implementation of conservation measures	The City will continue providing "how to" technical information on their website. The City will continue to provide technical assistance to customers regarding suspected leaks.
	(b) 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;	The City will make available 100 indoor and 100 outdoor water conservation kits to customers upon request at no cost.
	(c) Adoption of rate structures, billing schedules, and other associated programs that support and encourage water conservation;	The City will continue to use an inclining block rate water billing rate structure that supports and encourages water conservation. The City will continue to provide conservation messages and tips in monthly water bills, including reminders to turn off irrigation systems during the winter.
	(d) Water reuse, recycling, and non-potable water opportunities; and	The City will continue to irrigate Miller Park with non-potable water and reuse water at its WWTP.
	(e) Any other conservation measures identified by the water supplier that would improve water use efficiency.	The City will continue with monthly billing. The City will continue to evaluate its SDCs as a means to encourage water conservation and will adopt changes to its SDC requirements as appropriate. The City will continue to evaluate its landscaping code as a means to encourage water conservation and adopt changes to its landscaping code as appropriate.

4. Water Curtailment Element

This section satisfies the requirements of OAR 690-086-0160. This rule requires a description of past supply deficiencies and current capacity limitation. It also requires inclusion of stages of alert and the associated triggers and curtailment actions for each stage.

4.1 Introduction

Curtailment planning is the development of proactive measures to reduce demand during supply shortages resulting from prolonged drought, or system failure from unanticipated events. The City developed this curtailment plan by reflecting on the most likely events, which may reduce the City's ability to meet system demands and cause water supply shortages. Those events include: 1) an earthquake, 2) drought, 3) infrastructure failure, and 4) source water quality degradation due to aquifer contamination.

The goal of this curtailment plan is to have objective criteria that trigger actions to ensure a sufficient quantity of water to meet the water demands of the water supply system during any one of these events, without jeopardizing the health, safety, or welfare of the community.

4.2 Capability Assessment

OAR 690-086-0160(1)

The City has not needed to impose water curtailment measures over the past 10 years. However, the City is aware of the potential for a supply shortage to occur. The City determined that potentially severe supply shortages would most likely result from droughts, an earthquake, or a malfunction at the City's WTP. In the event of a drought, reduced aquifer recharge could reduce the City's ability to access groundwater from its wellfield. An earthquake could impact one or more of the major components of the City's infrastructure, including operational failure of the City's WTP.

Florence has assessed its ability to maintain delivery during a supply shortage from one of these events. In the event of a supply shortage, the City could rely on in-line storage on a short term basis if necessary. The City's 4.5 million gallons (maximum) of stored water could provide water for up to four days based on an ADD of 1.1 mgd (the historical average) or approximately two days during peak season. The City could also obtain water from the neighboring water provider HWPUD or reverse the uni-directional meter with CTCLUSI to obtain water from this provider. The City's interties with these providers may provide a temporary supply of water until the shortage subsides. In addition, the City may rent a water hauling truck, send customers to a pre-designated water distribution location, or supply bottled water, or a combination of all these options.

The City's WTP represents a capacity limitation since the City's wells are capable of producing more water than the WTP can treat at any one time. However, the WTP has the capacity to meet

current and future peak day demands and therefore this capacity limitation should not contribute to a supply shortage.

If any of the alternative supply options discussed above fail to meet demand or the City anticipates these options will not meet demand, the City would initiate its curtailment plan, as described below, as a means to reduce demand.

The following curtailment plan is codified in the City’s municipal code Title 9-2-5-8 and duplicated here with minor revisions.

4.3 Curtailment Stages and Event Triggers

OAR 690-086-0160(2) and OAR 690-086-0160(3)

Exhibit 4-1 summarizes the stages and initiating triggers for the City’s water curtailment plan.

