April 6, 2026

Aaron Palmquist, City Manager, City of Irrigon
500 NE Main Avenue
Irrigon, OR 97844

RE: Recommendation to Adopt 2026 Water Management and Conservation Plan

Mr. Palmquist,

The Oregon Water Resources Department (OWRD) approved the City of Irrigon's 2026 Water Management and Conservation Plan on April 2nd, 2026. Now that the report has addressed all comments from City and OWRD staff, J-U-B Engineers, Inc recommends the City Council formally adopt this plan.

Sincerely,

Mason Mendel

Mason Mendel, Senior Civil Engineer (WA)
J-U-B ENGINEERS, Inc.

BEFORE THE WATER RESOURCES DEPARTMENT
OF THE
STATE OF OREGON

In the Matter of the Proposed Water Management and Conservation Plan for the City of Irrigon, Morrow County	)))	FINAL ORDER APPROVING A WATER MANAGEMENT AND CONSERVATION PLAN

Authority

OAR Chapter 690, Division 086, establishes the process and criteria for approving water management and conservation plans required under the conditions of permits, permit extensions and other orders of the Department.

Findings of Fact

1. The City of Irrigon submitted a Water Management and Conservation Plan (plan) to the Water Resources Department (Department) on September 16, 2025. The required statutory fee for review of the plan was received by the Department on September 29, 2025. The plan was required by a condition set forth under the City's previously approved plan (Sp. Or. Vol. 94, Pgs. 796-797), issued on January 31, 2014.

2. The Department published notice of receipt of the plan on October 7, 2025, as required under OAR Chapter 690, Division 086. No comments were received.

3. The Department provided written comments on the plan to the City on November 7, 2025. In response, the City submitted a revised plan on January 20, 2026.

4. The Department provided written comments on the revised plan to the City on January 23, 2026. In response, the City submitted a second revised plan on March 13, 2026.

5. The Department reviewed the second revised plan and finds that the second revised plan is consistent with the relevant requirements under OAR Chapter 690, Division 086.

Conclusion of Law

The Water Management and Conservation Plan submitted by the City of Irrigon is consistent with the criteria in OAR Chapter 690, Division 086.

This is a final order in other than a contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080, you may petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

Now, therefore, it is ORDERED:

Duration of Plan Approval:

1. The City of Irrigon Water Management and Conservation Plan is approved and shall remain in effect until **April 1, 2036**, unless this approval is rescinded pursuant to OAR 690-086-0920.

Plan Update Schedule:

2. The City of Irrigon shall submit an updated plan meeting the requirements of OAR Chapter 690, Division 086 (effective December 23, 2018) no later than **October 1, 2035.**

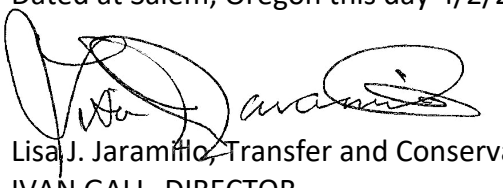
Progress Report Schedule:

3. The City of Irrigon shall submit a progress report containing the information required under OAR 690-086-0120(4) by **April 1, 2031**.

Other Requirements for Plan Submittal:

4. The deadline established herein for the submittal of an updated Water Management and Conservation Plan (consistent with OAR Chapter 690, Division 086) shall not relieve the City of Irrigon from any existing or future requirement(s) for submittal of a Water Management and Conservation Plan at an earlier date as established through other final orders of the Department.

Dated at Salem, Oregon this day 4/2/2026



Lisa J. Jaramillo, Transfer and Conservation Section Manager for
IVAN GALL, DIRECTOR
Oregon Water Resources

Mailing date: 4/3/2026

Notice Regarding Servicemembers: Active duty servicemembers have a right to stay proceedings under the federal Servicemembers Civil Relief Act. 50 U.S.C. App. §§501-597b. For more information contact the Oregon State Bar at 800-452-8260, the Oregon Military Department at 971-355-4127, or the nearest United States Armed Forces Legal Assistance Office through http://legalassistance.law.af.mil.

Oregon
Tina Kotek, Governor

Water Resources Department
North Mall Office Building
725 Summer St NE, Suite A
Salem, OR 97301
Phone 503 986-0900
Fax 503 986-0904
www.oregon.gov/owrd

April 2, 2026

City of Irrigon
Attn: Aaron Palmquist
500 NE Main Ave.
Irrigon, OR 97844
VIA EMAIL: aaron.palmquist@ci.irrigon.or.us

Subject: Water Management and Conservation Plan

Dear Aaron:

Enclosed is the final order approving your Water Management and Conservation Plan.

