

Draft

Water Management and Conservation Plan

City of Sandy



August 2025

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Appendices

Appendix A- Letters to Affected Local Governments

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1. Municipal Water Supplier Plan Elements

This section satisfies OWRD's requirements to include 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 Introduction

The City of Sandy (City or Sandy), once the site of a trading post on the Oregon Trail, is a growing community in the western foothills of Mt. Hood. The City is the eastern-most city in Clackamas County and serves as a gateway to Mt. Hood. Sandy serves an estimated population of 13,144, including some customers located outside of the City limits. These water utility customers of the City receive water from three sources: Alder Creek (a tributary of the Sandy River), Brownell Springs, (a tributary of Beaver Creek), and the City of Portland Water Bureau (the PWB), which provides the City water from its Bull Run surface water supply.

The City is surrounded by scenic rivers and wilderness areas appreciated by both residents and tourists. This proximity to precious natural resources continuously reminds the City of the importance of environmental sustainability. As a result, the City views planned management and conservation of its water resources as a key priority. With this in mind, the City has developed this updated Water Management and Conservation Plan (WMCP, or Plan), to guide development and implementation of water management and conservation programs promoting sustainable water use.

The purpose of this WMCP is to guide development and implementation of water management and conservation programs that promote sustainable water use and to consider the City's future water needs.

1.2 Plan Requirement

This updated WMCP meets the requirements of a final order issued by the Oregon Water Resources Department (OWRD) on June 1, 2016 approving the City's 2016 WMCP. This order included the requirement for the City to submit an "updated" WMCP within 10 years and no later than November 30, 2025. This WMCP satisfies this requirement and meets OWRD's content requirements for WMCPs.

1.3 Plan Organization

The WMCP is organized into the following sections, each addressing specific OWRD requirements. Section 2 is a self-evaluation of the City's water supply, water use, water rights, and water system. The information developed for Section 2 is the foundation for the sections that follow. The ensuing sections use this information to consider how the City can improve its water conservation and water supply planning efforts.

Section 1 – Municipal Water Supplier Plan Elements

Section 2 – Municipal Water Suppliers Descriptions

Section 3 – Municipal Water Conservation Element

Section 4 – Municipal Water Curtailment Element

Section 5 – Municipal Water Supply Element

The City referenced and used multiple sources of information during development of this WMCP. The major sources referenced include:

- City of Sandy's 2022 Water System Master Plan (WSMP)¹
- City of Sandy's 2021 Water Management and Conservation Plan Progress Report²
- City of Sandy's 2016 Water Management and Conservation Plan³

1.4 Affected Governments

The following local governments may be affected by this WMCP:

- Clackamas County

Thirty days before submitting this WMCP to OWRD, the City made the draft WMCP available for review to the affected local government listed above along with a request for comments relating to consistency with the local government's comprehensive land use plan. The letter requesting comments is in Appendix A. **No comments were received.**

In addition, the City provided the PWB, Alder Creek-Barlow Water District (Alder Creek-Barlow WD), Section Corners Water Association (Section Corners WA), and Skyview Acres Water Company (Skyview Acres WC) with a digital copy of the plan as a courtesy.

1.5 Plan Update Schedule

The City anticipates submitting an update of this WMCP within 10 years of the final order approving this WMCP. As required by OWRD, a progress report will be submitted within 5 years of the final order.

1.6 Time Extension

The City is not requesting additional time to implement metering or a previous benchmark.

¹ City of Sandy, Water System Master Plan (2022), Consor

² City of Sandy, Water Management and Conservation Plan Progress Report (2021), GSI Water Solutions, Inc

³ City of Sandy, Water Management and Conservation Plan (2016), GSI Water Solutions, Inc.

2. Municipal Water Supplier Description

This section satisfies OWRD's requirements to include descriptions of the water supplier's water sources, service area and population, water rights, and adequacy and reliability of the existing water supply. OWRD also requires descriptions of the water supplier's customers and their water use, the water system, interconnections with other water suppliers, water supply agreements, and quantification of water loss.

2.1 Terminology

System Demand or *demand* refers to the quantity of water delivered to the City's distribution system from its three water supplies. This includes treated water from the Alder Creek Water Treatment Plant (WTP), the water diverted from Brownell Springs, and wholesale water purchased from the PWB. Demand includes metered consumption by the City's customers and for City use, unmetered public uses, such as firefighting, hydrant flushing, and water lost to leakage, reservoir overflow, and other factors.

Consumption is equal to metered water use and unmetered, authorized water uses (e.g., system flushing).

Water loss is calculated by subtracting consumption from demand.

Generally, demand and consumption in municipal and quasi-municipal systems are expressed in units of millions of gallons per day (mgd), but also may be expressed in cubic feet per second (cfs) or gallons per minute (gpm). One mgd is equivalent to 1.55 cfs or 694 gpm. For annual or monthly values, a quantity of water is typically reported in million gallons (MG). Water use per person (per capita use) is expressed in gallons per capita per day (gpcd).

The following terms are used to describe specific values of system demands:

Average day demand (ADD) equals the total annual demand divided by 365 days.

Maximum day demand (MDD) equals the highest system demand that occurs on any single day during a calendar year. It is also called the one-day MDD or peak day demand.

Peaking factor is the ratio of the MDD to the ADD.

2.2 Water Sources

The City has three sources of supply: Alder Creek (a tributary of the Sandy River), Brownell Springs, (a the headwaters of Beaver Creek), and the PWB, which provides the City water from its Bull Run surface water supply.

The Alder Creek diversion is approximately 7 miles east of the City. The City has a raw water intake located along the creek, approximately one mile upstream from its confluence with

the Sandy River. The City's Alder Creek water treatment plant (WTP) is located 4,000 feet downstream from this point of diversion.

Brownell Springs consists of a group of eight natural springs located approximately 6 miles southeast of the City, on the north slope of Lenhart Butte. Brownell Springs is located at the headwaters of Beaver Creek, a tributary of Cedar Creek, which flows into the Sandy River.

The City also purchases wholesale water from the PWB as a supplemental water supply and to provide water supply redundancy in the event of an emergency.

The City also holds Permit S-48451 for use of water from the Salmon River but does not currently use this water source.

2.3 Interconnections with Other Systems

The City has had an interconnection with the PWB since 2014. The PWB water supply supplements the City's Brownell Springs and Alder Creek sources. This supply also reduces the City's reliance on the single transmission line along Highway 26 conveying water to its service area from Alder Creek and Brownell Springs, and provides redundancy in case of emergencies. The City does not have the ability to convey water back to the PWB through this interconnection.

The City serves wholesale water to the Alder Creek-Barlow WD, Skyview Acres WC, and Section Corners WA. Skyview Acres WC can receive water from the PWB whereas the other entities do not currently have other sources of supplies. The City's interconnections with its wholesale customers are unidirectional, such that the City cannot import water into its system from these providers. According to the Oregon Health Authority's Drinking Water Data Online, the Alder Creek-Barlow WD serves 125 service connections and Skyview Acres WC serves 76. Section Corners WA serves 8 residential customers according to City records.

2.4 Intergovernmental Agreements

The City is party to four water supply agreements. The terms of these agreements that are relevant to this WMCP are noted below. Common among these agreements are terms that address required responses to water shortages. These terms are noted in this section, but are detailed in the City's Curtailment Plan in Section 4 of this WMCP.

2.4.1 Portland Water Bureau

The City holds two water sales agreements with the PWB for wholesale water purchases. The active agreement provides for existing sales through June 30, 2028. The existing agreement allows the City to obtain a minimum of 0.5 million gallons per day (mgd) and up to a maximum of 3 mgd from the PWB's Bull Run source. The City is required to pay for at least 0.5 mgd regardless of the amount used. If the average of the three highest usage days in any calendar year exceeds the minimum purchase amount (0.5 mgd), then that 3-day average becomes the new minimum purchase amount for subsequent years. The PWB is responsible for maintaining and calibrating the master meter at the water system

connection. The agreement requires the City to submit a Water Conservation Plan consistent with OWRD WMCP requirements to the PWB every 5 years. If the PWB declares a water shortage, the City is required to implement curtailment measures that meet the requirements of the mutually agreed-upon curtailment plan.

The City has elected to terminate its existing agreement with the PWB by July 1, 2026, replacing this agreement with a new agreement executed in 2024 between the parties. This future agreement does not stipulate minimum or maximum purchase volumes or rates, unlike the existing agreement, allowing Sandy to purchase water on an as-needed basis. During periods of water supply shortages that affect the PWB, the PWB can require the City to implement curtailment measures to meet demand reduction targets set by the PWB. Section 4 of this WMCP details these agreement requirements and how Sandy has integrated the requirements into its curtailment plan. Under the future agreement, the PWB will continue to own and maintain the master meter at the interconnection, in keeping with the existing agreement.

2.4.2 Alder Creek-Barlow WD

The City's water supply agreement with Alder Creek-Barlow WD has been in place since 1984. As of 2004, the agreement automatically renews every two years unless either party wishes to terminate the agreement. The agreement provides surplus water to the District and does not specify minimum or maximum volumes or rates of water that the City will supply. It also identifies the water district's responsibility for operating and maintaining its water system to minimize water "losses, leakage, and overuse". The City is responsible for testing and calibrating the master meter bi-annually. The agreement also discusses how water may be successively curtailed in times of water shortage depending upon the severity of the shortage.

2.4.3 Skyview Acres WC

The City also has a water supply agreement with Skyview Acres WC effective July 1, 2014 through June 30, 2034. The agreement can be renewed every 5 years. According to the terms of the agreement, the City will supply up to a maximum rate of 60,000 gallons per day and a maximum flow rate of 200 gallons per minute to the Skyview Acres WC, with the option to increase these in the future. The City is responsible for bi-annual testing and calibration of the master meter. The company and its water users are subject to the water use regulations, water conservation practices, and curtailment measures applicable to the City's other wholesale and retail customers and/or its water purchase agreement with the PWB. Skyview Acres WC is responsible for operating and maintaining its water distribution system in a manner that minimizes water "losses, leakage, and overuse". As described in the agreement, Sandy owns and operates the master meter at the interconnection.

2.4.4 Section Corners WA

The City provides wholesale water to the Section Corners WA from water treated at the City's water treatment plant under a 1979 agreement between the parties. Currently, eight residences are served by the association. In the event of a water shortage, Sandy may

prorate water available to the association and impose a schedule of use for association members' non-domestic purposes or prohibit non-domestic purposes.

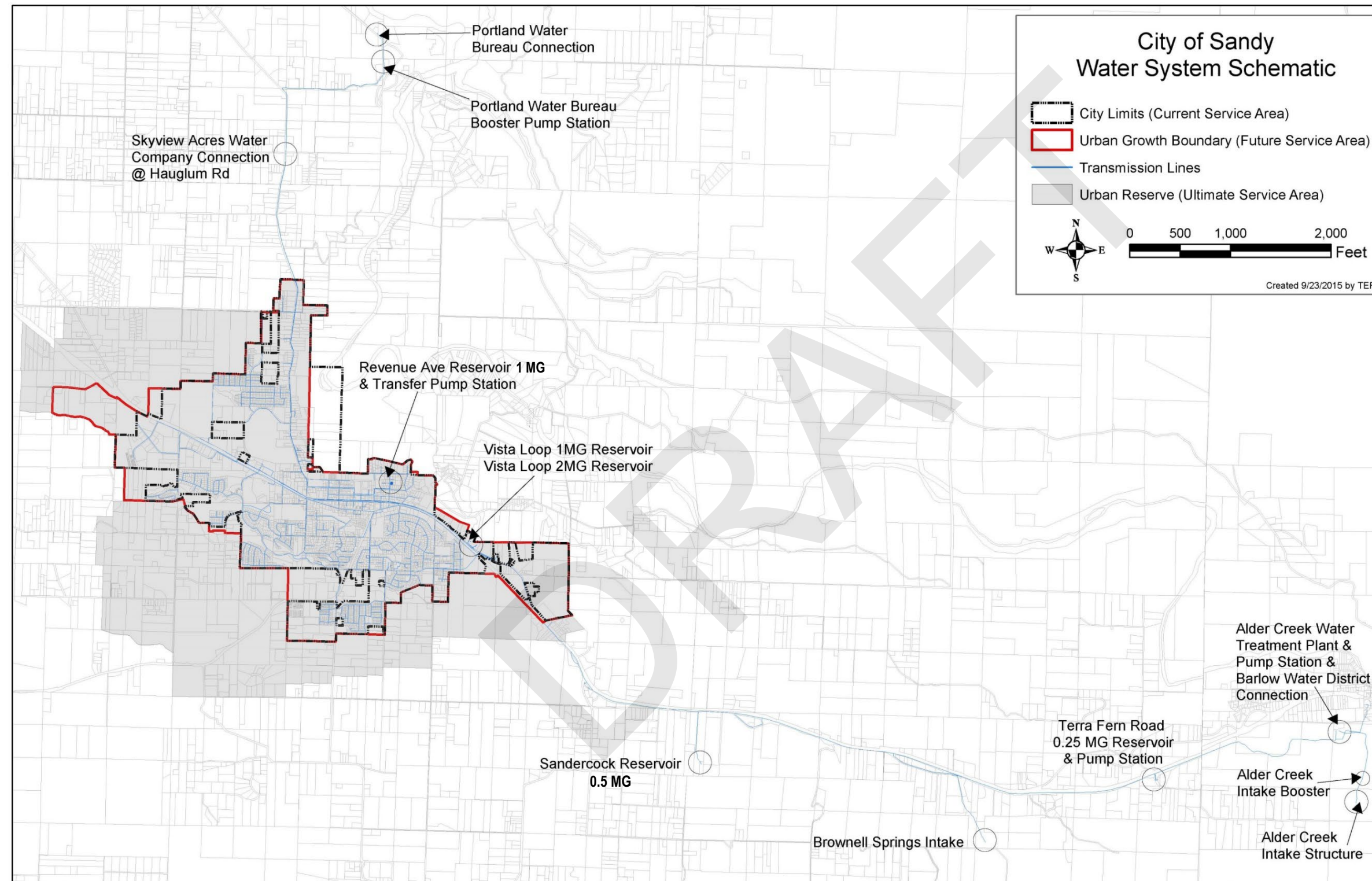
2.5 Current Service Area Description and Population

The City's service area population has continued a long trend of growth. The estimated 2024 service area population is 13,144, which includes the population of the City of 12,933 and the estimated number of people served directly by the City located outside the City limits (211 persons). In the City's 2016 WMCP, the City identified a 2013 service area population of 10,387, translating to a 27 percent increase in 11 years.

The City's 2024 service area population was obtained from Portland State University's Population Research Center (PSU PRC). The population served outside the City limits was estimated by the City by multiplying the number of residential connections outside the city limits (77), according to City records, and by the City's estimated persons per household (2.74), according to the 2020 US Census.