Exhibit 4-1. Water Shortage Stages and Initiating Conditions

Shortage Stage	Initiating Conditions
Stage 1: Water Shortage Alert	<ol style="list-style-type: none"> 1. General recognition of drought conditions in the area or 2. Demand reaches 80 percent of water supply capacity as determined by the City Manager for a period of 3 or more consecutive days; or 3. Water supply approaches the minimum required for fire protection or other essential needs as determined by the City Manager.
Stage 2: Serious Water Shortage	The City predicts continuation of hot, dry weather, or the City’s water demand is 81 to 90 percent of water supply capacity for 3 or more consecutive days as a result of a natural or human-caused event.
Stage 3: Severe Water Shortage	Water demand is more than 90 percent of water supply capacity for 3 or more consecutive days for any reason, whether natural or human-caused.
Stage 4: Critical Water Shortage	Failure of a major system component or non-drought emergency conditions results in an immediate shortage of water. Examples include: failure of main transmission lines, failure of the intake or WTP, chemical spills, or a malevolent attack on the system that introduces a contaminant at some point in the system.

Stage 1: Water Shortage Alert

Stage 1: Water Shortage Alert will activate a program to inform customers of the potential for drought and water shortages, and reasons to voluntarily conserve water. Stage 1 will be activated by the City Manager and will be triggered when any of the Stage 1 conditions previously described exist.

Under Stage 1, the City will issue a written notice requesting voluntary reduction in water use by all customers. The notice will include a description of the current water situation, the reason for the requested conservation measures, and a warning that mandatory restrictions will be implemented if voluntary measures are not sufficient to achieve water use reduction goals. A similar notice could be issued through local media (such as newspaper, radio, or TV). However, if the drought is regional, the media already may be alerting users of water supply concerns.

Therefore, the City's Stage 1 plan does not automatically involve press releases or paid media announcements.

When Stage 1 is triggered, the City will ask customers to voluntarily comply with the following:

- Minimize landscape watering between 10 a.m. and 6 p.m., the period of highest water loss resulting from evaporation.
- Water landscapes on alternate days (even-numbered addresses water on even-numbered days and odd-numbered addresses on odd-numbered days).

Stage 2: Serious Water Shortage

Stage 2 is similar to Stage 1 except the voluntary measures regarding outdoor water use will be made compulsory by the City Manager, and additional non-essential water use will be prohibited. Under Stage 2, City customers will be notified of the following water restrictions:

1. Water landscapes only between 6 p.m. and 10 a.m.
2. Water landscapes only when allowed by the odd/even schedule.
3. No water use for washing motorbikes, motor vehicles, boat trailers, or other vehicles except at a commercial washing facility that practices wash water recycling. (Exceptions include vehicles that must be cleaned to maintain public health and welfare, such as food carriers and solid waste transfer vehicles.)
4. No water use to wash sidewalks, walkways, driveways, parking lots, tennis courts, and other hard-surfaced areas.
5. No water use to wash building structures, except as needed for painting or construction.
6. No water use for a fountain or pond for aesthetic or scenic purposes, except where necessary to support fish life.
7. Discourage serving water to customers in restaurants unless water is requested by the customer. This action does not provide significant water savings, but is useful for generating awareness of the need to curtail use.
8. No water use for dust control unless absolutely necessary, as determined by the City Manager.

Stage 3: Severe Water Shortage

Stage 3 will be initiated by the City Manager when water demand is more than 90 percent of water supply capacity for three or more consecutive days for any reason, whether natural or human-caused. Stage 3 measures include the following:

1. Perform actions indicated for Stage 2.
2. Replace the restriction of odd/even watering from Stage 2 with a prohibition on all outdoor watering (exceptions include new lawn, grass, or turf planted after March 1st of the calendar year in which restrictions are being imposed; sod farms; high-use athletic fields; or park and recreation areas specifically designated by the City Council.)

3. No water use to fill, refill, or add to any indoor or outdoor swimming pools or hot tubs, except if one of the following conditions is met: the pool is used for a neighborhood fire control supply, the pool has a recycling water system, the pool has an evaporative cover, or the pool's use is required by a medical doctor's prescription.
4. No water use from hydrants for construction purposes (except on a case-by-case basis approved by the City Manager), fire drills, or any purpose other than fire-fighting.
5. Implement limitations on commercial uses of water, depending on the severity of the shortage.
6. Issue public service announcements to notify customers of the severity of the conditions.