The attached final order specifies the following:

- The plan is in effect through **April 1, 2036.**
- The City of Irrigon is also required to submit a progress report to the Department by **April 1, 2031**, detailing progress made toward the implementation of conservation benchmarks scheduled in the plan.
- The City of Irrigon must submit an updated Water Management and Conservation Plan to the Department by **October 1, 2035**.

NOTE: *The deadline established in the attached final order for submittal of an updated water management and conservation plan (consistent with OAR Chapter 690, Division 086) shall not relieve the City of Irrigon from any existing or future requirement(s) for submittal of a water management and conservation plan at an earlier date as established through other final orders of the Department.*

We appreciate your cooperation in this effort. Please do not hesitate to contact me at 503-979-9544 or *Kerri.H.Cope@water.oregon.gov* if you have any questions.

Sincerely,

Kerri H. Cope

Kerri Cope
Water Management and Conservation Analyst
Water Right Services Division

Enclosure

cc: WMCP File
District 5 Watermaster, Greg Silbernagel
Mason Mendel, JUB Eng. mmendel@jub.com

WATER MANAGEMENT AND CONSERVATION PLAN (WMCP)

City of Irrigon

3-16-2026

500 NE Main Avenue

Irrigon, OR 97844

Photo Source:
https://ci.irrigon.or.us/

Prepared by:

J·U·B ENGINEERS, INC.

3611 Zintel Way, Kennewick, WA 99337

509-783-2144

www.jub.com

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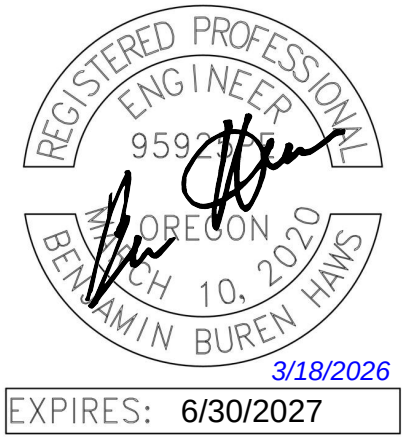
Water Management and Conservation Plan (WMCP)

Final

March 2026



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ABBREVIATIONS

AC	asbestos cement
cf	cubic feet
cfs	cubic feet per second
EPA	Environmental Protection Agency
CGWA	Critical Groundwater Area
fps	feet per second
ft	feet
gpcd	gallons per capita per day
gpm	gallons per minute
LUBGWMA	Lower Umatilla Basin Groundwater Management Area (Nitrates)
Mgal	million gallons
MGD	million gallons per day
OAR	Oregon Administrative Rule
ODEQ	Oregon Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
OWRD	Oregon Water Resources Department
PVC	Polyvinyl Chloride
sf	square feet
TDH	Total Dynamic Head
VFD	Variable Frequency Drive

1 INTRODUCTION AND WMCP ELEMENTS

OAR 690-086-0125

Irrigon presents its 2025 Water Management and Conservation Plan (WMCP) to the Oregon Water Resources Department (OWRD) and interested parties. This WMCP is required by OWRD as a condition of Irrigon's 2005 Well Permit and is an update to the previous version from 2014. This WMCP details Irrigon's plan to manage present water sources and usage and provides a comprehensive strategy to meet municipal water supply needs over the next 20 years, along with proposed conservation measures to help manage the regional water supply. The plan is intended to satisfy the requirements detailed in the *Water Management and Conservation Plans: A Guidebook for Oregon Municipal Water Suppliers, March 2015 (WMCP Guidebook)* and Oregon Administrative Rule (OAR) 690-086, Water Management and Conservation Plans.

1.1 Water System Description and Community Served

Irrigon is a rural community located in Morrow County, Oregon, between Umatilla and Boardman along U.S. Highway 730 and the Columbia River. The population in 2025 was approximately 2,372. Irrigon owns and operates its municipal water system.

Irrigon's water system consists of two alluvial supply wells, a 1.5 million-gallon bolted steel reservoir, and corresponding pipe network. Irrigon currently serves all domestic water within city limits and a limited number of users outside Irrigon limits. Residential accounts are 90% of Irrigon's connections and 58% of Irrigon's total water use by volume. Irrigon has no industrial water users currently being served by the water system.