Exhibit 2-1 shows the City's current service area, which consists of the area within city limits plus the approximately 77 residential connections located primarily east of the City limits along Highway 26 (not shown).

Exhibit 2-1. Service Area Map and System Schematic



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2.6 Water System Demands

The City's water demands from 2019 through 2023 are summarized in Exhibit 2-2.

Exhibit 2-2. Historical Demand, 2019-2023

Year	Demand (MG)	ADD (mgd)	MDD (mgd)	Peaking Factor
2019¹	395.6	1.1	2.5	2.3
2020²	424.1	1.2	3.3	2.8
2021	500.8	1.4	2.6	1.9
2022	446.4	1.2	2.5	2.1
2023	432.5	1.2	2.5	2.1
Average	439.9	1.2	2.7	2.2

¹ Monthly demand was not available for January and February of 2019. Averages of each of these months observed in 2020 through 2023 were used in replacement.

² The City's WMCP Progress Report identifies a demand of 460.8 MG in 2020, however, the volume for 2020 has been corrected for this WMCP.

Records of demand data for January and February of 2019 were not available due to the City's transition to a new private operator of the City's WTP at that time. Data for these months was estimated by averaging the monthly volumes for January and February in 2020 through 2023.

The average annual demand ranged between 395.6 MG (2019) and 500.8 MG (2021). Annual demand shows an increasing trend over time. The City's 2016 WMCP identified an average annual demand of 395.8 MG from 2006 to 2014, whereas the average annual demand from 2019 to 2023 was 439.9 MG. The City attributes this increasing trend to the large increase in the number of customers served.

ADD is a function of demand and therefore has the same pattern of fluctuations as demand. The City's MDD averaged 2.7 mgd and ranged from 2.5 mgd (2019, 2022, and 2023) to 3.3 mgd (2020). MDD occurred in July, August, or September over this period and these months, in addition to June, are considered the City's peak season when demand is greatest. MDD is an important value for water system planning. Water rights and supply facilities (e.g. treatment plants, pipelines, and reservoirs) must be capable of meeting a city's MDD. If the MDD exceeds the combined supply capacity on any given day, finished water storage levels will be reduced, and if the MDD exceeds combined supply capacity on several consecutive days, a water shortage may occur.

Weather patterns and the economy strongly influence MDD. Weather patterns that can cause fluctuations in MDD from year to year include extreme ambient temperatures, the number of consecutive days with high temperatures, overall rainfall levels during the summer, and consecutive days without rainfall. Unusually hot and/or dry weather results in more outdoor irrigation, which increases the MDD. The economy can affect MDD by

influencing customer spending on irrigation, the number of new homes with landscapes needing intense irrigation for plant establishment, the opening or closing of facilities that use water in their operations, and seasonal business cycles.

Based on the ratio of MDD to ADD, the City's peaking factor averaged 2.2 from 2019 to 2023. Relative to other water providers in the area, Sandy's peaking factor was slightly greater than averages for Clackamas River Water (1.9 from 2016 to 2020)⁴ and the cities of Lake Oswego (2.5 from 2003 to 2017)⁵ and Tigard (2.0 from 2002 to 2017)². A peaking factor can be an important tool used in demand forecasting and in developing targeted water conservation measures.

2.6.1 Monthly Demand

The City's monthly demands are cyclical and fluctuate with the seasons, the lowest monthly (base) demands occurring during the winter and highest (peak) in the summer. Most of the increase between the base and peak seasons results from outdoor uses of water primarily. Exhibit 2-3 presents these monthly volumes and shows these seasonal variations.

The exhibit also shows the monthly volume allocated by source of supply, except for January and February of 2019, where use by source was not available and estimated. The City's use of Alder Creek has increased over this period, offsetting declines in wholesale purchases from PWB near the end of the period. Since mid-2022, Alder Creek has been used to meet the majority of the City's system demands, meeting 56 percent of system demand in 2023. The City's Brownell Springs source of supply has been used consistently over this period except for two four-month periods in 2019 and 2020. Since 2021, the City's use of this spring complex increases during peak season, defined as June through September, to supplement the City's other supply sources. The City has been regulated off this source of supply in favor of more senior rights, as further described below. In 2023, Brownell Springs met 20 percent of demand and water from the PWB was used to supplement 24 percent of demand.

⁴ Clackamas River Water, Water Management and Conservation Plan (2020), GSI Water Solutions, Inc.

⁵ City of Lake Oswego, Water Management and Conservation Plan (2023), GSI Water Solutions, Inc.

Exhibit 2-3. Monthly Demand by Source of Supply, 2019-2023

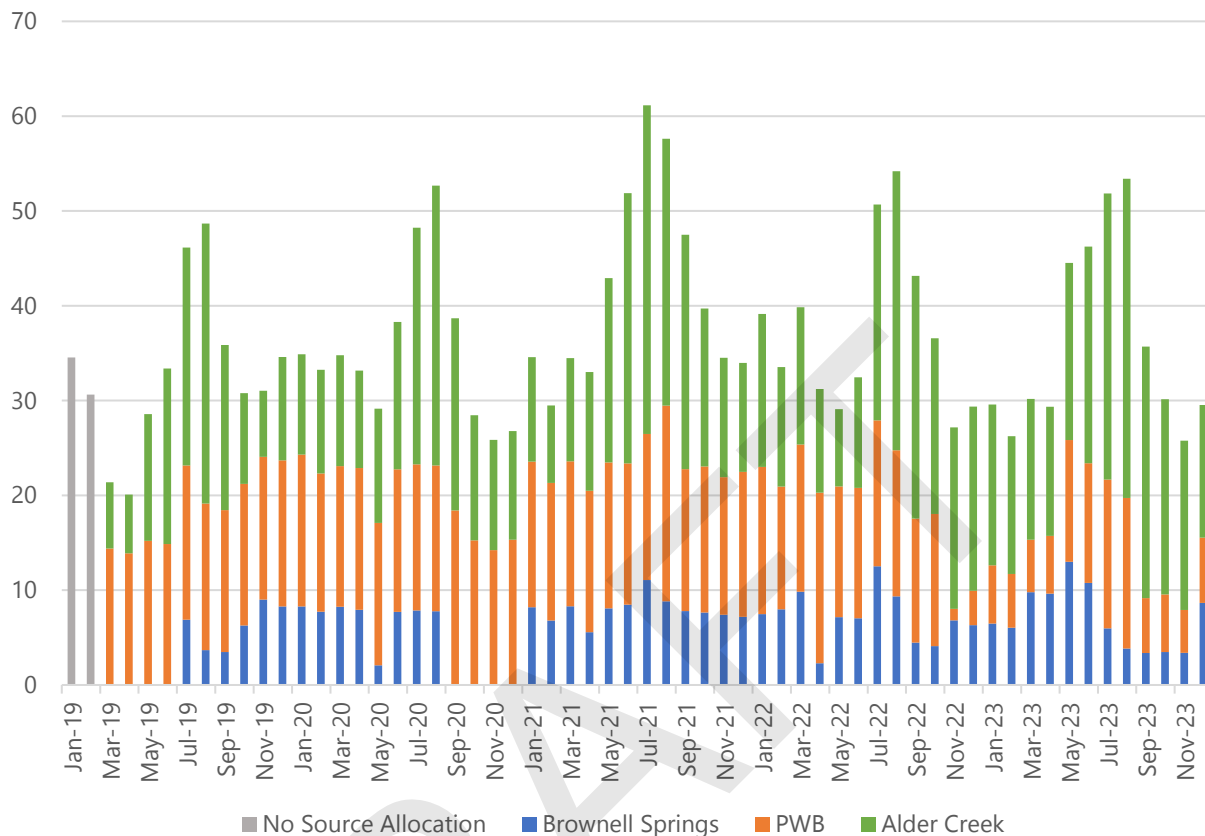
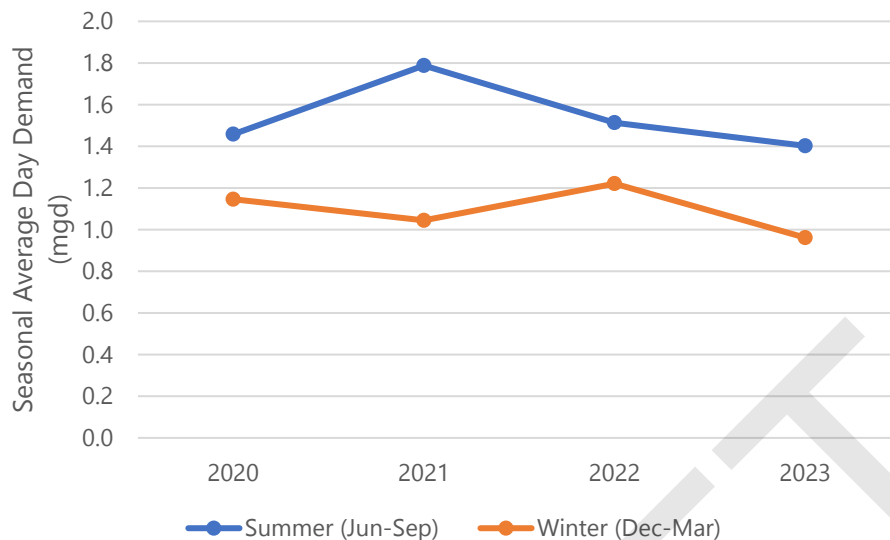


Exhibit 2-4 compares the base and peak seasons from 2020 through 2023 as measured using ADD, with the winter season ADD defined by demands from December to March and the summer season defined by demands in June through September. The winter ADD ranged from 1.0 mgd (2021 and 2023) to 1.2 mgd (2022) and summer ADD ranged from 1.4 mgd (2023) to 1.8 mgd (2021). During this period, the average of the City's ADD in the summer was approximately 1.4 times greater than the average of the City's ADD in winter. The difference between seasons is largely attributable to water demand for outdoor uses of water during the summer months, as previously described.

Exhibit 2-4. Seasonal ADD, 2020-2024



2.7 Customer Characteristics and Use Patterns

One of the major contributors to system demand is metered customer demand. This section describes the historical water use characteristics of the City's metered customers by account type, including the timing of use by the City's customers, differences of use among customer types, and trends of use. This information is helpful to the City when developing its water conservation program and its curtailment plan, among other benefits.

2.7.1 Customer Description

For billing purposes, the City categorizes its customer accounts into four primary classes: single-family residential, multi-family residential, commercial/industrial, and wholesale. Single-family residential accounts are defined as customers with one primary meter that serves one dwelling unit. Multi-family accounts include properties with two to four units per property. Properties with greater than four units are categorized as commercial/industrial accounts. The City has some accounts that it serves located outside of City limits that are categorized as "outside" accounts. These outside accounts are subsets of the City's primary account classes.

Exhibit 2-5 shows the number of accounts by class in 2023. The City's single-family residential and single-family residential outside accounts make up the largest class with 3,721 accounts.

In comparison to the number of accounts in 2014, the last year of available data in the City's 2016 WMCP, the count of residential customer accounts has increased by 16 percent, multi-family accounts increased by 5 percent from 2014 to 2023, commercial-industrial and commercial-industrial outside the City limits decreased by 43 percent. Wholesale accounts remained constant.

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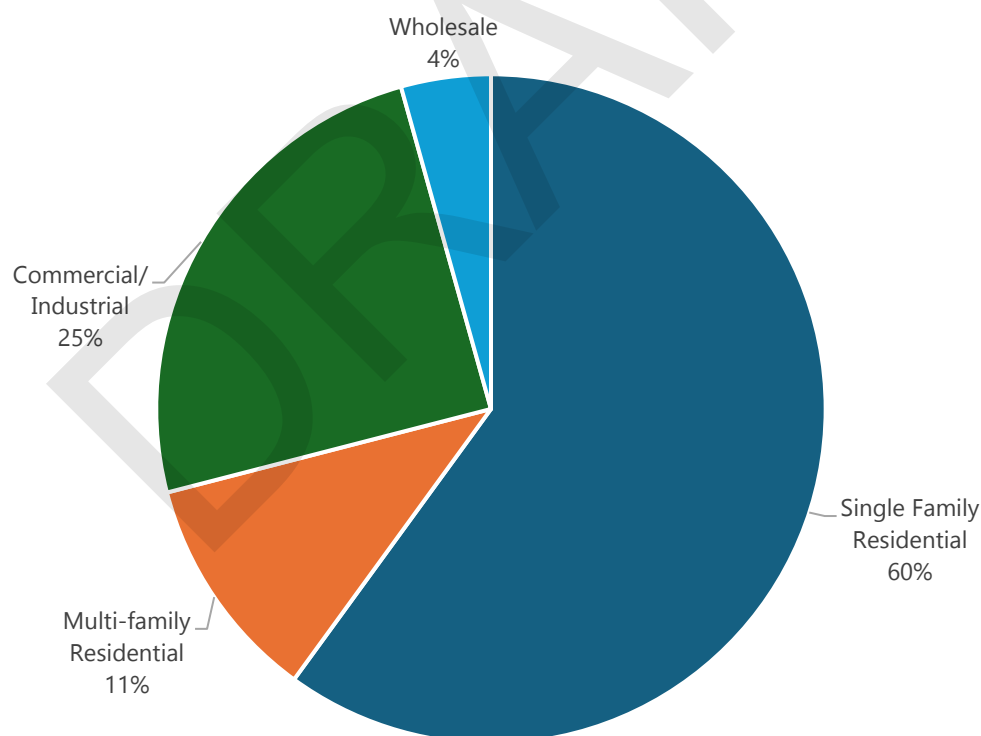
Exhibit 2-5. Count of Customers by Account Type, 2023

Account Type ¹	Count
Single-family Residential	3,644
-Outside	77
Multi-family	91
Commercial-Industrial	262
-Outside	20
Wholesale	2
Total	4,094

¹The counts displayed for the "outside" account types are separate from the primary account types for which they are a subset.

Exhibit 2-6 shows the percent of consumption in 2023 by each account type, with the single-family residential class consuming 60 percent of all water consumed, representing the greatest volume of water in this year. Consumption by this account type has been consistently the largest of any of the City's account types. Water conservation efforts targeting all customer categories would be beneficial, but particularly targeting single-family residential customers could be most cost-effective.

Exhibit 2-6. Percent of Annual Consumption by Customer Account Type, 2023



2.7.2 Annual Consumption

Annual consumption by account type is shown in Exhibit 2-7 ranging from 2006 to 2023. Data from 2006 to 2020 was obtained from the City's 2021 WMCP Progress Report. Consumption for 2021 through 2023 was obtained from reports produced by the City's utility billing system in 2024.