Stage 4: Critical Water Shortage

Stage 4 will be initiated by the City Manager when failure of a system component or non-drought emergency conditions results in an immediate shortage of water. Examples include failure of main transmission lines, failure of the WTP, chemical spills, or a malevolent attack on the system that introduces a contaminant at some point in the system. If the emergency causes, or is expected to cause, a shortage of water, the City will implement the curtailment measures of Stage 2 or Stage 3, as appropriate, in addition to the steps outlined below.

If water in the system is unsafe to drink (such as in the event of a chemical spill or malevolent attack) the City Manager will direct staff to notify customers as quickly as possible using local radio, print media, the City's website, and any other appropriate means. In addition, the City Manager will implement the following:

1. Contact the Oregon Drinking Water Program, Department of Human Services, and request its assistance in responding to the problem.
2. Notify the local news media, if appropriate, to ask for their assistance in notifying customers.
3. Call an emergency City Council meeting.
4. Contact the Oregon State Police and County Sheriff to obtain help in contacting customers.
5. Determine whether to use water system interties with other water providers, such as HWPUD.

The City will continue to investigate and develop specific backup plans for a Stage 4 emergency.

4.4 Authority and Enforcement

Upon the City experiencing one of the curtailment initiating conditions, the City Manager may declare a water emergency and require that water usage must be curtailed. The City Manager may include an estimated time for review or revocation of the emergency. Once the water emergency has been declared, limitation on the use of water as to hours, purpose, or manner may be prescribed from time to time by order of the City Manager, based on a finding that the limitation is reasonable given the available and projected water supply and demand.

The City shall send a letter of warning for each violation of a curtailment restriction if no previous letter of warning has been sent to the person responsible for the violation. The letter of warning shall specify the violation, may require compliance measures and shall be served upon the person responsible for the violation. Service may be in person, by office or substitute service or by certified or registered mail, return receipt requested. After the person responsible for the violation has received a warning letter, any subsequent violation shall be treated as a civil infraction. After the third violation of a curtailment restriction, the Public Works Director may order that the water service to the location where the violation has occurred shall be shut-off or reduced.

4.5 Drought Declaration

If a declaration of a severe drought is declared by the Governor per ORS 536.720, the Oregon Water Resources Commission may order political subdivisions within any drainage basin or subbasin to implement a water conservation or curtailment plan or both, approved under ORS 536.780. The conservation and curtailment elements of this WMCP meet these requirements. If the City is within a severe drought area declared by the Governor, such as Lane County, the City will consider whether curtailment measures are needed to meet system demands. If ordered to implement a water conservation or curtailment plan during a declared drought, the City will comply by implementing the water conservation and curtailment provisions of this WMCP. Regardless of whether curtailment is needed, the City will encourage customers to conserve water.

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5. Municipal Water Supply Element

This section satisfies the requirements of OAR 690-086-0170.

5.1 Delineation of Service Areas

OAR 690-086-0170(1)

The City's current and future service area is shown in Exhibit 2-1. The current service area is bound to the south by the Siuslaw River, to the west by the coastline, to the east by the North Fork Siuslaw River, and to the north by the service area of HWPUD.³ While growth is anticipated to occur primarily to the north of current city limits, HWPUD serves this area, therefore the City's service area expansion is anticipated to be limited to two primary areas. 1) The City's service area boundary may expand to include an area along the northern portion of Highway 101 within the Urban Growth Boundary (UGB). HWPUD currently serves this area, but the City anticipates service to this area as property owners elect to receive water service from the City instead HWPUD because HWPUD cannot meet minimum storage volumes, fire flows, and water pressure. 2) The City also expects to expand the service area boundary to the east of existing city limits near Munsel Lake. Exhibit 2-1 identifies these two areas as "Future Service Areas".