1.2 Relationship to the Water System Master Plan

The WMCP focuses on management of the system's water sources, which includes conservation as a source option. The general intent is to ensure that adequate water supplies are available to serve the community's current and future needs through various scenarios without impairing nearby users or the environment. The Water System Master Plan (WSMP) focuses more on the water system's constructed components, management, finances, and capital improvements that are needed. The two plans work in tandem to ensure that communities are able to navigate future challenges and development from source to end user.

1.3 Notice to Affected Local Government(s)

OAR 690-086-0125(5)

No "affected local governments", based on our interpretation of the definition provided in OAR 690-086-0020, exist or are required to be contacted. The City of Irrigon operates under its own jurisdiction and is not under regulatory jurisdiction of any other local

districts with regards to their water rights and use. Additionally, the City of Irrigon conducts all of its master planning independently of Morrow County.

1.4 Proposed WMCP Update & Progress Report Schedule

OAR 690-086-0125(6)

Upon approval of this plan, OWRD will set schedules for the interim progress report and next WMCP update. Typically, the first progress report will be due in five years and the next plan update in ten years (maximum). Progress reports will be used to determine whether benchmarks identified in OAR 690-085-0150 are being met. The approximate dates for the 5-year progress report and 10-year update are 2030 and 2035, respectively.

1.5 Additional Time to Implement Conservation Benchmarks

OAR 690-086-0125(7)

Irrigon is not requesting an extension for additional time to implement previously proposed conservation measures.

1.6 Information Sources and Acknowledgments

Irrigon was the major source of information utilized in development of this WMCP, which included the 2006 Water System Master Plan, 2014 WMCP, system mapping, and water models of the existing system as it existed prior to 2006. Information for the two new source wells, new reservoir, and piping improvements constructed after 2006 were also provided by Irrigon and incorporated into this plan update, as well as information regarding water usage and conservation.

We would like to thank the following for their assistance in preparing this plan:

Aaron Palmquist, City Manager, City of Irrigon

Jerry Dyer, Public Works Director, City of Irrigon

Amanda Ferguson, Finance & Administrative Director, City of Irrigon

Kerri Cope, Water Management and Conservation Analyst/Reuse Coordinator, Oregon Water Resources Department

2 WATER SUPPLIER DESCRIPTION

OAR 690-086-0140

This section describes Irrigon's water sources, system, and current usage in the following sections. See Figure 2-1 below for a water system map.

2.1 Water Sources

OAR 690-086-0140(1)

Irrigon has two active wells that draw from three active alluvial water rights. Both wells are in the Lower Umatilla Basin Groundwater Management Area (LUBGWMA) for nitrates. Irrigon supplies all of its own water, with no physical interties or agreements with other agencies. The following sections provide additional detail.

2.1.1 Water Rights

OAR 690-086-0140(5)

Irrigon has active water rights for 8.92 cfs (4000 gpm) maximum withdrawal rate from the Columbia River Basin alluvial groundwater reservoir. The water rights are for "municipal" and "municipal uses including but not limited to domestic use… within the service district boundary of City of Irrigon", with priority dates ranging from 1977 to 2005. All active water rights are now associated with wells 3 and 4, described below. These active water rights include two older water rights (water rights B & C below) that were transferred to wells 3 & 4. Irrigon also still has the original water right from 1968 of 0.27 cfs (water right A) that is for the old basalt well #1 and has not had usage data reported since 2009.

The 2005 water right (water right D, Permit G-16297), which accounts for 75% of Irrigon's active water rights, contains provisions for "avoidance and mitigation" during the summer to equal the consumptive use of water, which is generally domestic lawn irrigation. This was negated in the related Settlement Agreement, which states that forgoing pumping from well 2 qualifies as the required avoidance. Water right D is valid until February 14, 2028 under the existing permit. An extension will need to be filed to keep this permit open for the foreseeable future. Irrigon does not have any exchange, intergovernmental, water supply, or water delivery agreements.