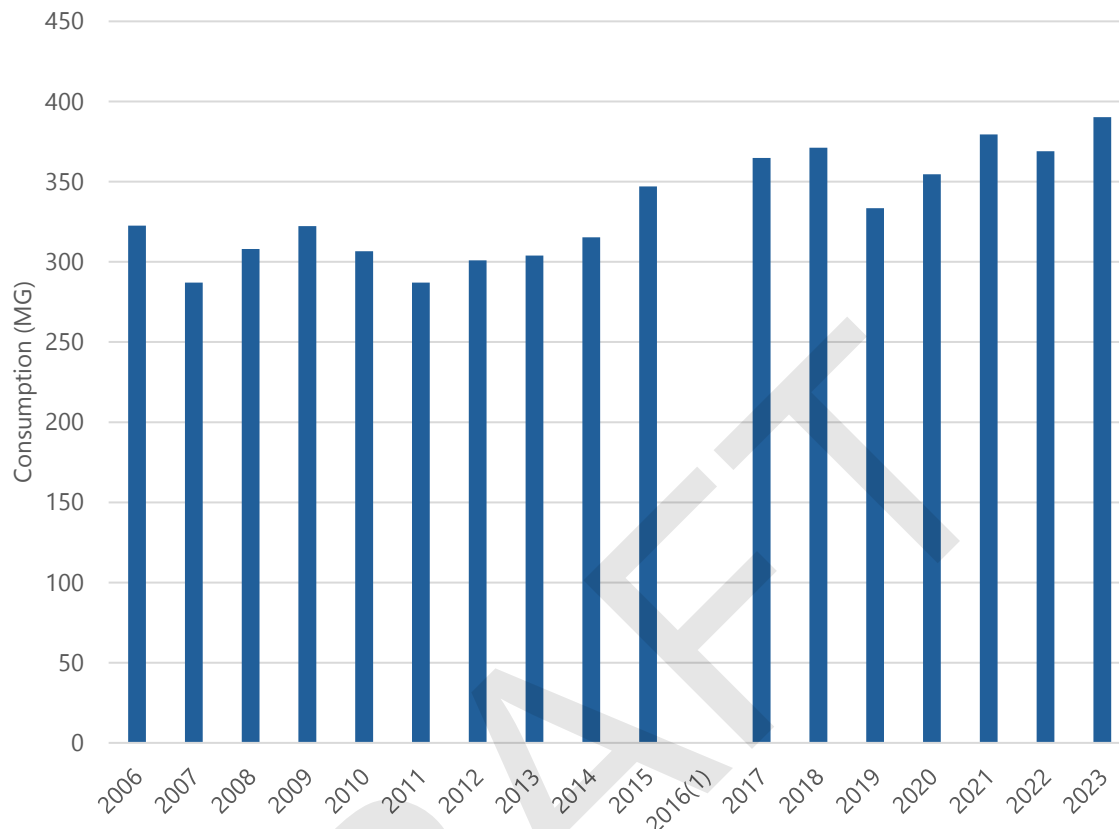
Exhibit 2-7. Consumption by Customer Class, 2006-2023 (MG)

	Single-family Residential	Multi- family Residential	Commercial/ Industrial	Wholesale	Total
2006	185.8	38.3	92.9	5.6	322.6
2007	176.3	35.9	71.0	3.9	287.1
2008	189.3	37.5	74.3	6.9	308.0
2009	202.8	38.8	72.8	7.9	322.3
2010	190.4	36.1	72.1	8	306.6
2011	186.6	33.1	60.0	7.4	287.1
2012	198.2	32.6	61.2	8.9	300.9
2013	198.3	34.9	63.6	7.1	303.9
2014	203.8	35.0	69.4	7.1	315.3
2015	231.7	34.4	67.6	13.3	347.0
2016¹	-	-	-	-	-
2017	232.9	35.8	80.4	15.7	364.8
2018	234.3	36.4	86.3	14.2	371.2
2019	208.9	33.2	80.3	11.1	333.5
2020	229.4	38.5	71.1	15.6	354.6
2021	236.4	36.9	88.8	17.4	379.5
2022	223.8	40.0	87.7	17.5	369.0
2023	234.2	42.8	96.4	16.9	390.3

¹Consumption data by customer category was not available for the months of August through November 2016 due to a change in billing software.

Over time, total consumption has increased, as shown in Exhibit 2-8. Comparing the average total consumption for 2006 to 2009 and 2021 to 2023, the City's total consumption has increased approximately 24 percent.

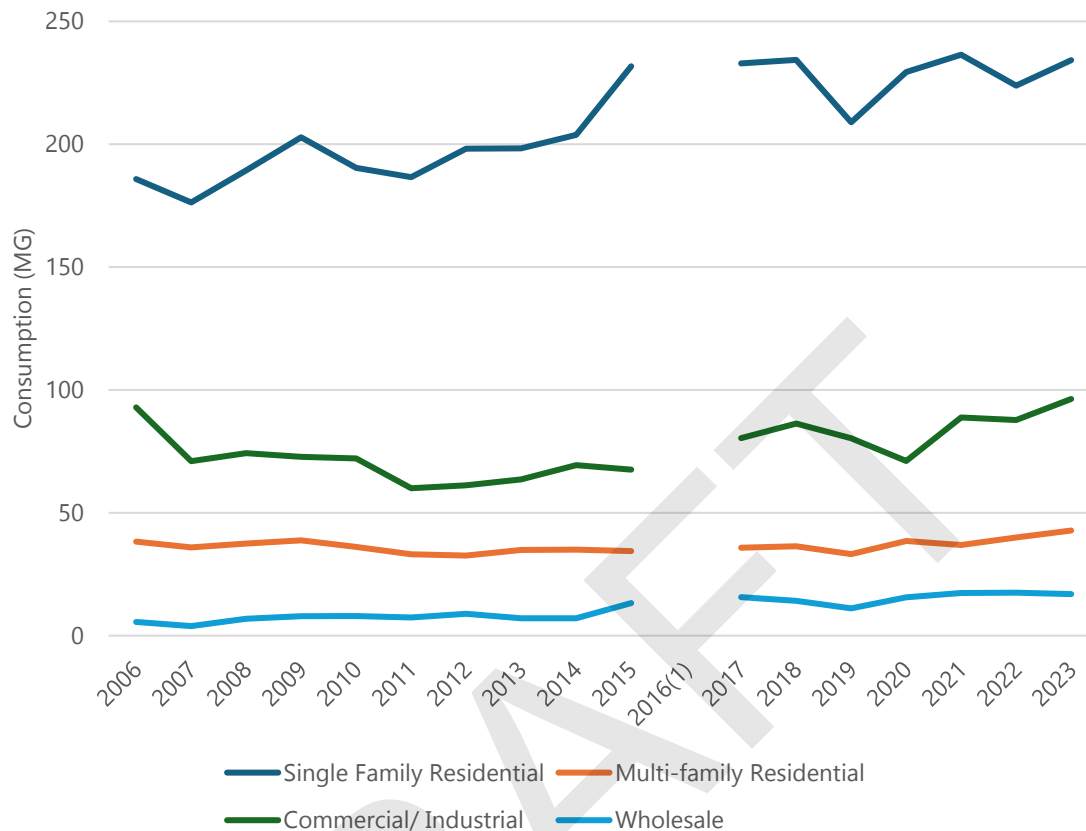
Exhibit 2-8. Total Annual Consumption, 2006-2023



¹Consumption data by customer category was not available for the months of August through November 2016 due to a change in billing software.

Exhibit 2-9 graphs consumption by customer account type over an 18-year period and shows an increase for each account type. The increasing trend in consumption of single-family residential accounts is likely due to the increasing number of active accounts in this class. Though consumption of the commercial/industrial accounts decreased early in this period, consumption of this class shows a recovery by 2023, with 2023 slightly exceeding all annual historical volumes. The increase in consumption of the commercial/industrial accounts was due to the City's meter replacement program that replaced inaccurate meters with new accurate meters. Wholesale accounts produced a slight overall increase in consumption, whereas consumption by the City's multi-family customers remained consistent.

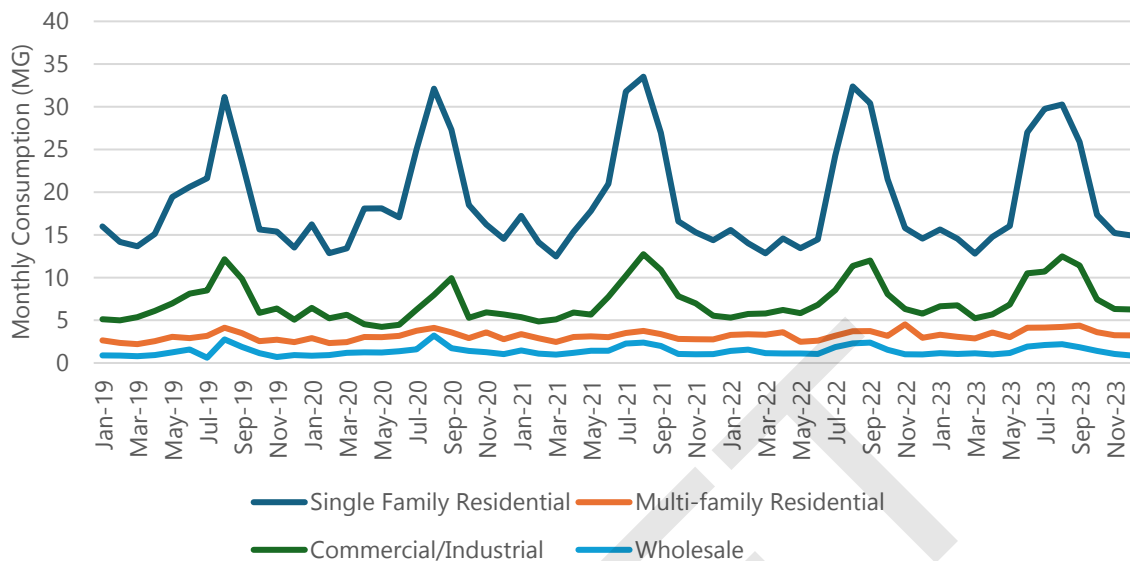
Exhibit 2-9. Consumption by Account Type, 2006-2023



¹Consumption data by customer category was not available for the months of August through November 2016 due to a change in billing software.

Exhibit 2-10 provides a more detailed look at consumption by presenting monthly use by account type.

Exhibit 2-10. Monthly Consumption by Account Type, 2019-2023



Consumption for each of the customer classes follows a seasonal pattern, with increases in the summer months and decreases during the winter months. Previous exhibits graphing monthly demands reflect these monthly changes. Seasonal increases are likely attributed to outdoor water use for all the account types, with the residential class increasing use in the summer the most. Consumption by the City's commercial/industrial customers is largely reflective of seasonal business cycles.

2.8 Water Loss

Water loss is a component of system demand. To calculate water loss, the City compared annual volumes of consumption to demand for 2020 through 2023 as shown in Exhibit 2-11. Within the consumption category, the City included volumes of process water and bulk water in addition to metered volumes attributed to service connections. Process water is water used at the City's WTP to maintain the integrity and efficiency of the plant filters. The City meters its use of process water. Bulk water includes water obtained at City fire hydrants for the use at construction projects (e.g. dust suppression), water hauling, hydro-seeding operations, and general construction. Temporary meters are installed on hydrants during fill-ups associated with these bulk water uses to record volumes dispensed. Starting in 2023, the City initiated a rigorous program to better track use and record these volumes. Prior to 2023, the City estimated these volumes, which are thought to be overly conservative.

The City believes that both apparent and real losses contributed to the water losses shown in Exhibit 2-11. Apparent losses could include unauthorized consumption, meter inaccuracies, and data handling errors. The City is unaware of any unauthorized consumption at this time. Real losses include system leakage, evaporation, and overflows.

Exhibit 2-11. Water Loss, 2020 to 2023

	Demand (MG)	Consumption (MG)			Estimated Loss	
		Service Connections	Process Water ¹	Bulk Water ²	Volume (MG)	Percent
2020	424.1	354.6	1.5	0.5	67.5	15.9%
2021	500.8	379.5	1.5	0.5	119.3	23.8%
2022	446.4	369.0	1.6	0.5	75.3	16.9%
2023	432.5	390.2	1.6	1.1	39.6	9.2%

¹ Water used at the WTP for facility maintenance and operations.

² Consumption at temporary connections at hydrants.

In 2022 and 2023, the City identified and repaired three major leaks, resulting in a substantial decrease in loss. These repairs included the following.

- Revenue Avenue reservoir level reading equipment was replaced, eliminating overflows of approximately 100,000 to 200,000 gallons per day.
- Leak repair in the foundation of Sandercock Lane reservoir.
- Distribution system line leak repair was conducted along Bluff Road, reducing loss by approximately 1 percent (4.3 MG per year).

These repairs, coupled with the City's ongoing implementation of other components of its water loss reduction program, reduced loss to 9.2 percent in 2023, which was below OWRD's goal of 10 percent for water providers.

2.9 Water Rights

Exhibit 2-12 provides detailed information about the City's municipal water rights. The City holds three water right certificates for the use of water from Brownell Springs. Certificate 5427 is for the use of up to 0.2 cfs, Certificate 26132 is for the use of up to 0.7 cfs, and Certificate 91156 is for the use of up to 0.3 cfs for municipal purposes. The City holds Certificate 93884 for the use of up to 4.0 cfs from Alder Creek.

The City also holds Permit S-48451 for the use of up to 25.0 cfs from the Salmon River. This is an extended permit with a completion date of October 1, 2069.

Exhibit 2-13 provides information about Certificate 41492 which is a non-municipal water right for the use of up to 0.01 cfs from a spring. This certificate authorizes domestic use for one family. The City does not deliver water through its municipal distribution system for municipal customer supply under this water right.

Exhibit 2-14 shows water use by source of supply from 2020 to 2023.

Exhibit 2-12. Municipal Water Rights

Application	Permit	Certificate	Source	Priority Date	Completion Dates	Type of Beneficial Use	Maximum Instantaneous Rate Allowed	Maximum Rate of Diversion	Maximum Annual Volume of Diversion
S-9669	S-6597	5427	Brownell Springs	7/11/1924	---	Municipal	0.2 cfs	0.2 cfs	151.6 MG
S-27810	S-21879	26132		11/10/1952	---	Municipal	0.7 cfs	0.7 cfs	
S-47254	S-35394	91156		7/23/1970	---	Municipal	0.3 cfs	0.3 cfs	
S-48840	S-36601	93884	Alder Creek	11/11/1971	---	Municipal	4.0 cfs	4.0 cfs	306.2 MG
S-65051	S-48451	---	Salmon River	4/28/1983	10/1/2069	Municipal	25.0 cfs	0 cfs	0 MG

Exhibit 2-13. Non-Municipal Water Right

Source	Application	Permit	Certificate	Priority Date	Type of Beneficial Use	Authorized Rate (cfs)
A spring, tributary of Cedar Creek	S-47255	S-35395	41492	7/23/1970	Domestic use for one family	0.01

Exhibit 2-14. Average Monthly and Daily Diversions by Source, 2020-2023

Source	Application	Permit	Certificate	4 Year Monthly Average Diversions (MG) (1)				4 Year Daily Average Diversions (MG) (1)			
				2020	2021	2022	2023	2020	2021	2022	2023
Brownell Springs	S-9669	S-6597	5427	4.80	7.95	7.11	7.03	0.16	0.26	0.24	0.23
	S-27810	S-21879	26132								
	S-47254	S-35394	91156								
Alder Creek	S-48840	S-36601	93884	15.17	18.23	17.41	20.36	0.51	0.61	0.58	0.68
Salmon River	S-65051	S-48451	---	0	0	0	0	0	0	0	0

(1) Diversions for 2019 are not included because the City was not able to access this information for this WMCP.