5.2 Population Projections

OAR 690-086-0170(1)

The City's future population is anticipated to increase as a result of the expansion of its service area into the two areas discussed above and as a result of infill (growth within existing service area boundaries). The City projects population will increase to 9,530 in 2030 and to 10,421 in 2040, as shown in Exhibit 5-1.

Exhibit 5-1. 20-Year Population Forecast

Year	Population	Average Annual Growth Rate¹
2018	8,521	-
2030	9,530	0.7%
2040	10,421	0.7%

¹ Per PSU's Population Research Center's Coordinated Population Forecast, 2019-2069, Lane County Urban Growth Boundaries (UGB) & Areas Outside UGBs for the Florence area.

³ Section 5 of the City's 2010 WMCP noted that the future service areas of the City and Heceta Water District were undefined given ongoing discussions between these service providers. Since 2010, the Heceta Water District formed the Heceta Water People's Utility District and established its service area boundaries primarily north of current city limits.

The City’s population projections for infill were calculated using a different method than the method to calculate population growth due to service area expansion. Population increases due to infill development were calculated by applying the 20-year average annual growth rate (AAGR) of 0.7 percent to the current service area population of the City of 8,521 persons through 2040. This AAGR was obtained from Portland State University’s Coordinated Population Forecast, 2019-2069, *Lane County Urban Growth Boundaries (UGB) & Areas Outside UGBs* which was published in 2019. (The methodology to calculate the City’s current service area population is described in Section 2.4.).

To calculate population growth due to service area expansion, the City performed the following calculations. The previously identified factor in Section 2.4 of 2.6 persons per acre was applied to the acreage anticipated to be added to the City’s service area within the 20-year planning period; this acreage is approximately 184 acres and represented in Exhibit 2-1 as “Future Service Areas”. The City expects full build-out of these areas by 2040, which are projected to hold a population of 480 people (2.63 persons/acre x 184 acres) by 2040. The population growth due to service area expansion for the year 2030 was calculated using linear interpolation. The sum of the future infill populations and future populations due to service area expansions are presented in Exhibit 5-1.

5.3 Demand Forecast

OAR 690-086-0170(3)

Average and maximum day demand projections in 2030 and 2040 for the City’s water service area are summarized in Exhibit 5-2. By 2040, the City anticipates its MDD to reach 2.8 mgd; for perspective, the City’s historical 5-year MDD was 1.9 mgd.

Exhibit 5-2. Demand Forecast for 2029 and 2039 (mgd and cfs)

Year	ADD (mgd)	MDD (mgd)	ADD (cfs)	MDD (cfs)
2030	1.5	2.5	2.3	3.9
2040	1.6	2.8	2.5	4.3

The City projected ADDs by multiplying the forecasted populations for 2030 and 2040, as presented in Exhibit 5.1, by historical per capita ADD. The historic per capita ADD value was based on the greatest observed per capita demand from 2014 to 2018, which was 155.3 gpcd in 2018. The City projected MDDs by applying the historical average peaking factor of 1.7 to projected ADD values. This method of projecting demand assumes that the per capita demand factor and peaking factor remain constant throughout the 20-year planning period.

5.4 Schedule to Exercise Permits and Comparison of Projected Need to Available Sources

OAR 690-086-0170(2) and (4)

The City plans to rely on groundwater to meet its projected demands during the WMCP 20-year planning period. As described in Section 2, the City holds two certificates and a permit for groundwater use. Certificate 81398 authorizes use of up to 2.0 cfs (1.30 mgd) and Certificate 87428 authorizes use up to 0.89 cfs (0.58 mgd), for a combined authorized rate of use of up to 2.89 cfs (1.85 mgd). Moreover, the City has a COBU pending at OWRD demonstrating beneficial use of 2.4 cfs (1.6 mgd) under Permit G-16885. Thus, the City has developed 5.29 cfs (3.4 mgd) ($2.89 + 2.4 = 5.29$ cfs) under its groundwater rights to date, which is sufficient to meet the projected demand in 2040 of 4.3 cfs (2.8 mgd). The City's current well capacity is 2.8 mgd, allowing the City to meet projected demands using its existing wells.⁴ Consequently, the City is not requesting access to the undeveloped portion of extended Permit G-16885 (0.6 cfs, 0.39 mgd).