Table 2-1 – Active Water Right Summary

ACTIVE WATER RIGHTS	B	C	D
Application	G-7703	G-8439	G-16445
Permit	G-7241	G-7563	G-16297
Priority Date	2/8/1977	9/9/1977	4/22/2005
Original Certificate	81677	81678	Not Perfected
Transfer	T-10470	T-10470	NA
Current Certificate	93325	93326	Not Perfected
Authorized Completion	12/8/2017	12/8/2017	2/14/2028
Water Source	Alluvial	Alluvial	Alluvial
Type of Use	Municipal	Municipal	Municipal*
Permitted Max Flowrate (cfs)	0.89	1.33	6.70
Permitted Max Flowrate (gpm)	400	600	3000
Permitted Max Volume	None	None	None
Max Flowrate Diverted (cfs)	0.89	1.33	4.0
Max Flowrate Diverted (gpm)	400	600	1800
Max Annual Volume Diverted (MG)	170		167
Pump Hrs Per Day @ Max Vol & Flow	7.8		4.2
Most Recent Draw	2026	2026	2026
Original Draw	Well #2	Well #2	Well 3 & 4
Current Draw	Well 3 & 4	Well 3 & 4	Well 3 & 4
2025 Avg Monthly Diversion (MG)	13.4		
2025 Avg Daily Diversion (Gal)	36712		
Past 5 Year Avg Monthly Diversion (MG)	13.5		
Past 5 Year Avg Daily Diversion (Gal)	36986		
Resource Concerns (Critical Groundwater Area or Groundwater Management Area)	Nitrates (LUBGWMA)	Nitrates (LUBGWMA)	Nitrates (LUBGWMA)
OWRD Link	OWRD	OWRD	OWRD
Total Actively Used Water Rights	**8.92 cfs (4000 gpm)**		

* Municipal uses including but not limited to domestic use

Table 2-2 – Inactive Water Right Summary

INACTIVE WATER RIGHTS	A
Currently in Use	No
Application	G-4534
Permit	G-4269
Priority Date	8/5/1968
Original Certificate	42328
Transfer	NA
Current Certificate	42328
Authorized Completion Date	6/25/1975
Water Source	Basalt
Type of Use	Municipal
Permitted Max Flowrate (cfs)	0.27
Permitted Max Flowrate (gpm)	120
Permitted Max Volume	None
Max Flowrate Diverted to Date (cfs)	0.27
Max Flowrate Diverted to Date (gpm)	120
Max Annual Volume Diverted to Date (MG)	20.6
Pump Hrs Per Day @ Max Volume & Flowrate	7.8
Most Recent Draw	2009
Original Draw	Well #1
Current Draw	Well #1
2025 Avg Monthly Diversion (MG)	0
2025 Avg Daily Diversion (Gal)	0
Past 5 Year Avg Monthly Diversion (MG)	0
Past 5 Year Avg Daily Diversion (Gal)	0
Resource Concerns (Critical Groundwater Area or Groundwater Management Area)	Quantity Limitations (Ordnance Basalt CGWA)
OWRD Link	OWRD

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Figure 2-1 - Water System & Service Area Map (OAR 690-086-0140(2))