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2.9.1 Aquatic Resource Concerns

OAR 690-086-140(5) requires municipal water suppliers to identify the following for each of its water sources: 1) any listing of the source as water quality limited (and the water quality parameters for which the source was listed); 2) any streamflow-dependent species listed by a state or federal agency as sensitive-threatened or endangered that are present in the source; and 3) any designation of the source as being in a critical groundwater area.

1. Water Quality

The City's sources of supply authorized by its water rights are Alder Creek, Brownell Springs, and the Salmon River.

Every two years the Oregon Department of Environmental Quality's (DEQ) is required to assess water quality and report to the Environmental Protection Agency on the condition of Oregon's waters. The Clean Water Act, Section 303(d) requires DEQ to identify waters that do not meet water quality standards and where a Total Maximum Daily Load (TMDL) that identifies a pollutant load limit needs to be developed. Water quality parameters may be removed from the 303(d) list when TMDLs or other control measures have been established that are expected to improve water quality, when the data shows water quality has improved, and in some cases when water quality standards are revised. The City reviewed DEQ's 2022 Integrated Report for the water quality status of the streams used as sources of supply by Sandy.

The City's point of diversion (POD) on Alder Creek is at approximately River Mile (RM) 1, located in Assessment Unit OR_WS_170800010401_02_103643 within the Wildcat Creek-Sandy River subwatershed. Alder Creek is listed by DEQ as water quality limited for temperature.

The City's POD on the Salmon River is at approximately RM 7.5, located in Assessment Unit OR_SR_1708000107_02_103616. At this location, the Salmon River is listed by DEQ as water quality limited for pH; temperature, year-round; alkalinity, aquatic life toxics; iron (total), aquatic life toxics; and copper, aquatic life toxics.

The Brownell Springs PODs are located at the headwaters of Beaver Creek, a tributary of Cedar Creek, which flows into the Sandy River. Beaver Creek is within the Cedar Creek-Sandy River subwatershed and is not listed as water quality limited.

2. Listed Streamflow-Dependent Species

Exhibit 2-15 shows the fish species listed under the state and federal endangered species acts in the lower Columbia River, Sandy River, and Salmon River drainages (Hydrologic Unit Code 17080001 subbasin).

Exhibit 2-15. Listed Fish Species¹

Species	Common Name	Evolutionarily Significant Unit (ESU) (if applicable)	Federal Listing	State Listing
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<i>Oncorhynchus tshawytscha</i>	Chinook	Lower Columbia River ESU (fall and spring runs)	Threatened	Sensitive "Critical"
<i>Oncorhynchus mykiss</i>	Steelhead	Lower Columbia River ESU, (winter run)	Threatened	Sensitive "Critical"
<i>Oncorhynchus keta</i>	Chum	Columbia River – Oregon ESU	Threatened	Sensitive "Critical"
<i>Oncorhynchus clarkii</i>	Coastal Cutthroat Trout	Southwestern Washington/Columbia River ESU	--	Sensitive "Vulnerable"
<i>Oncorhynchus kisutch</i>	Coho	Lower Columbia River ESU	Threatened	Endangered
<i>Lampetra richardsoni</i>	Western Brook Lamprey	--	--	Sensitive "Vulnerable"
<i>Lampetra tridentate</i>	Pacific Lamprey	--	Petitioned for listing	Sensitive "Vulnerable"
<i>Thaleichthys pacificus</i>	Pacific Eulachon	Southern DPS, including the Columbia River system	Threatened	--

1 The fish species listed in this exhibit are from all of the sources combined, such that not all of the species listed are found in each source.

Sources:

Federal ESA listed species (T&E), from NOAA Fisheries Office of Protected Resources:

<http://www.nmfs.noaa.gov/pr/species/esa/fish.htm>

and http://www.westcoast.fisheries.noaa.gov/maps_data/species_population_boundaries.html

Federal Sensitive species, from the Interagency Special Status/Sensitive Species Program for Oregon and Washington State:

<http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>

Oregon State ESA listed species, from the Oregon Department of Fish & Wildlife:

http://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp

Oregon State Sensitive Species, from the Oregon Department of Fish & Wildlife:

http://www.dfw.state.or.us/wildlife/diversity/species/sensitive_species.asp

Federal Species of Concern, from the U.S. Fish & Wildlife Service, Oregon Fish & Wildlife Office:

<http://www.fws.gov/oregonfwo/Species/Data/PacificLamprey/default.asp>

ODFW's Division 315 Evaluation of Fish Persistence for Municipal Extension City of Sandy Application Number S-65051

3. Critical Groundwater Area

The City does not have groundwater rights and thus is not directly affected by its location within the Sandy/Boring Groundwater Limited Area.

2.10 Evaluation of Water Rights/Supply

As previously described, the City's sources of water supply are Alder Creek, Brownell Springs, and wholesale water from the PWB. The following is an analysis of the adequacy and reliability of these water sources.

2.10.1 Alder Creek and Brownell Springs

The City's Alder Creek water right allows for the use of up to 4.0 cfs and its Brownell Springs water rights allow for the use of up to 1.2 cfs, for a total of 5.2 cfs (3.37 mgd). However, the City's ability to divert the full 5.2 cfs is limited by streamflows and periodically limited by water rights that are senior to those held by the City.

1. Source Reliability

One of the primary measures that the City uses to evaluate the reliability of Alder Creek as a source of supply is the consistency by which streamflows allow for the City's use of Certificate 93844 (4.0 cfs). The City recently conducted a streamflow monitoring study⁶ that included nine monitoring events from August 2023 to June 2024 and compared the results to the City's authorized rate of diversion. Over the duration of the study, streamflows exceeded 4.0 cfs at each monitoring event except one that showed a flow of 3.77 cfs. Based on this data, the City developed a streamflow model that the City used to predict the frequency at which historical streamflows were less than 4.0 cfs. The model predicted that average water year flows should remain above 4.0 cfs. However, this model also suggested that flows in 39 of the previous 62 years were lower than 4.0 cfs for an average of 31 days per year. Low flows (defined here as below 4.0 cfs) are most likely to be observed from August 1 to November 1. Thus, Alder Creek is a reliable source of supply generally based on streamflow, however the creek may not be able to support a maximum rate of diversion of 4.0 cfs during dry water years in late summers and early falls.

According to the City's 2022 WSMP, Brownell Springs reliably produces approximately 0.46 cfs (0.3 mgd). This rate is less than the City's combined rates of its three certificates for Brownell Springs of up to 1.2 cfs.

2. Regulatory Reliability

The City's Alder Creek water right Certificate 93884 has a priority date of November 11, 1971, and is junior in priority date to four surface water rights that name Alder Creek as the authorized source. Of the four water rights, two are small domestic use water rights (0.01 and 0.005 cfs, respectively), and another is a non-consumptive power water right downstream of the City's POD. The fourth is a domestic use water right for 1.0 cfs that is in the name of Alder Creek Water Company, which is now held by Alder Creek-Barlow WD. The Alder Creek-Barlow WD has not been using its water right on Alder Creek and fully relies on Sandy for wholesale purchases to meet its system demands. There is no history of water use regulation on Alder Creek. The City's Certificate 93884 is senior to instream water right Certificate 72636, which has a 1991 priority date and protects flows in the reach from RM 2.0 to the mouth of Alder Creek. The City's Certificate 93884 is also senior to instream water rights Certificate 73015 and Certificate 75992 on the lower Sandy River, which have 1991 and 1992 priority dates, respectively. Based on this information, the City can rely on the supply

⁶ Alder Creek Rating Curve Technical Memorandum (June 19, 2024), David Evans and Associates, Inc.

available under Certificate 93448 from Alder Creek not being subject to regulation for existing water rights.

The City's three water rights on Brownell Springs have priority dates of 1924, 1952 and 1970. According to OWRD's web-based water rights database, there are no other water rights for use of Brownell Springs and no senior water rights for "a spring" that is the headwaters to Beaver Creek. In addition, the City's 1924 priority water right for 0.2 cfs is the most senior right on Beaver Creek and the Cedar Creek system. The City's 1952 water right for 0.7 cfs is junior in priority to two small water rights on Beaver Creek (0.01 and 0.26 cfs respectively) and to two small water rights on Cedar Creek (0.03 cfs and 0.01 cfs respectively). However, the City's 1952 water right for 0.7 cfs and the 1970 water right for 0.3 cfs are junior to the Oregon Department of Fish and Wildlife's (ODFW) 25.0 cfs water right for fish propagation (hatchery) with a priority date of 1949. The State of Oregon Watermaster has curtailed the City's use of these two junior rights during five of the last six years (since 2018) in favor of ODFW's water right, allowing the City access only to its 0.2 cfs water right. The Brownell Springs water rights are senior to instream water right Certificate 72630, which protects instream flows in the reach from Cedar Creek's confluence with Beaver Creek to the mouth of Cedar Creek. The Brownell Springs water rights are also senior to instream water right Certificate 73015 and Certificate 75992 on the lower Sandy River. Based on this information, the City can only rely on 0.2 cfs from Brownell Springs to meet water supply needs during the peak season.

2.10.2 Salmon River

The City holds Permit S-48451 for the use of up to 25.0 cfs from the Salmon River, which is currently undeveloped and has an extension of time to October 1, 2069. The Salmon River was designated as a federal Wild and Scenic River in 1988 and is managed by the Bureau of Land Management and the U.S. Forest Service. Management standards for the Wild and Scenic River are detailed in the Salmon National Wild and Scenic River Management Plan (USFS, 1993). This water right is intended to provide a long-term water supply to accommodate the City's growth. In the Agreement for Instream Conversion (executed October 24, 2002) associated with Portland General Electric's decommissioning of the Marmot dam (PGE Agreement), the City voluntarily agreed to reduce this permit from 25.0 cfs to 16.3 cfs when the flow available in the Sandy River near Marmot, OR is 600 cfs or less. The City can still divert up to 25.0 cfs when the flow available is more than 600 cfs. There are no gages currently operating near Marmot, OR that can provide a picture of the flow regime in the Sandy River at that location. Regardless, the City understands that 600 cfs will not frequently be met.

In addition, as part of the extension of time for Permit S-48451, there are two sets of conditions placed on the permit. "Condition A" pertains to any POD upstream from the confluence of the Salmon River and Boulder Creek. Under "Condition A," the City cannot divert water between August 16 and October 31; diversions between March 1 through August 15 are subject to the PGE Agreement; and diversions from November 1 through February 29 will be reduced if the target flows of 129 cfs or the average flow for the previous

October, whichever is less, is not met. Diversions from November 1 through February 29 are also subject to the PGE Agreement. "Condition B" pertains to any POD downstream from the confluence with Boulder Creek. Under "Condition B," the City's diversions are only subject to the PGE Agreement. Under "Condition A" and "Condition B," the City must also provide OWRD with an executed agreement between the City and ODFW specifying fish passage requirements that ensure adequate upstream and downstream passage.

The Salmon River water right is junior to several very small domestic water rights. These rights range from 0.005 cfs to 0.1 cfs. Streamflow records from a U.S. Geological Survey gage in the vicinity (14135500, Salmon River Above Boulder Creek near Brightwood, OR), with a record period from 1936 to 1952, show that the lowest streamflows met or exceeded 97 cfs 50 percent of the time. Permit S-48451 is senior to instream water right certificates 72636 and 72637, which have priority dates of 1991 and protect water instream from RM 16.3 to the mouth of the river. The Salmon River is a tributary to the Sandy River and Permit S-48451 is also senior to the two instream water rights on the lower Sandy River. Based on existing data and considering other senior water rights, it appears that the Salmon River source would be reliable for meeting the City's long-term supply needs to accommodate growth. However, until the City determines where it will locate the POD, the reliability of water under Permit S-48451 is unclear with respect to the required permit conditions.

2.10.3 Bull Run River via the PWB

The City uses water from the PWB as a supplemental water supply, particularly when its use of Brownell Springs is regulated back and when Alder Creek flows are insufficient. The PWB water source is also a redundant supply if the City's water sources were to become unavailable. The PWB can provide Sandy water from Bull Run Lake and two reservoirs that impound water from the Bull Run River. This supply is generally reliable, however water quality may be degraded from events such as fires, landslides, or storms in the watershed. The PWB does not offer a backup supply to Sandy if water from the Bull Run Watershed is not available. The reliability of the PWB water is described in detail in the PWB's WMCP.

Overall, the City's MDD exceeds its own supplies due to regulation of Brownell Springs and low flows during peak season of Alder Creek. However, the City maintains an adequate and reliable supply with the use of water from PWB to supplement its own sources.

2.11 System Description

Exhibit 2-1 presents a schematic of the City's water sources, WTP, and major water distribution components. The City's POD on Alder Creek is located approximately 7 miles east of the City and 1 mile upstream from its confluence with the Sandy River. The concrete intake structure has a fish screen to prevent fish entrapment. The City also maintains water quality monitoring equipment that measures water temperature, turbidity, conductivity, and flow rates. Water diverted from Alder Creek is pumped by low-lift pumps to the Alder Creek WTP, which is located approximately 4,000 feet downstream of the POD. The Alder Creek WTP is a filtration treatment plant constructed to treat up to 2.6 mgd, however the City estimates the WTP capacity is currently 1.4 mgd due to the condition of several components.

The City plans to expand the WTP to a maximum operating capacity of 4.0 mgd by September 2027. After filtration and chlorination at the WTP, the water is pumped to Terra Fern Road Reservoir (0.25 MG).

Water is diverted from Brownell Springs using open bottom concrete boxes that are built into the slope of Lenhart Butte. Water in these boxes is gravity-fed to a common holding tank. Water diverted from Brownell Springs is then chlorinated and blended with water pumped from the Terra Fern Road Reservoir (0.25 MG). The blended water is conveyed to Sandercock Lane Reservoir (0.5 MG) and the two Vista Loop Road Reservoirs (2.0 MG and 1.0 MG), at which point it flows by gravity to the majority of the City's water distribution system.

The City connects to the PWB system at the Hudson Road Intertie site. About 1,000 feet southeast of the connection on Hudson Road, the City has a booster pump station that pumps the PWB water through approximately 27,000 feet of 18-inch and 24-inch diameter pipe to a 1.0 MG reservoir on Revenue Avenue in the City. Another pump station then pumps water from the 1.0 MG reservoir up to the Vista Loop Reservoirs. The PWB is constructing a new WTP near the City's existing intertie site. The City will construct transmission and pumping infrastructure to connect to this WTP and this connection will serve as the City's primary means by which water is conveyed to Sandy from the PWB.