The City intends to fully develop the remaining portion of extended Permit G-16885 (0.6 cfs) in response to further population growth and increases in water demands beyond the 20-year planning period of this WMCP. The City's 2009 WMCP projected development of the entire permit within the 20 year planning period. The rates of system demand growth forecast in the 2009 WMCP, however, were much greater than the observed system demand rates of growth observed from 2009 to the present, primarily due to the recession and slow economic recovery experience in the region. Moreover, since the City published the 2009 WMCP, HWPUD was established and its boundaries were set, significantly limiting future growth of the City's service area to the north, where most of the City's future growth is anticipated to occur. These events have delayed the City's anticipated development of Permit G-16885. Following the demand projections methodology described above, the City currently anticipates putting Permit G-16885 to full beneficial use by approximately 2055. (The City's permit extension for Permit G-16885 expires in October 2025, and the City anticipates submitting an extension application for this permit by that time.)

5.5 Alternative Sources

OAR 690-086-0170(5)

OAR 690-086-0170(5) requires an analysis of alternative sources of water if any expansion or initial diversion of water allocated under existing permits is necessary to meet Florence's demand forecast and redundancy needs. As described above, Florence currently does not intend to expand diversion of water allocated under its only undeveloped permit, 0.6 cfs under extended Permit G-16885, during this WMCP 20-year planning period. Consequently, this rule does not apply.

⁴ The City anticipates that its efforts to refurbish its wells, as discussed in Section 2, will maintain the current well capacity of 2.8 mgd or improve well capacity.

5.6 Quantification of Projected Maximum Rate and Monthly Volume

OAR 690-086-0170(6)

OAR 690-086-0170(6) requires a quantification of the maximum rate of withdrawal and maximum monthly use if any expansion or initial diversion of water allocated under an existing permit is necessary to meet demands in the 20-year planning horizon. As described above, Florence currently does not intend to expand diversion of water allocated under the undeveloped portion of extended Permit G-16885 during this WMCP 20-year planning period. Consequently, this rule does not apply.

5.7 Mitigation Actions under State and Federal Law

OAR 690-086-0170(7)

Under OAR 690-086-0170(7), for expanded or initial diversion of water under an existing permit, the water supplier is to describe mitigation actions it is taking to comply with legal requirements of the Endangered Species Act, Clean Water Act, and other applicable state or federal environmental regulations.

As described above, Florence currently does not intend to expand diversion of water allocated under the undeveloped portion of extended Permit G-16885 during this WMCP 20-year planning period. Consequently, this rule does not apply. However, the City currently is required to take mitigation actions associated with Permit G-16885, including delivery of water to wetlands adjacent to Munsel Creek in late October and diversion of clarified backwash from the City's WTP to the wetlands. The City continues to abide by these two mitigation conditions.

5.8 New Water Rights

OAR 690-086-0170(8)

Under OAR 690-086-0170(8), if a municipal water supplier finds it necessary to acquire new water rights within the next 20 years to meet its projected demand, an analysis of alternative sources of the additional water is required. The analysis must consider availability, reliability, feasibility and likely environmental impacts and a schedule for development of the new sources of water.

Florence currently does not intend to acquire new water rights to meet demands within the next 20 years, so the provisions of this section are not applicable.

Appendix A. Letters to Affected Local Governments and Comments



March 4, 2020

Wendy Farley-Campbell, Planning Director
Planning Department
City of Florence
250 Highway 101
Florence, OR 97439

Subject: Water Management and Conservation Plan for the City of Florence

Dear Ms. Farley-Campbell:

The City of Florence (Florence) has developed a Draft Water Management and Conservation Plan (WMCP) to fulfill the requirements of Oregon Administrative Rule Chapter 690, Division 86 of the Oregon Water Resources Department (OWRD). Your review is requested.