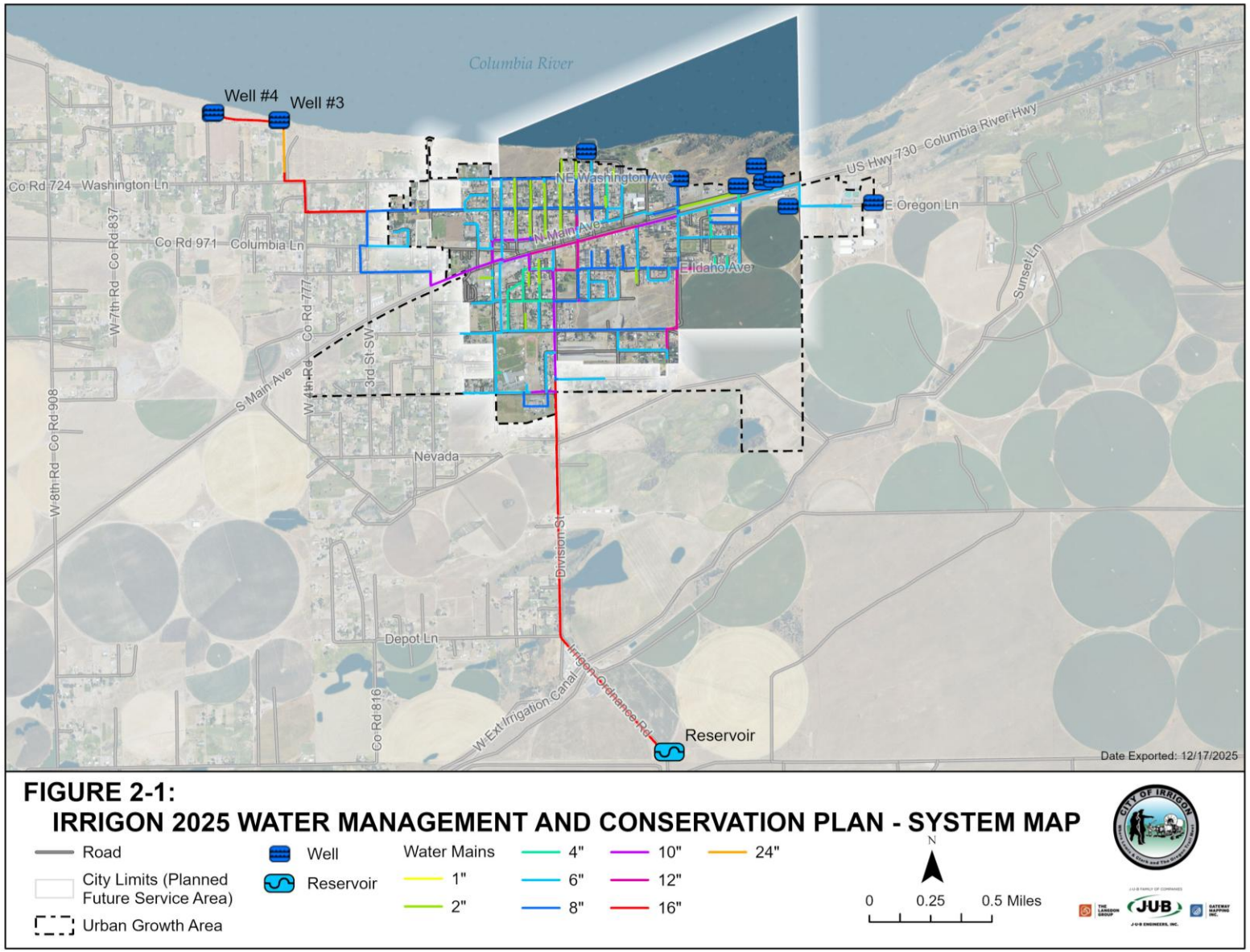

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Figure 2-2 - Water System & Service Area Map (Zoomed to City Limits) *(OAR 690-086-0140(2))*