3. Water Conservation Element

This section addresses OWRD's water conservation element requirements by describing the City's progress meeting historical conservation measures benchmarks and providing future conservation measures and associated benchmarks and additional conservation measures to be implemented by the City.

3.1 Current Conservation Measures

3.1.1 Progress Report

This is the City's third WMCP. The City submitted a five-year progress report to OWRD in 2021 describing the City's progress on meeting the conservation benchmarks presented in its 2016 WMCP. Exhibit 3-1 provides an update on the City's progress toward meeting these 2016 benchmarks.

3.2 Use and Reporting Program

The City's water measurement and reporting program complies with OWRD's measurement and reporting standards in OAR Chapter 690, Division 85.

The City currently measures water demand using four ultrasonic master meters. These master meters are located at the Alder Creek WTP, Brownell Springs diversion, Hudson Road pump station, and Revenue Avenue pump station.

The City submits monthly water use measurements to OWRD on an annual basis. Annual reporting is for the previous water year (October 1 to September 30). The City's water use records can be found at the OWRD website

(http://apps.wrd.state.or.us/apps/wr/wateruse_report/).

3.3 Required Conservation Programs

During the next five years, the City plans to initiate, continue, or expand the following conservation measures that are required of all municipal water suppliers when a condition of a water use permit, permit extension, or another order or rule requires a WMCP:

- Annual water audit
- System-wide metering
- Meter testing and maintenance
- Water rate structure
- Water loss analysis
- Public education

The following sections describe how the City is meeting these required water conservation measures and how the City intends to expand its conservation program. Benchmarks for these measures are provided. These benchmarks are designed to be met within five years

unless otherwise noted. Exhibit 3-2 aggregates these measures and benchmarks into one table.

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 to identify leaks in the system, and authorized and unauthorized water uses, metered or estimated. The water audit also includes analysis of the water supplier's own water use.

The City conducts monthly audits to closely monitor system water losses. This data is aggregated periodically to estimate annual water losses. The City's water loss was 9.2 percent in 2023.

The City Parks Department implemented the following measures to increase the efficiency of its own use of water: (1) installed rain sensors at some City parks to avoid unnecessary irrigation during or following precipitation events, (2) installed activation delays and timers on splash pad water features to prevent constant flow at these features, and (3) continues to adjust park irrigation schedules to meet the needs of the irrigated plants and grass based on predicted weather.

The City's water audits include diversions from Brownell Springs. Most of the water produced at Brownell Springs enters the City's distribution system; however, there are three connections along the transmission line near the springs located downstream of the master meter measuring springs diversions. These connections allow spring water to meet the needs of approximately 10 private residences. In 2024, the City began recording metered volumes of water for these residences and incorporated an estimate of the annual usage for its 2024 water audit based on several months of metered data.

Benchmarks:

- Continue to collect and perform monthly audits and aggregate this data to monitor annual water losses.
- By 2027, incorporate into the annual water audit, the usage of customers connected to the Brownell Springs transmission line.
- Continue to analyze the City's own use of water to identify possible alternatives to increase efficiency.

Exhibit 3-1. Water Conservation Progress Report

Required Conservation Measures	2016 Conservation Measures Benchmarks	2021 Status	2025 Status
Annual Water Audit	The City will continue to conduct an annual water audit.	The City conducts monthly audits of production versus consumption, and will aggregate the monthly data into annual water audits.	Monthly audits are conducted comparing production to consumption and annual aggregation of monthly data is performed.
	In the next two years, the City will investigate its billing software for potential sources of accounting errors.	A new billing (UB) software system was installed in August 2016 which eliminated the accounting errors that were observed in the City's previous system.	Active monitoring for accounting errors continues to occur, and investigations are conducted upon discovery. Errors were rectified, resulting in fewer anomalies post-installation of the new UB software.
System-wide Metering	The City will continue to install AMI (Advanced Meter Infrastructure) meters on all new connections.	AMI meters are installed on all new connections.	All customer meters within city limits use AMI technology. Current efforts are being made to add AMI metering to additional extra-jurisdictional connections.
	In the next five years, the City will complete a cost-benefit analysis of replacing all non-AMR meters with AMR meters and will decide how to proceed with meter replacement.	The cost-benefit analysis was completed in 2019, and all non-AMI meters have been replaced with AMI meters.	Benchmark has been met.
Meter Testing and Maintenance	The City will continue its meter testing and maintenance program. In the next five years, the City will begin to track the number of meters that it replaces at existing connections.	Tracking the number of replaced meters was performed during installation of AMI meters. The average age of meters system-wide is now less than two years.	Benchmark has been met.
	In the next five years, the City will complete a cost-benefit analysis of replacing all non-AMR meters with AMR meters and will decide how to proceed with meter replacement.	The cost-benefit analysis was completed in 2019, and all non-AMI meters have been replaced with AMI meters.	Benchmark has been met.
Water Rate Structure and Billing Practices that Encourage Conservation	The City will continue to bill customers based on the quantity of water metered at the service connection.	Billing continues to be based, in part, on the quantity of water metered at each service connection.	Billing continues to be based, in part, on the quantity of water metered at each service connection.
	The City will continue to bill its customers monthly and to periodically include water conservation messages in utility bills.	Billing continues to occur monthly, and water conservation messaging is included in utility bills seasonally.	Billing continues to occur monthly, and water conservation messaging is included in utility bills seasonally.
Leak Detection	The City will continue to conduct its leak detection and repair program.	Leak detection and repair now includes the use of billing software system that is capable of alerting the City of leaks and unusual water consumption daily. The City investigates leaks soon after alert and customers are notified of unusual consumption as soon as possible.	Ongoing leak detection measures continue to include use of UB software to detect potential leaks on the customers' side of the service meters. Leak detection includes use of correlators in pressure zone 4 and visual observations in other pressure zones. Upon discovery, large leaks are repaired and smaller leaks are placed on a list for ongoing observation.
Public Education	The City will continue to be a member of the Regional Water Providers Consortium.	The City remains a member of the Regional Water Providers Consortium.	Maintains a membership with the Regional Water Providers Consortium.
	The City will continue to promote water conservation at the City's Earth Day event and neighborhood events.	The City promoted water conservation at Earth Day events annually from 2016 through 2019. No events were conducted in 2020 or 2021 due to the pandemic. The City anticipates that neighborhood events may resume in summer 2021, and water conservation kits and messaging will be provided to attendees.	The City promotes water conservation at two neighborhood events: Earth Day and Longest Day Parkway. Promotion includes distribution of conservation information in written form and verbally, and distribution of water conservation devices.

Required Conservation Measures	2016 Conservation Measures Benchmarks	2021 Status	2025 Status
Technical and Financial Assistance	In the next five years, the City will explore ways to increase interest in the xeriscaping outreach program materials.	The City promotes its Xeriscaping program materials at City-sponsored neighborhood events to increase interest in Xeriscaping.	Promotion of water efficient outdoor landscaping, which incorporates many Xeriscaping principles, continues at community events and on the RWPC's website, for which the City has a link on its website.
Supplier Financed Retrofit or Replacement of Inefficient Fixtures	The City will continue to make water conservation kits available at no charge to any customer requesting one.	The City continues to make water conservation kits available at no cost to customers at City-sponsored events, such as the Earth Day event and neighborhood events.	Water conservation devices and written materials are available at no cost to customers at City-sponsored events, such as the Earth Day event and the annual Longest Day Parkway neighborhood events.
Water Reuse, Recycling, and Non-potable Opportunities	The City will continue to make downspout rain barrels available to water customers to reduce demand for finished water for residential irrigation.	Downspout rain barrels were made available at Earth Day events from 2016 through 2019. No Earth Day events were held in 2020 or 2021, but the City anticipates offering rain barrels again at future events. Approximately 12 rain barrels were distributed annually.	Rain barrels are available upon request and promoted during community events. Approximately 5 to 7 are distributed annually.
	The City will continue the water reuse project with Iseli Nursery.	The City continues to send all treated wastewater to Iseli Nursery between May 1 and October 31 of each year.	Continues to send all treated wastewater to Iseli Nursery between May 1 and October 31 of each year.
	In the next five years, the City will explore additional water reuse, recycling, and non-potable water opportunities.	The City conducted a market analysis of demand for non-potable reuse water in 2020 as part of a new wastewater treatment project.	Benchmark has been met.

3.3.2 System-wide Metering

The City's water system is fully metered. As a result of a meter replacement program that concluded in 2020, approximately 95 percent of all meters within the City's service area are less than five years old and all of the service area meters within the City are fitted with Advanced Meter Infrastructure (AMI) technology. This technology allows near real-time tracking of use, and reduces incidences of meter read errors as compared to unconnected,

Benchmark:

- Continue metering all water service connections.

3.3.3 Meter Testing and Maintenance

The City maintains master meters that measure water entering and leaving its distribution system along with large and small water service connection meters. The City's master meters are located at its interconnection with the PWB, Sandy's WTP, Brownell Springs, and at the three interconnections where the City provides wholesale water to the District, Company, and Association.

The City has four mechanical master meters, which are located at the interconnections where the City exports water to the District, Company, and Association. Due to their moving parts, mechanical meters require frequent maintenance. The City has sporadically tested, calibrated, repaired, or replaced these mechanical master meters as needed. Starting in 2026, the City will begin testing its mechanical master meters at least once every three years.⁷

Unlike mechanical meters, electro-magnetic and ultrasonic meters have long-lifespans and do not require regular maintenance. The City uses electro-magnetic meters where the connections require a meter greater than 3 inches in diameter, for example, at the Alder Creek WTP and at Brownell Springs. For these meter types, the City will periodically perform an informal accuracy check by reviewing historical records from each meter. When current metered volumes are unexpectedly dissimilar from historical metered volumes, the City will perform further investigation to determine the cause and rectify any inaccuracies, as needed. The City will also follow the manufacturer's recommended meter maintenance schedule. If a meter is thought to be faulty, the City will repair or replace the meter. The City's master meters at the Alder Creek WTP and Brownell Springs will be replaced within the next three years.

The City replaced its service meters in the 2000s, in the late 2010s, and again in the early 2020s, resulting in service meters that are well within the typical 20-year lifespan of mechanical meter types. Given the frequency at which the City has replaced its service meters and the typical lifespan of the meters, the City has not established a meter testing program. However, the City tracks these meters and identifies faulty meters through automatic alerts from the City's utility billing system based on a comparison of historical and

⁷ Meters installed within the preceding three years will not be tested.

current reads. The City's customers may also inform the City of potentially faulty meters. In both cases, the City inspects the meters in question and replaces them as needed. Larger service meters are repaired instead of replaced when it is cost effective to do so.

The City will establish a meter testing program for service meters larger than 2 inches in diameter, such that these meters will be tested at least every three years. This schedule aligns with the City's program to test its mechanical master meters. The purpose of this program is to identify inaccurate meters and repair or replace these meters when they are out of specification.

Benchmarks:

- By 2027, replace master meters at the Alder Creek WTP (two meters) and Brownell Springs (one meter).
- Test mechanical wholesale master meters at least every three years starting in 2026 and calibrate, repair, or replace these meters as needed.
- Over the next five years, periodically perform informal accuracy tests of ultra-sonic and electromagnetic master meters, abide by manufacturer's recommended maintenance schedule, and repair and replace these meters as needed.
- Continue to inspect potentially faulty small service meters (2 inches and smaller in diameter) and replace or repair faulty meters as needed.
- Starting in 2026, test large meters (greater than 2 inches in diameter) at least every three years and repair or replace faulty meters as needed.

3.3.4 Water Rate Structure

The City has a rate structure consisting of a monthly base charge (to cover fixed costs, such as meter reading, billing, and debt service), a meter charge based on the size of the meter (the larger the meter, the greater the charge), and a volume charge that is based on the quantity of water metered at the connection. The City has significantly increased volumetric water rates since 2014 in order to increase revenue for water system improvement projects and to encourage water conservation. For example, the single-family residential monthly customer charge in 2014 was \$2.46 per 100 cubic feet of use, which is \$8.17 per 100 cubic feet of use in 2025. Appendix B details water rates applied to all the City's customer classes.

Within the next five years, Sandy intends to assess the impacts of replacing its current flat rate structure with a tiered rate structure. Tiered rate structures incentivize more efficient use of water, among other benefits, by sending pricing signals to customers based on use.

Benchmark:

- Continue to bill customers based, in part, on the monthly quantity of water metered at the service connection.
- In the next five years, assess the use of a tiered-rate structure.

3.3.5 Water Loss Analysis

OWRD requires municipal water suppliers to take certain steps if annual audits show an estimated water loss of greater than 10 percent. As described in Section 2, Sandy's water loss was estimated at 9.2 percent. Though Sandy achieved a water loss percentage below OWRD's threshold for action, the City continues to administer its water loss control program.

Sandy observed a decrease in its annual water loss estimate from 2023 to 2024 in part due to the implementation of a smart pressure management system employed in 2023 in Zone 4, which is one of five pressure zones within the City's service area. Zone 5 is geographically similar in size to most of the other pressure zones and represents approximately 7.1 percent of system-wide consumption. This zone was selected for leak reduction measures because of an estimated historical water loss of 33 percent. The smart pressure management system includes the use of water line leak identification and pressure zone management.

Line leak identification occurs through the use of water leak correlators installed at fire hydrants throughout Zone 4 that record and pinpoint the location of leaks. Upon discovery, the City promptly repairs or replaces leaking lines or other leaking system components.

Pressure zone management measures include the planned reduction in water pressure during late evening/early mornings to reduce the volume of leakage at customers' sites and at leaks within the distribution system that were too small to be identified through the use of the correlators.

Water loss in this zone has decreased by approximately 20 percent since the system was deployed in 2023. Given the success of this program, the City intends to expand this program to other pressure zones. The City is also evaluating an alternative leak detection system that relies on the use of aerial imaging and satellite surveys for the remainder of its system. This program could be conducted in partnership with the PWB and other water providers in the vicinity.

The City manages a more traditional leak detection and repair program in its other pressure zones. The City has conducted leak detection studies in its distribution system and the results have been inconclusive or only identified a small number of minor leaks. Based on these results, the City determined that leaks are not a major contributor to its water losses. The City currently monitors for leaks on a regular basis using visual inspections only. For example, the City discovered a significant leak at the base of Sandercock reservoir which was regularly monitored and eventually repaired in 2023. As evident in this example, the City balances the expense of repair against the size of known leaks. Usually, as in this case, small leaks are monitored and not immediately repaired. Sandy maintains a "leak list" for those too small to repair that includes the location, cause of the leak, the age and type of the pipe, and any other pertinent information. This record is referenced when determining candidate lines for future repair or replacement as part of the City's water line repair and replacement program.