Under these rules, a water supplier is required to make its draft plan available for review by each affected local government and seek comments relating to consistency with the local governments' comprehensive land use plans. Please find enclosed an electronic copy of Florence's Draft WMCP.

Please provide comments to me by no later than April 5, 2020. If the plan appears consistent with your agency's Comprehensive Land Use Plan, a letter response to that effect would be appreciated. You may send your comment to me at the address on this letterhead or e-mail them to me directly at: asussman@gsiws.com.

If you have any questions, please feel free to contact me. My telephone number is 541-257-9001. Thank you for your interest.

Sincerely,

A handwritten signature in black ink, appearing to read "Adam Sussman", written in a cursive style.

Adam Sussman
Principal Water Resources Consultant

Enclosure



March 4, 2020

Amber Bell, Interim Planning Director
Land Management Division
Lane County
3050 N Delta Hwy
Eugene, OR 97408

Subject: Water Management and Conservation Plan for the City of Florence

Dear Ms. Bell:

The City of Florence (Florence) has developed a Draft Water Management and Conservation Plan (WMCP) to fulfill the requirements of Oregon Administrative Rule Chapter 690, Division 86 of the Oregon Water Resources Department (OWRD). Your review is requested.

Under these rules, a water supplier is required to make its draft plan available for review by each affected local government and seek comments relating to consistency with the local governments' comprehensive land use plans. Please find enclosed an electronic copy of Florence's Draft WMCP.

Please provide comments to me by no later than April 5, 2020. If the plan appears consistent with your agency's Comprehensive Land Use Plan, a letter response to that effect would be appreciated. You may send your comment to me at the address on this letterhead or e-mail them to me directly at: asussman@gsiws.com.

If you have any questions, please feel free to contact me. My telephone number is 541-257-9001. Thank you for your interest.

Sincerely,

A handwritten signature in black ink, appearing to read "Adam Sussman", written in a cursive style.

Adam Sussman
Principal Water Resources Consultant

Enclosure



City of Florence

250 Hwy 101, Florence, OR 97439

www.ci.florence.or.us

April 7, 2020

Mr. Sussman,

Thank you for the opportunity to review and comment on the *Draft Water Management and Conservation Plan for the City of Florence, March 2020* (Plan) pursuant to OAR 690-005-0015. City planning staff have reviewed the draft Plan and compared it with the relevant sections, policies, and recommendations of the City of Florence Realization 2020 Comprehensive Plan (Comp Plan). Staff found the Plan to be in compliance with the Comp Plan as noted below:

- The water sources, system description and operating capacity to be the same as discussed in Chapter 11 Facilities of the Comp Plan.
- The Plan's analyses, assumptions and activities do not conflict with any policies or recommendations listed for the City's water system supplies or needs in the Comp Plan.
- Section 5 of the Plan uses the latest population growth forecasts from Portland State University's Population Research Center: *Oregon Population Forecast Program Cycle 1 (2019-2069)*. Florence' Comp Plan population projections in its Introduction were last updated in 2018 and used the most recent population growth forecast: *Oregon Population Forecast Program Cycle 1 (2015-2065)*. The difference is .2 %, decreasing from .9 to .7% growth forecast. The City's Comp Plan should be updated to reflect the most recent projections available.
- The Plan considered the limitations of water service expansion into the UGB due to the agreement in place with the Heceta Water District when applying the .7% population growth rate to forecast service demand.

Again, thank you for the opportunity to comment on the Plan. Please let me know if we can provide any additional comments or answer any questions.

Regards,

Wendy FarleyCampbell
Planning Director

Public Works
989 Spruce St.
(541) 997-4106

**City Manager/
City Recorder**
(541) 997-3437

**Community Development:
Planning & Building**
(541) 997-8237

**Finance/
Utility Billing**
(541) 997-3436

Justice Center
900 Greenwood St.
(541) 997-3515

Florence Events Center
715 Quince St.
(541) 997-1994