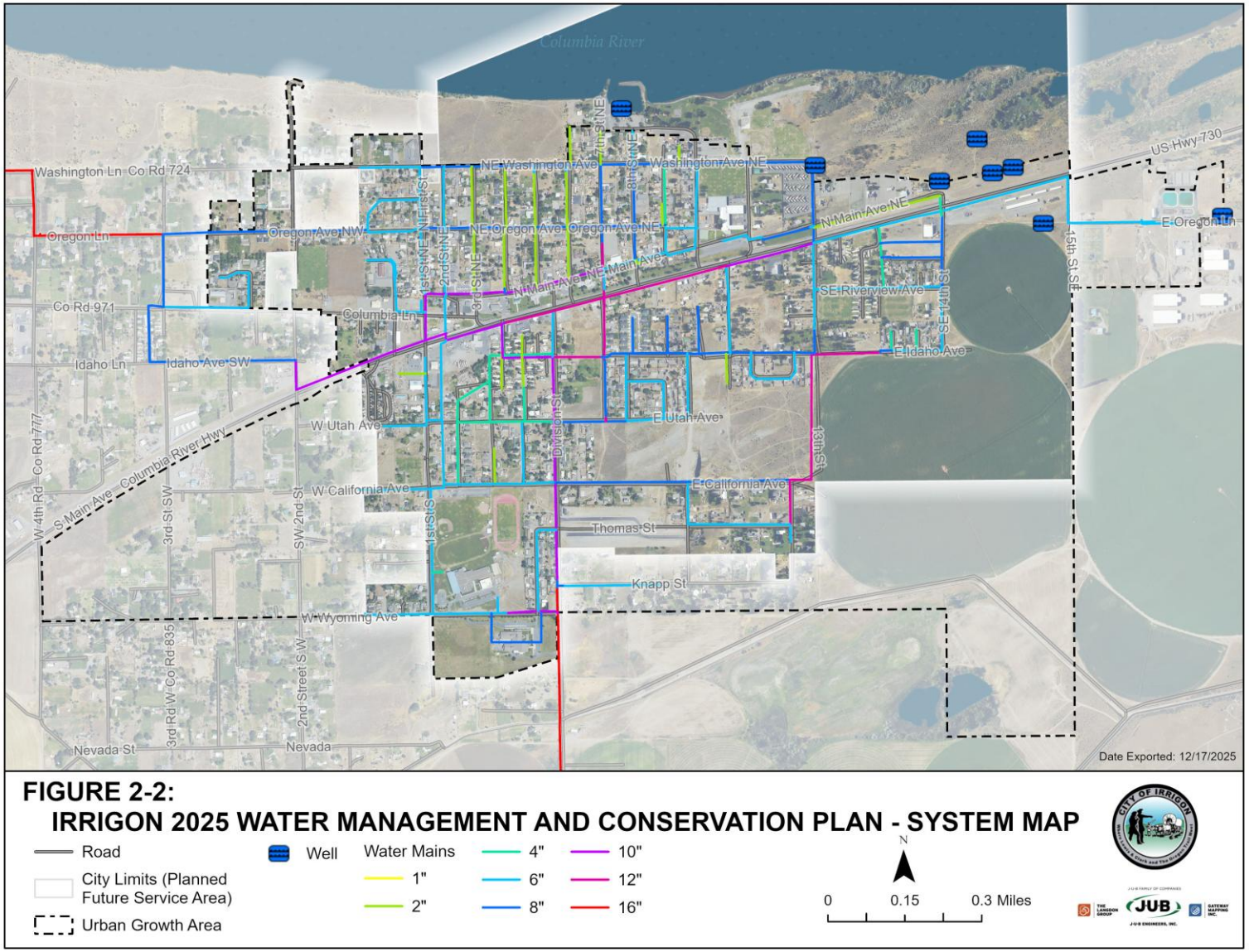
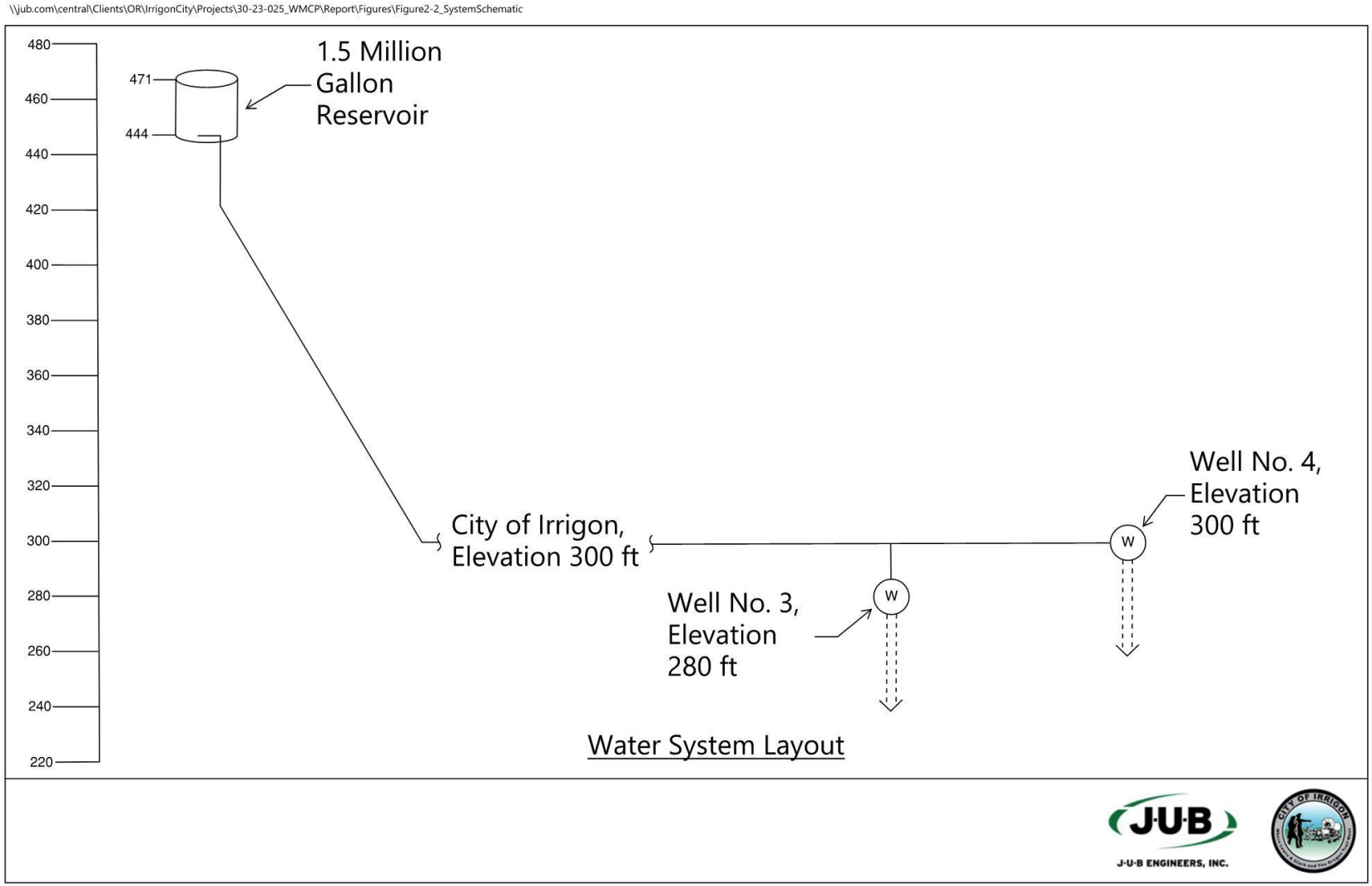