The City finances a water line replacement budget annually to provide funding for the replacement of aging water lines as a preventative measure against future leaks and to replace lines that have a history of leaks.

Leaks may also occur on the customers' side of the meters. These leaks and leak repairs are the responsibility of the customers. However, the City provides a service and test kits that help inform the customers of potential leaks. Leaks may be discovered based on changes in consumption from month-to-month as flagged by the City's utility billing system. In these instances, the City will inform customers of the potential for leaks (since these leaks are not always obvious to the customer) and perform a simple leak check by testing for flow at the meter when all water fixtures on the property are turned off. Though water loss due to leaks on the customers' side of the meters do not impact its water loss estimates, the City prides itself on excellent customer service and extends its good stewardship of water resources even where use of these resources are not the responsibility of the City.

Benchmarks:

- Following completion of Zone 4 smart pressure management system, evaluate expansion of the system into other zones or consider using aerial imaging and satellite surveys to identify water line leaks in these other areas of the system.
- Continue monitoring for leaks that surface and promptly repair or replace leaking water lines.
- Continue funding and implementing the water line replacement program as a leak reduction measure.
- Continue informing customers of the potential for leaks at the customers' sites and work with these customers to confirm leaks.

3.3.6 Public Education

The City promotes efficient use of water to its customers through its public education program. The program includes a combination of local and regional efforts. Locally, the City staffs a booth at the annual Earth Day and Longest Day Parkway events. At these events, the City interacts with customers by distributing information and devices about and for water conservation and answering any of their questions. In addition, the City occasionally includes water conservation messages in its monthly newsletter printed on the back of utility bills. See Appendix C for an example of a water conservation message in the August 2024 newsletter.

The City is a member of the Regional Water Providers Consortium (RWPC). One of the benefits of membership in the RWPC is that it makes a variety of water conservation public outreach opportunities available to the City. For example, the RWPC provides workshops for land developers and landscapers who operate in the region. These workshops focus on water-efficient landscape design and installation, and promote water-efficient irrigation equipment. The RWPC develops conservation displays that are available to members for use at local events and produces water conservation brochures with information broad enough

in content to be applicable to all members. In addition, the RWPC sponsors a regional summer water conservation media campaign that includes TV and radio advertisements and news interviews on local stations. It also conducts outreach at large regional events (e.g., the Yard, Garden, and Patio Show and the Salmon Festival) and maintains a website (<https://www.regionalh2o.org/>) that has indoor and outdoor water conservation information and suggestions.

Though local and regional conservation efforts meet OWRD's public education requirements, Sandy intends to expand its programming to better provide conservation opportunities to more of its customers and increase the frequency of their exposure to water conservation messaging.

First, Sandy will begin annually including at least two articles related to conservation in *The Sandy Source*, the City's monthly newsletter (<https://www.ci.sandy.or.us/administration/page/sandy-source-newsletter>). This newsletter is distributed via email and posted on the City's website and other social media outlets. These articles may be timed to coincide with the irrigation season (June through September) and will promote efficient use of water used for irrigation and identify other solutions to help reduce peak season usage. Articles published during the shoulder season and winter may focus on efficient indoor uses of water, end-of-irrigation season maintenance tips, and other topics.

Second, in 2026 the City will begin sending notifications to its customers who have the City's app installed on their mobile phones, which is approximately one quarter of the City's customers. Notifications will be sent during peak season to encourage efficient use of water outdoors.

Third, the City will provide content to *The Sandy Post*, the local news source for City residents and businesses, for an annual article about efficient landscaping, timed with the start of RWPC's summer water conservation multi-media campaign.

Fourth, the City will expand its education program by making improvements to water conservation content and the layout of this information on its website. Existing conservation content on the City's website includes a link to the RWPC website, tips to reduce outdoor water use in landscapes, and leak detection tips. This information is found on the City's website. Per the City's campaign to expand its public education offerings, the City will centralize conservation information on its website. This change will make it easier for customers to quickly locate conservation information. In addition, the City will expand the conservation content on its website to include additional conservation topics pertinent to its customers.

Benchmarks:

- Continue membership in the RWPC and participate in programs offered by the RWPC.
- Continue promoting water conservation at local community events, such as the City's

Longest Day event.

- By 2027, revise conservation content on the City's website and centralize topics related to conservation onto one webpage.
- Starting in 2026, publish two water conservation articles annually in *The Sandy Source*.
- Starting in 2026, annually provide content to the *Sandy Post*, in concert with the RWPC's annual peak season marketing campaign, to encourage the newspaper to run annual articles about water conservation.
- Starting in 2026, send app blasts to customers that include water conservation information and links to the City's conservation webpage.

3.4 Additional Conservation Measures

OWRD requires municipal water suppliers that serve a population greater than 1,000 and propose to expand or initiate the diversion of water under an extended permit for which resource issues have been identified. Alternatively, if the population served is greater than 7,500, a supplier is to provide a description of the specific activities, along with a five-year schedule to implement additional conservation measures. The City served a population greater than 7,500 in 2024, therefore, it is required to address the following additional conservation measures. Exhibit 3-2 shows the specific measures implemented or to be implemented by the City and associated benchmarks.

3.4.1 Technical and Financial Assistance Programs

As noted in Section 3.3.6, Sandy offers technical assistance to its customers on its website. Conservation topics posted on the City's website include methods to detect leaks; efficient irrigation practices; and links to the RWPC website.

The City also provides technical assistance to customers who have potential leaks on the customers' side of meters, as described in Section 3.3.5. If leaks are likely the cause of the change in consumption, City staff will discuss ways to resolve the leaks with affected customers. To enhance this offering, the City will determine if a leak detection and repair brochure is available through the RWPC and, if available, begin providing them to customers during the City's courtesy leak checks.

Sandy's water bills include a graph showing 12 months of monthly consumption. This information can be used by customers to monitor and adjust water consumption practices if increasing trends of use are observed.

Benchmarks:

- Continue providing technical assistance on the City's website on the topics of leak detection and efficient irrigation practices and information on water bills. Provide a link on the City's website to the RWPC website.

- By 2026, determine if the RWPC has a leak detection and repair brochure. If available, starting in 2026, begin distributing it to customers during the City's courtesy leak checks.
- Continue providing water use history on customers' water bills.

3.4.2 Supplier-Financed Retrofit or Replacement of Inefficient Fixtures

As mentioned in Section 3.3.6, the City makes water conservation devices available to all existing customers. The City offers these devices at some community events. These devices include low-flow sink aerators, shower heads, and watering/irrigation gauges. In addition, the City offers rain barrel kits to customers. These kits contain a recycled 55-gallon drum and installation information. The kits allow customers to capture rainwater from gutter downspouts and use this water for irrigation, offsetting use of City-supplied water for irrigation.

The City will begin to inform customers of the availability of these devices and drums via its website and provide these upon request.

Benchmarks:

- Continue to provide water conservation devices and recycled rain drum reuse kits to customers free-of-charge.
- By 2027, begin to advertise the availability of water conservation devices and rain barrel kits on the City's website.

3.4.3 Rate Structure and Billing Practices that Encourage Conservation

City water rates are based, in part, on the quantity of water used, in addition to other charges. The use of a volumetric charge encourages efficient use of water. The City bills customers monthly to provide timely feedback about water usage to customers. Additionally, customers' bills include usage for the month billed and for the same month in the previous year. Monthly billing and printing of historical usage on bills allow customers to detect changes in use over time and adjust usage accordingly.

A tiered-rate structure can incentivize conservation, among other benefits. Sandy is considering replacing its flat tiered structure with a tiered-rate structure and intends to assess this option within the next five years.

Benchmark:

- Continue to bill customers monthly and to include historical water use in utility bills.
- In the next five years, assess the use of a tiered-rate structure.

3.4.4 Water Reuse, Recycling, and Non-potable Water Opportunities

As noted in Section 3.4.2, the City makes rain barrel kits available to water customers to reduce demand for finished water for outdoor watering. Since April 2008, the City has

distributed approximately 126 downspout rain barrels to utility customers. Recently, an average of five to seven rain barrels are provided to customers per year. The City promotes its rain barrel program at City events.

In addition, the City partnered with Iseli Nursery in August 2012 to implement a water reuse project at the nursery. From May 1 to October 31, the City provides up to 2.90 cfs of reclaimed water to the nursery for nursery uses and for irrigation of approximately 348 acres, with the potential to provide water for irrigation of up to 614 acres. Treated wastewater is delivered to the nursery through approximately 8,000 feet of 14-inch-diameter pipe. Reclaimed water is blended with other water in storage ponds at the nursery.

Benchmarks:

- Continue to make recycled rain drum reuse kits available to water customers to reduce demand for finished water for residential irrigation.
- By 2027, update the City's website with information about the City's rain barrel kits.
- Continue the water reuse project with Iseli Nursery.

3.4.5 Other Conservation Measures

Sandy approved the *Envision Sandy 2050 Comprehensive Plan* in October 2024. This plan incorporates several goals related to water conservation as a means to stretch water supplies, promote source water quality, and allow for sustainable aquatic habitat. These goals include:

- Internal City collaboration to educate and promote winter wet/summer dry landscaping and vegetation in developments, rights-of-way, parks, and open lands.
- Implement water conservation measures at City facilities, and encourage and support water conservation efforts among residents and local businesses.
- Safeguard natural waterways by utilizing water conservation measures and programs that limit water demand from Sandy, its residents, and local business owners, particularly during late summer when natural flows are the lowest of the year.
- Advocate for the use of Xeriscaping as a water-wise landscaping practice that conserves water, reduces maintenance needs, and enhances sustainability.

The goals within this WMCP are intended to drive City policies related to growth. This plan demonstrates the City's long-term commitment to efficient use of its water sources and encourages inter-departmental coordination to identify methods that meet these goals. In many ways, the City is already meeting most of these goals to some extent. The City recognizes additional programs can be instituted and measures implemented to further these goals. The conservation measures in this WMCP that expand the City's existing conservation program brings the City closer to fully realizing these goals.

For the Xeriscaping goal, the City intends to include information about Xeriscaping on its website as part of the City's development of a water conservation webpage.

Benchmarks

- Continue to include water conservation goals in the City's comprehensive plan.
- Over the next five years, identify and implement methods to meet conservation goals in the comprehensive plans. By 2027, add Xeriscape information on the City's conservation webpage.

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Exhibit 3-2. 2025 Water Conservation Program Measures and Benchmarks

Required Conservation Measures	Conservation Measures' Benchmarks
Annual Water Audit	Continue to collect and perform monthly audits and aggregate this data to monitor annual water losses.
	By 2027, incorporate into the annual water audit the usage of customers connected to the Brownell Springs transmission line.
	Continue to analyze the City's own use of water to identify possible alternatives to increase efficiency.
System-wide Metering	Continue metering all water service connections.
Meter Testing and Maintenance	By 2028, replace master meters at the Alder Creek WTP (two meters) and Brownell Springs (one meter).
	Test mechanical wholesale master meters at least every three years starting in 2026 and calibrate, repair, or replace these meters as needed.
	Over the next five years, periodically perform informal accuracy tests of ultra-sonic and electromagnetic master meters, abide by manufacturer's recommended maintenance schedule, and repair and replace these meters as needed.
	Continue to inspect potentially faulty small service meters (2 inches and smaller in diameter) and replace or repair faulty meters as needed.
	Starting in 2026, test large meters (greater than 2 inches in diameter) at least every three years and repair or replace faulty meters as needed.
Water Rate Structure	Continue to bill customers based, in part, on the monthly quantity of water metered at the service connection.
Water Loss	Following completion of Zone 4 smart pressure management system, evaluate expansion of the system into other zones or consider using aerial imaging and satellite surveys to identify water line leaks in other areas of the system.
	Continue monitoring for leaks that surface and promptly repair or replace leaking water lines.
	Continue funding and implementing the water line replacement program as a leak reduction measure.
	Continue informing customers of the potential for leaks at the customers' sites and work with these customers to confirm leaks.

Required Conservation Measures	Conservation Measures' Benchmarks
Public Education	Continue membership in the RWPC and participate in programs offered by the RWPC.
	Continue promoting water conservation at local community events, such as the City's Earth Day event.
	By 2027, revise conservation content on the City's website and centralize topics related to conservation onto one webpage.
	Starting in 2026, publish two water conservation articles annually in <i>The Sandy Source</i> .
	Starting in 2026, annually provide content to the <i>Sandy Post</i> , in concert with the RWPC's annual peak season marketing campaign, to encourage the newspaper to run annual articles about water conservation.
	Starting in 2026, send app blasts to customers that include water conservation information and links to the City's conservation webpage.
Technical and Financial Assistance	Continue providing technical assistance on the City's website on the topics of leak detection and efficient irrigation practices and information on water bills. Provide a link on the City's website to the RWPC website.
	By 2026, determine if the RWPC has a leak detection and repair brochure. If available, starting in 2026, begin distributing it to customers during the City's courtesy leak checks.
	Continue providing water use history on customers' water bills.
Supplier Financed Retrofit or Replacement of Inefficient Fixtures	Continue to provide water conservation devices and recycled rain drum reuse kits to customers free-of-charge.
	By 2027, begin to advertise the availability of water conservation devices and rain barrel kits on the City's website.
Rate Structure	Continue to bill customers monthly and to include historical water use in utility bills.
Water Reuse, Recycling, and Non-potable Opportunities	Continue to make recycled rain drum reuse kits available to water customers to reduce demand for finished water for residential irrigation.
	By 2027, update the City's website with information about the City's rain barrel kits.
	Continue the water reuse project with Iseli Nursery.
Other Conservation Measures	Continue to include water conservation goals in the City's comprehensive plan.
	Over the next five years, identify and implement methods to meet conservation goals in the comprehensive plans. By 2027, add Xeriscape information on the City's conservation webpage.

4. Water Curtailment Element

This section satisfies OWRD's requirement to provide a description of past supply deficiencies and current capacity limitations. It also includes the required stages of alert and the associated triggers and curtailment actions for each stage.

4.1 Introduction

Water curtailment plans outline measures that water suppliers may take to reduce demand and to find alternative supplies during short-term water supply shortages. The intent of water curtailment plans is to minimize the impacts of water supply shortages and to ensure an adequate water supply that minimally meets public health and safety needs.

4.2 Historical Supply Deficiencies and Capacity Limitations

Sandy has not implemented water curtailment measures during the past 10 years. The City activated Stage 1 voluntary curtailment on July 27, 2009, in response to a combination of record high air temperatures that increased water demands and record low stream flow levels in Alder Creek that affected the City's ability to divert water. To enable the City to provide more water to the WTP at that time, the City made adjustments to its diversion dam and intake structure. Sandy lifted Stage 1 voluntary curtailment on July 31, 2009, in response to decreased temperatures.

In 2020, severe forest fires occurred near the City and prompted evacuation notices for some Clackamas County cities, including Sandy. These fires were also close to the City's sources of water supplies, endangering the City's ability to produce water. Simultaneously, consumption increased significantly as users attempted to protect properties by sprinkling roofs and vegetation. As a result, system demand exceeded Sandy's ability to meet this demand. To alleviate this deficit at that time, Sandy received additional water from PWB until the fire danger receded and demand abated. During this event, customers were not requested to curtail their water use.

Currently, Sandy's water system infrastructure is sufficient to meet water demands and does not have capacity limitations that would restrict the City's ability to meet typical (non-emergency) demands. Sandy benefits from its interconnection with PWB; during shortage events, Sandy may be able to rely on PWB to provide more water than contracted amounts until the shortage ends. As noted below, this scenario would meet Sandy's Stage 1 initiating condition and trigger associated curtailment measures.

4.3 Curtailment Stages

The City has adopted a four-stage curtailment plan that will be implemented during certain water supply shortages. These shortages could result from several feasible scenarios

identified by the City, including mechanical or electrical equipment failure in the system, fires in the watershed that directly or indirectly affect surface water quality, landslides or earthquakes that affect diversion or transmission infrastructure, and source water contamination. These stages may be implemented successively (e.g., from Stage 1 to Stage 2), or Sandy may bypass stages (e.g., from Stage 1 to Stage 3).

Each stage is initiated or triggered when defined conditions are met. These “initiating conditions” serve as guidelines and may be changed to reflect the water shortage event at hand. In addition to these initiating conditions, Sandy will also consider the knowledge and judgment of staff members familiar with the water system as criteria to determine when the curtailment plan should be implemented and which stage of curtailment should be implemented. Staff members may consider the extent of system damage or contamination, duration of repair, costs, fire hazards, and weather forecasts, among other factors, to determine Sandy’s response to a water supply shortage.

Exhibit 4-1 presents the four curtailment stages and initiating conditions. The City’s initiating conditions are defined by the relationship between system demand and water system capacity. Generally, when system demand approaches, is equivalent to, or exceeds the capacity of the Sandy’s water system, one of the stages of this curtailment plan may be implemented. Water system capacity is defined as the combination of supply available from the City’s surface water systems and wholesale supplies from PWB and the operational capacities of the distribution and transmission systems and the WTP.

Exhibit 4-1. Curtailment Stages 1 through 4

Curtailment Stage	Initiating Conditions
Stage 1	Demand reaches or is anticipated to reach 90 percent of supply capacity for 3 or more consecutive days, ¹ or
	Call by City to PWB for additional supply beyond contracted amount and PWB is able to meet the amount requested by the City, or
	Temporary loss or potential temporary loss of water supply from PWB, but the City’s reservoirs will be able to maintain a minimum of 4.75
Stage 2	Demand reaches or is anticipated to reach 100 percent of supply capacity for 3 or more consecutive days. ¹
Stage 3	Demand exceeds or is anticipated to exceed 100 percent of supply capacity for 2 or more consecutive days. ¹
Stage 4	The water supply capacity can only meet basic health and safety needs of customers. ¹

¹ Among numerous other scenarios, this initiating condition may be met when PWB issues a notice to curtail.

² Sum of recommended fire (3.24 MG) and emergency storage (2.66 MG) volumes per Sandy’s 2022 Water System Master Plan.

4.4 Authority

The City Manager may declare or rescind a Stage 1 response to a water supply shortage based on the initiating conditions of this curtailment plan or other factors deemed appropriate by the City Manager. The City Council may declare or rescind Stages 2 through 4 responses to water supply shortages per the initiating conditions of this plan or other factors deemed appropriate by the City Council. The City Manager will implement all responses to shortages.

4.5 Curtailment Plan Measures

Each of the four stages of alert includes specific curtailment measures applicable to Sandy and Sandy's retail customers; these measures are designed to offset demand. The City intends to provide access to its water supply to wholesalers during supply shortages, in accordance with its agreements with those wholesale customers.

These measures are described below for each stage of alert. These measures may be modified or removed, and additional measures may be added by Sandy to address the specific supply shortage at hand.

Curtailment measures are not intended to negatively affect the health and safety of Sandy's customers. Sandy may modify or remove measures that unintentionally result in these types of impacts. Sandy also may provide waivers to individual customers or groups of customers for specific uses.

The City's wholesale water supply agreement with the PWB (effective July 1, 2026) describes that PWB may require wholesale customers to curtail use in times of shortage. The PWB will work with these customers to avoid curtailment through implementation of mitigation actions. If these actions are not adequate to address the shortage, wholesalers may be asked to curtail demand by meeting curtailment reduction targets. Sandy's curtailment measures can help reduce demand to meet these targets.

4.5.1 Stage 1: Water Shortage Advisory

Under Stage 1, Sandy may take the following actions to curtail water use:

- Ask customers to voluntarily decrease water use (indoor and outdoor) using, for example, water conservation tips recommended by the City.
- Request that City staff and customers caring for large turf areas, such as schools, parks, and cemeteries, voluntarily reduce water use.
- Request that customers using City water for irrigation purposes use a water delivery attachment on the end of the hose, such as a sprinkler, soaker, or other sprinkling device.
- Limit City water use for street sweeping and for hydrant and water line flushing.

4.5.2 Stage 2: Moderate Water Shortage Alert

In Stage 2, all the curtailment actions under Stage 1 become mandatory and the following additional measures will be implemented:

- Irrigation of landscapes and gardens will be restricted from 8 pm to 8 am.
- City to encourage vehicle washing during regulated irrigation hours only. All vehicle washing not performed at a washing station where wash water is recirculated, such as a commercial car wash, must be done using a hand-operated spray nozzle device equipped with a spring-loaded trigger assembly or other mechanism in working order, which can be used to stop the flow of water.
- Restrict sprinkler irrigation of parking strips to the above established irrigation hours; water runoff into the streets should be kept to a practical minimum.
- Prohibit the use of water for cleaning or washing down sidewalks, driveways, parking lot areas, or other similar exterior cleaning uses at all times.
- Limit hydrant and water main flushing to emergencies only.
- Cease washing City vehicles except at facilities equipped with water re-circulation equipment or if necessary for public health or safety (e.g., garbage trucks or food transport) or as required by law.
- Ask commercial and industrial customers to voluntarily reduce non-essential water use.
- Ask large water volume commercial and industrial customers to eliminate non-business-essential use.

4.5.3 Stage 3: Severe Water Shortage Alert

In addition to curtailment actions under Stage 2, Sandy may take the following actions to curtail water use under Stage 3:

- Prohibit use of City water to clean, fill, or maintain levels in decorative streams, ponds, or fountains unless they have recirculating water systems.
- Prohibit use of City water to fill or top off swimming pools and hot tubs.
- Prohibit the installation of new turf and landscape.
- Impose a temporary moratorium on new water delivery connections and temporary water delivery (i.e., construction operations).
- Prohibit the use of City water to wash vehicles.
- In a Stage 3 emergency water shortage, the City may implement a water allocation regimen based on customer type and use history, for example:

- Single-family and multifamily - Hybrid of per-capita and percentage reduction
- Commercial/Industrial - Percentage Reduction
- New Customers - Per-capita (no allocation for new landscaping during Stage 3).

The percentage reductions for each customer class will be based on the customers' previous year's water bills as available or based on historical consumption of groups of customers.

4.5.4 Stage 4: Water Shortage Emergency

In addition to curtailment actions under Stage 3, Sandy may take the following action to curtail water use under Stage 4:

- Prohibit water use to those uses necessary for basic health and sanitation.

4.6 Communication

Customers will be notified of each stage of activation through various means, such as local newspapers, print media, local radio, television, the City's website, mailings, or notifications sent via the City's app. Sandy's communications with customers will describe the activities that may be curtailed (under Stage 1) or the activities required to be curtailed (all other stages) and will provide water conservation measures that will help its customers reduce use.

4.7 Drought Declaration

If a declaration of a severe drought in Clackamas County 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's service area falls within a severe drought area declared by the Governor, such as Clackamas 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 continue to encourage its customers to use water efficiently.

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5. Municipal Water Supply Element

This section satisfies OWRD's requirements to describe the water provider's current and future service area and population projections, demand projections for 10 and 20 years, and the schedule for when the water provider expects to fully exercise its water rights. OWRD also requires a comparison of the water provider's projected water needs and the available sources of supply, an analysis of alternative sources of water, and a description of required mitigation actions.

5.1 Delineation of Service Areas

Exhibit 2-1 shows the City limits and the urban growth boundary (UGB). All areas within the UGB are anticipated to receive additional growth over the 20-year planning period, in the form of infill within City limits, and expansion of City limits to new areas within the UGB.

5.2 Population Projections

The City's projected 2035 service area population is 14,214 and 16,719 in 2045 as shown in Exhibit 5-1. These estimates were projected by applying the average annual growth rate (AAGR) per PSU PRC's 2024 population forecast for Sandy's UGB and applying these to Sandy's 2024 city population of 12,933 (this excludes the 211 outside customers in order to hold the number of these customers constant). The AAGRs were 0.7 percent from 2024 to 2035 and 1.4 percent from 2035 to 2045. An additional 211 persons were added to these projections to account for the City's existing customers located outside of the City limits.

Exhibit 5-1. Population Projection, 2035 and 2045

Population	
2024 (current)	13,144
2035	14,214
2045	16,719

5.3 Demand Forecast

Sandy projected the maximum rate of water it would need to meet system demand in 2035 and 2045. This projection is based on historical demand plus WTP process water used at its WTP. To project use, Sandy added the annual average volume of process water of 2.99 MG to its annual historical average demand of 439.9 MG (see Exhibit 2-2) to obtain an average of 442.9 MG. Average annual water demand from 2019 through 2023 was used instead of annual demand for 2023 to provide a historically representative annual water demand. Then, Sandy applied the population AAGR of 0.7 percent to obtain projected demand for 2035 and applied the population AAGR of 1.4 percent to the 2035 value to obtain projected demand for 2045. These values were converted to ADD by dividing them by 365 and were converted to MDDs by multiplying the ADDs by a peaking factor of 2.8. A peaking factor of 2.8 was selected as a conservative estimate of future MDD based on the highest historical peaking factor that Sandy observed from 2019 to 2023.

The results of this forecast are shown in Exhibit 5-1. The demand projections estimate that the City's MDD will reach up to 3.7 mgd (5.67 cfs) by 2035 and up to 4.3 mgd (6.6 cfs) by 2045.

Exhibit 5-2. Future Demand, 2035 and 2045

	AAGR	Annual Demand (MG)	ADD (mgd)	MDD (mgd)	MDD (cfs)
2035	0.7%	479.5	1.3	3.7	5.7
2045	1.4%	556.9	1.5	4.3	6.6

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

As described in Section 2, the City currently relies principally on its Alder Creek and Brownell Springs water rights to supply water to its customers and the PWB water is used as a supplemental water supply. The City currently is authorized to use up to 4.0 cfs under its Alder Creek water rights and 1.2 cfs under its Brownell Springs water rights. The City intends to fully utilize its Alder Creek and Brownell Springs water rights to help meet projected demands. Due to streamflows and regulatory conditions, the reliable rate of supply under these rights is 4.2 cfs (4 cfs from Certificate 93884 and 0.2 cfs from Certificate 5427). This rate is less than the projected demand of 6.6 cfs in 2045. To fully meet the 2045 demand projection, the City intends to rely on wholesale supplies from the PWB.

PSU's PRC 2024 forecast for Sandy shows continued growth in Sandy through 2074, indicating that the City may require additional supplies in the future. Permit S-48451 authorizing use of the Salmon River is intended to provide a long-term water supply to accommodate the City's growth. This source of supply is preferable over continued reliance on wholesale water from the PWB to meet demand. For example, extended reliance on the PWB sources of supply that are a significant distance from Sandy exposes Sandy to potential supply disruptions due to transmission system failures resulting from seismic activity, landslides, or major line breaks. Thus, the City anticipates that it will have begun to exercise this permit by the completion date of October 1, 2069 and may require an extension of time to fully develop this permit. The City will continue to provide updates on plans for use of Permit S-48451 in subsequent WMCPs.

5.5 Alternative Sources

OWRD requires an analysis of alternative sources of water if any expansion or initial diversion of water allocated under existing permits is necessary to meet future water demand. The City is not seeking expansion or initial diversion of water under its existing permits; therefore, this provision is not applicable.

5.6 Quantification of Projected Maximum Rate and Monthly Volume

OWRD 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. The City is not seeking expansion or initial diversion of water under its existing permits; therefore, this provision is not applicable.

5.7 Mitigation Actions under State and Federal Law

OWRD requires that for any expansion or initial diversion of water under an existing permit, the water supplier must 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.

The City currently is not required to take any mitigation actions under state or federal law. The final order approving an extension of time for the City's Permit S-48451 (use of water from Salmon River) did, however, include "fish persistence" conditions. These conditions were included to maintain the persistence of fish species listed under the Endangered Species Act in portions of the river affected by the water user under the permit. The City is fully aware of these conditions, and upon initiating use of Permit S-48451, the City will monitor streamflows and use as needed to comply with its permit requirements.

5.8 New Water Rights

Under OAR 690-086-0170(8), if a municipal water supplier finds it necessary to acquire new water rights within the next 20 years in order 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. The City 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.

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DRAFT

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The letters in Appendix A have not been sent.

Appendix A

Letters to Affected Local Governments

DRAFT



Date

Name, Title
Clackamas County
150 Beaver Creek Rd, Rm 225
Oregon City, OR 97045
zoninginfo@clackamas.us

Subject: Water Management and Conservation Plan for City of Sandy

Dear _____,

The City of Sandy has developed a draft Water Management and Conservation Plan (WMCP) to fulfill the requirements of Oregon Administrative Rules Chapter 690, Division 86 of the Oregon Water Resources Department.

Under these rules, the water supplier will make its draft WMCP available for review by affected local governments and seek comments related to consistency with the local governments' comprehensive land use plans. We are providing you an electronic version of Sandy's draft WMCP for your review.

Please provide any comments within 30 days from the date of this letter. If the WMCP appears consistent with your Comprehensive Land Use Plan, a letter or email response to that effect would be appreciated. You may send your comments to me at thenkle@gsiws.com.

If you have any questions, please feel free to contact me at 971-236-2550. Thank you for your interest.

Sincerely,
GSI Water Solutions Inc.

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

Tim Henkle
Water Resources Consultant

Enclosure



Date

Section Corners Water Association

Title

Address

_____, OR 97 ____

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

Dear _____,

The City of Sandy 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.

Given the relationship between Sandy and your water district, we are providing you with an electronic copy of the draft WMCP as a courtesy. If you have any questions, please feel free to contact me at 971-236-2550 or thenkle@gsiws.com.

Sincerely,
GSI Water Solutions Inc.

A handwritten signature in black ink that reads "Tim Henkle". The signature is written in a cursive, flowing style.