Figure 2-3 - Water System Schematic (OAR 690-086-0140(8))



2.1.2 Adequacy and Reliability of Existing Water Sources

OAR 690-086-0140(3)

2.1.2.1 Historical Water Sources

Wells 1 and 2 have been disconnected. Well 1 is no longer in use but could potentially be used in an emergency with some piping reconnections. Well 1 is old, undersized, and draws from a deep basalt aquifer that is listed as a critical groundwater area. Well 2 drew from the alluvial Columbia River groundwater basin and had nitrate concentrations beyond the EPA action level and was abandoned with rights transferred to wells 3 and 4.

2.1.2.2 Current Water Sources

Irrigon's current alluvial wells lie within the Lower Umatilla Basin Groundwater Management Area (LUBGWMA), which was established by the Department of Environmental Quality due to significant nitrate pollution in area wells drawing from the shallow alluvial groundwater. Although wells 3 and 4 currently draw water with no or very low nitrates, they are still within the LUBGWMA and susceptible to pollution from surface activities in the area. The threat of contamination is the biggest concern to Irrigon's water supply. However, nitrates build up over time and generally do not represent a short-term threat of contamination. Consistent monitoring of groundwater quality helps monitor nitrate levels and alert water right holders to potential looming threats.

Since the 2010 WMCP, Irrigon has been participating in the LUBGWMA and undertaking efforts to work with the State of Oregon to prepare a groundwater protection plan. City management is also actively engaged in the Morrow and Umatilla County joint drinking water investigation currently being funded by the EPA.

The current alluvial wells do not have source capacity concerns, as the alluvial aquifer is hydraulically influenced by the nearby plentiful Columbia River.

Having two supply wells in operation provides system reliability in case one of the well pumps is not in operation due to repairs or maintenance, while also providing additional capacity. Irrigon does not have a generator for use at the wells and would need to rely on local contractors if required. The two wells will need to be equipped with generators on an automatic transfer setup. Because of that, funding for two new generators and automatic transfer setups is being sought.

2.2 Water System

2.2.1 Source Wells

Two wells serve Irrigon's water distribution system, named Well 3 & Well 4. Both Well 3 and Well 4 were drilled in 2007 and had startup dates of November 2009 and April 2010, respectively. These two alluvial wells replaced previous wells 1 and 2, which had

age, capacity, environmental, and water quality (nitrates) concerns. Wells 3 and 4 have a combined capacity of 1800 gpm via the pumps' settings, but due to restrictions at the filter pack, the maximum capacity of both pumps is reduced to about 980 gpm.

Table 2-3- Source Wells

WELL DATA	#1	#2	#3	#4
Currently in Use	No	No	Yes	Yes
Drill Date	12/5/1968	4/8/1977	10/29/2007	12/14/2007
Pump Startup Date	UNK	UNK	11/15/2009	4/1/2010
Initial Test Yield (cfs)	0.32	3.12	2.23	2.79
Initial Test Yield (gpm)	142	1400	1000	1250
FG Elevation	300.6	300.4	278.1	297.6
Max Seal Depth	85	23	40	50
Completed Depth	235	66	88	97
Max Depth	317	66	88	97
Max Casing Diam	12	16	14	14
Min Casing Diam	6	16	14	14
Pump HP	UNK	UNK	100	125
Pump Flow Setpoint (gpm)	100	900	700	1100
Pump Flow Setpoint (cfs)	0.22	2.01	1.56	2.45
Total Setpoint Capacity of Active Well Pumps (20 h/d)			1800 gpm	2.16 MGD
Total Physical Capacity of Active Well Pumps (20 h/d)			980 gpm	1.18 MGD

2.2.2 Treatment

Both wells use gas chlorination injected into the discharge piping within the pump station. Chlorine contact time is reached within Irrigon's contact chamber for the transmission and distribution system.