Tim Henkle
Principal Water Resources Consultant

Enclosure



Date

Alder Creek-Barlow Water District

Title

19415 SE Summertime Dr
Sandy, OR 97055

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

Dear _____,

The City of Sandy 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.

Given the relationship between Sandy and your water district, we are providing you with an electronic copy of the draft WMCP as a courtesy. If you have any questions, please feel free to contact me at 971-236-2550 or thenkle@gsiws.com.

Sincerely,
GSI Water Solutions Inc.

A handwritten signature in black ink that reads "Tim Henkle". The signature is written in a cursive, flowing style.

Tim Henkle
Principal Water Resources Consultant

Enclosure



Date

Name, Title

Portland Water Bureau
1120 SW 5th Ave, Ste 405
Portland, OR 97204

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

Dear _____,

The City of Sandy 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.

Given the relationship between Sandy and your water district, we are providing you with an electronic copy of the draft WMCP as a courtesy. If you have any questions, please feel free to contact me at 971-236-2550 or thenkle@gsiws.com.

Sincerely,
GSI Water Solutions Inc.

A handwritten signature in black ink that reads "Tim Henkle". The signature is written in a cursive, flowing style.

Tim Henkle
Principal Water Resources Consultant

Enclosure



Date

Mike Persons, President
Skyview Acres Water Company
PO Box 2072
Sandy, OR 97055
Mikepersons23@yahoo.com
skyviewacreswater@gmail.com

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

Dear Mr. Persons,

The City of Sandy 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.

Given the relationship between Sandy and your water district, we are providing you with an electronic copy of the draft WMCP as a courtesy. If you have any questions, please feel free to contact me at 971-236-2550 or thenkle@gsiws.com.

Sincerely,
GSI Water Solutions Inc.

A handwritten signature in black ink that reads "Tim Henkle".

Tim Henkle
Principal Water Resources Consultant

Enclosure

DRAFT

DRAFT

Appendix B

2025 City Water Rates

DRAFT

CITY OF SANDY MASTER FEE SCHEDULE

DRAFT

January 2025

a. City wide	\$6,126.36 per equivalent residential unit
b. Wastewater Tapping Fees	Costs + 20%
C. Park	
a. Single Family	\$12,117.67
b. Multi-Family	\$8,984.50
c. Mobile Home	\$9,760.26
D. Payment in Lieu of Park Land Dedication	
a. Payment in Lieu of Park Land Dedication, Not Deferred	\$869,242.00 per acre
	per acre, plus 10% administration fee on the amount of
b. Payment in Lieu of Park Land Dedication, Deferred	\$869,242.00 the remaining portion owed
E. Street	
a. Residential	\$9,716.00 per single family dwelling unit
b. AADPT (Trip) Cost	\$613.38 per adjusted average daily person trip
7. WATER RATES	
A. Base by Customer Class	
a. Single Family	\$20.36 per month
b. Single Family - Reduced	\$10.18 per month
c. Multi-Family	\$20.36 per month
d. Commercial/Industrial	\$20.36 per month
e. Wholesale	\$24.36 per month
f. Single Family - outside City limits	\$30.62 per month
B. Charge by Meter Size - inside city limits	
a. 5/8" Meter	\$0.73 per month
b. 3/4" Meter	\$1.10 per month
c. 3/4" Meter - Reduced	\$0.55 per month
d. 1" Meter	\$1.89 per month
e. 1 1/2" Meter	\$3.61 per month
f. 2" Meter	\$5.77 per month
g. 3" Meter	\$10.96 per month
h. 4" Meter	\$18.17 per month
i. 6" Meter	\$36.42 per month
j. 8" Meter	\$58.25 per month
k. 10" Meter	\$83.79 per month
C. Charge by Meter Size - outside city limits	
a. 5/8" Meter	\$1.07 per month
b. 3/4" Meter	\$1.69 per month
c. 1" Meter	\$2.76 per month
d. 1 1/2" Meter	\$5.46 per month
e. 2" Meter	\$8.62 per month
f. 3" Meter	\$16.25 per month
g. 4" Meter	\$27.07 per month
h. 6" Meter	\$54.08 per month
i. 8" Meter	\$90.21 per month
j. 10" Meter	\$124.46 per month
D. Volume Charge by Customer Class	
a. Single Family	\$8.17 per 100 cubic feet
b. Single Family - Reduced	\$4.08 per 100 cubic feet
c. Multi-Family	\$7.69 per 100 cubic feet
d. Commercial/Industrial	\$7.04 per 100 cubic feet
e. Wholesale	\$8.62 per 100 cubic feet
f. Single Family - outside City limits	\$12.25 per 100 cubic feet
g. Commercial/Industrial - outside City limits	\$10.96 per 100 cubic feet
h. Skyview Acres	\$2.11 per 100 cubic feet, plus COP pass through
E. Metered Use From Fire Hydrant	
a. Deposit	\$300.00
b. Set-up/take-down/billing fee	\$60.00
c. Meter Rental (day 1 to day 30)	\$2.00 per day
d. Meter Rental (day 31 and beyond)	\$5.00 per day
e. Water Rate	Inside or Outside Comm/Ind depending on location

DRAFT

Appendix C

City's August 2024 Newsletter

DRAFT

SHARE:

[Join Our Email List](#)

The Sandy Source

Big Progress at Cedar Park!

Volume 51 | August 2024

Significant progress has been made at [Cedar Park](#), the newest addition to Sandy's fabulous park system! Spanning 10 acres, this new gem promises endless fun and is set to become a premier destination for outdoor enthusiasts locally and throughout the region.

The [Base Camp Action Sports](#) complex, the showpiece feature of Cedar Park, will be the only combined pump track and skatepark in the Pacific Northwest!

Check out the latest drone footage!





The 40,000 square foot "Base Camp Action Sports" area is taking shape beautifully, featuring a 20,000 square foot skatepark, a 20,000 square foot pump track, and a total of 1,300 linear feet of asphalt jump lines.

We'd like to thank Lango Hansen Landscape Architects, American Ramp Company, Goodfellow Bros., and the Oregon Parks & Recreation Department Local Government Grant Program for helping making this project a reality.

Most importantly, we extend our sincere gratitude to the Sandy community, as well as the Parks and Trail Advisory Board, the Skaters of Sandy, and all our future park users for their heartfelt support and enthusiasm. We're excited to welcome you to your new park soon!

Stay tuned for more updates as we aim to complete and open Cedar Park by early 2025!

Welcome Chief Huskey

The City is pleased to announce that Patrick Huskey began work as Sandy's new [Chief of Police](#) on August 1st.

Chief Huskey was previously the Portland Area Commander for the Oregon State Police, overseeing all patrol activities for Clackamas and Multnomah Counties.

"I am truly grateful for this opportunity to serve as Sandy's next Police Chief," said Chief Huskey. "I have worked in the Sandy area for over 20 years with the Oregon State Police, and it has always been one of my favorite places. As Sandy's Chief I intend to be a visible member of the community, participating in events and making myself available for conversations with local residents. I look forward to working together to address our challenges, solve problems, and keep our town safe as we continue to grow."



Please join us in welcoming Chief Huskey to Sandy!

(photo courtesy of the Sandy Post / Brit Allen)

Library Highlights

Composting Made Easy.

Join us on August 15th from 6:00 to 7:00 p.m. at the [Sandy Library](#) Community Room where [Master Recycler](#) Kris LaMar will deliver a presentation on composting with garden debris - an easy and cheap way to build a strong and healthy garden!

Learn how to use compost to provide nutrients, to reduce your need for fertilizer, and to improve the quality of clay or sandy soil. Compost can also be used as a mulch to control weeds and save water.

A worm bin can eliminate most of your food waste and at the same time provide soil amendments and fertilizer. Redworms are recyclers that transform kitchen waste to humus-rich soil conditioner in just a few months. To make worms work for you, you need only supply them with a home furnished with bedding and food.

This program is offered in partnership with the [Master Recycler Program](#).

Sandy Seed Library Series

Composting

with Garden Debris and Worm Bins

Learn the two common methods of composting at home: garden debris and worm bins with Master Recycler, Kris LaMar
Contact Brianna Chase for more information bchase@ci.sandy.or.us

MASTER RECYCLER PROGRAM

Sandy Public Library
Community Room

**Thursday,
August 15
6:00 pm**

SANDY PUBLIC LIBRARY **LINCC.ORG** **Friends of SANDY LIBRARY**

Special Exhibit: Native Innovations

Sandy Library Fireplace Room

August 13th through September 10, the Sandy Public Library will be hosting a special traveling exhibit entitled [Native Innovations](#).

Celebrate engineering innovations designed and used by First Nations in Oregon. This exhibit will explore how Native Americans have used knowledge, creativity, and ingenuity to solve problems for thousands of years, and continue to do so today. Participants will be invited to try their own hand at engineering, while learning from examples of traditional indigenous technologies related to housing, travel, tools, recreation, resource management, and more.

This program is offered by the [Museum of Natural and Cultural History](#) as part of the 2024 Summer Reading Program.



Check out Sandy's New Street Sweeper

Have you seen Sandy's new street sweeper around town yet?

Sandy Public Works is proud to have its very own street sweeper for the first time! Previously, street sweeping has been contracted out to external providers. With rising contract costs in recent years however, it now makes more financial sense for the City to purchase its own sweeper and provide sweeping services directly. The City Council approved the purchase at a [meeting](#) in June.



[Operating our own sweeper](#) also means better service for Sandy residents, as crews can respond more quickly to storm events or incidents involving debris in roadways.

Make sure to wave hi next time you see the sweeper!



Conserving Water This Summer

During the warm summer months, most of us spend time outdoors tending to our lawns, growing our gardens, and washing our cars — all activities that depend on water. As a result, water usage can increase significantly.

Here's a great video on how to optimize your irrigation system, and below are tips on how to conserve water and still maintain a green and vibrant landscape!



10 tips to conserve water and still maintain a green and vibrant landscape:

1. **Adjust your sprinklers** so that they're watering your lawn and garden, and not the street or sidewalk.
2. **Water early in the morning** (before 10:00) **or later in the evening** (after 6:00) when temperatures are cooler and evaporation is minimized.
3. **Set it, but don't forget it!** Whether you have a manual or automatic system, be sure to adjust your **watering schedules** throughout the irrigation season.
4. **Water established lawns about 1 inch per week** (a bit more during hot, dry weather). Find out how much to water this week with the **Weekly Watering Number**.
5. **Inspect your irrigation system** for leaks, broken lines, or blockage in the lines. A well-**maintained** system will save you money, water, and time.
6. **Consider replacing some turf area** with **low water use plants** and ornamental grasses. They are easier to maintain than turf, look beautiful, and require far less water.
7. **Group plants with like watering needs**. Creating "watering zones" in your garden will allow you to give each plant the water it requires — not too much or too little.
8. **Add a shut-off nozzle to your garden hose** and save about 5-7 gallons each minute your hose is on.
9. **Adjust your mower to a higher setting**. A taller lawn provides shade to the roots and helps retain soil moisture, so your **lawn** requires less water.
10. **Apply the amount of water your soil can absorb**. Water thoroughly, but infrequently. If run off or puddling occurs, break longer watering sessions into several short sessions allowing water to soak into the soil between each session.

Fight the Bites

Are you are tired of mosquitoes and flies? If so good news - there is a way to reduce and possibly eliminate those "vectors" that really bug you!

Clackamas County Vector Control District is committed to controlling flying vectors (mosquitoes and flies) in Clackamas County and has developed a program to tackle this issue. They offer **FREE property inspections**, **mosquito fish** for ponds and pools, and **educational presentations** to help you protect yourself from mosquitoes.



To learn more visit fightthebites.com where you can request services, watch educational videos, and stay alert with their news and updates. Or simply call (503) 655-8394 between the hours of 6:30 AM and 5 PM, Monday-Thursday.

You can also visit them this month and pick up your free 2025 calendar at the [Clackamas County Fair](#), booth # 28 in the Garden Market.

Clackamas County Vector Control District wants to help you enjoy being outdoors this summer BUZZ free!

Current Land Use Applications

Status

- Any -

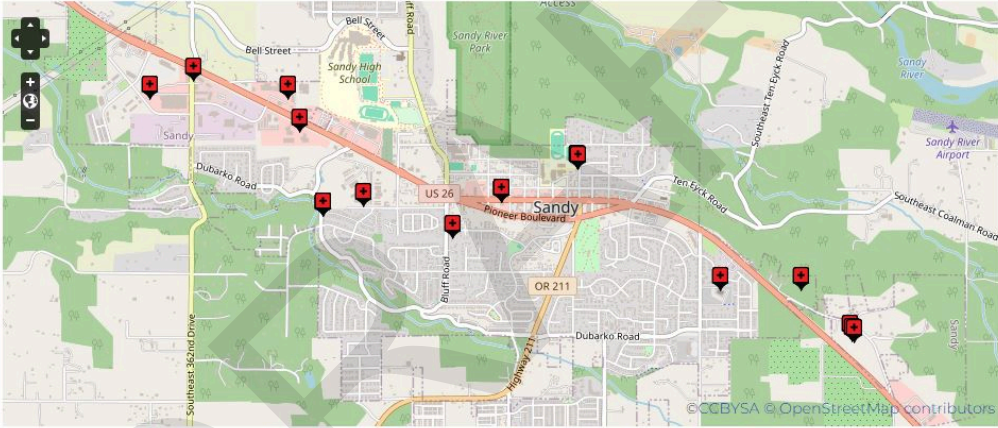
Land Use Project Type

- Any -

Search

Apply

Reset



123456789...next>last>

Title	Project ID	Land Use Project Type	Project Status
Sandy Chamber of Commerce 75th Celebration (with Dick Hannah)	24-041 TEMP	Other	Application Received
Comprehensive Plan Amendment (CPA)	24-040 CPA	Comp Plan Changes	Under Review
40155 Hwy 26 - Garage Addition	24-038 VAR	Other	Under Review
Knollwood Estates Hazard Tree Removal - Space 32	24-039 TREE	Other	Approved
Tickle Creek Village Condos Tree Removal	24-037 TREE	Other	Approved

Here's the latest in our [comprehensive database of active land use applications](#), complete with links to public meetings, documents, plans, maps, explanatory videos, staff reports, and other materials! You'll also find links to opportunities to take part in the decision-making process by submitting your own testimony.

Please feel free to [contact us](#) if you have any questions.

Upcoming Public Meetings

Be a part of the process! Members of the public are always welcome at meetings of the City Council and other boards and commissions.

Get meeting details and learn more about the variety of ways you can participate by visiting our [online meeting portal](#).

Mark Your Calendars:

- City Council: August 5th
- Urban Renewal Board: August 5th
- Library Advisory Board: August 7th
- Parks & Trails Advisory Board: August 14th
- Economic Development Advisory Board: August 14th
- SandyNet Advisory Board: August 15th
- City Council: August 19th
- Planning Commission: August 26th

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City of Sandy | 39250 Pioneer Blvd. | Sandy, OR 97055 US

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