2.2.3 Transmission and Distribution

Irrigon's original distribution system was constructed beginning in 1964 and consisted of 2-inch through 6-inch diameter mains. Several improvements have been made over the years to expand the service area and flow capacity. The majority of distribution lines are now PVC, with some asbestos-concrete (AC) main lines remaining, and range from 2-inch to 24-inch diameter. The distribution system is fairly well-looped, which improves system circulation and flow capacity. Water system improvements in 2008 included new transmission piping from new wells 3 and 4 into the distribution grid, some new

distribution piping throughout Irrigon, and new transmission piping to the new reservoir. In summer of 2024, Irrigon was awarded $1.7 million in state funding to improve its water, sewer, and stormwater infrastructure.

Table 2-4 – Pipe Summary Table

Pipe Size (Diam.) [in]	Pipe Length [LF]	% of Total Pipe
1" main	34	0.03%
2	9,170	9%
4	6,197	6%
6	34,171	32%
8	23,134	22%
10	9,818	9%
12	6,518	6%
16	13,248	12%
24	922	1%
Unknown	3,052	3%
Total	106,264	

2.2.4 Storage

Irrigon has one 1.5-million-gallon bolted steel, ground-level water storage reservoir that is located 1.5 miles south of town. This reservoir was constructed in 2009 and is approximately 100 feet in diameter and 26 feet tall. The reservoir provides 1.7 days of stored water at peak daily demand of 0.88 MGD, which occurs during the peak month of July. In the event both pumps were out of commission, conservation (namely no lawn irrigation) could extend this time to about 7 days of average daily demand (0.2 MGD) outside of the irrigation season.

2.2.5 Pressure Zones and Pump Stations

Irrigon has one pressure zone and no intermediate booster pump stations. Water is pumped directly from the wells, treated with chlorine, and sent into the distribution system that is hydraulically connected to Irrigon's storage reservoir.

2.3 Current Population and Service Area

OAR 690-086-0140(2)

The current population of Irrigon is approximately 2,372. Residential usage makes up 58% of Irrigon's water usage by volume, with no current industrial users. Historical population data from Portland State University's Population Research Center are presented below. The average annualized population growth rate over the past five years has been approximately 0.7%.

Irrigon primarily serves developed lands within Irrigon city limits of approximately 1,020 acres, but there are also water connections located outside of Irrigon limits and urban growth boundaries. These connections will continue to be served until a permit action changes their use, but no future connections will be allowed outside of City limits per City code. Irrigon limits are shown in Figure 2-1 as the brightly colored portion of the aerial photo.

Table 2-5 – Population History

Year	Total Population	Annual % Increase
1990	737	
2000	1,702	8.7%
2010	1,825	0.7%
2011	1,830	0.3%
2012	1,830	0.0%
2013	1,835	0.3%
2014	1,885	2.7%
2015	1,930	2.4%
2016	1,900	-1.6%
2017	1,975	3.9%
2018	1,990	0.8%
2019	2,030	2.0%
2020	2,295	13.1%
2021	2,300	0.2%
2022	2,328	1.2%
2023	2,340	0.5%
2024	2,346	0.3%
2025	2,372	1.1%
Annualized Growth Since 2020		0.7%
Annualized Growth Since 2010		1.8%

2.4 Present and Historic Water Use

OAR 690-086-0140(4)

2.4.1 Well Production

Irrigon has used approximately 162 million gallons (MG) of water per year over the last five years, with 2025's total being the below the annual average of 160.6 MG. This represents a 4% decrease over 2023's water usage of 166.6 MG (highest recent year). The highest water usage months are July and August with five-year averages of 25.7 and 24.5 MG per month, respectively. The average day demand over the full year of 2025 was 0.44 MG and a monthly high of 0.88 MG per day in the peak month of July.

Water supply is divided almost evenly between the wells, with Well 3 producing an average of 53% of the supply and Well 4 producing an average of 47% of the supply over the past five years. Well pump 3 has a maximum output of 700 gpm and Well pump 4 has a maximum output of 1100 gpm, so Irrigon might consider running Well pump 4 a bit more to even out the pump duty. The expected percentages based on pump capacity would be well 3 at 39% and well 4 at 61%.

See the figures below for pumped water annual totals and monthly and daily averages.

Figure 2-4 – Annual Well Production, Past 5 Years

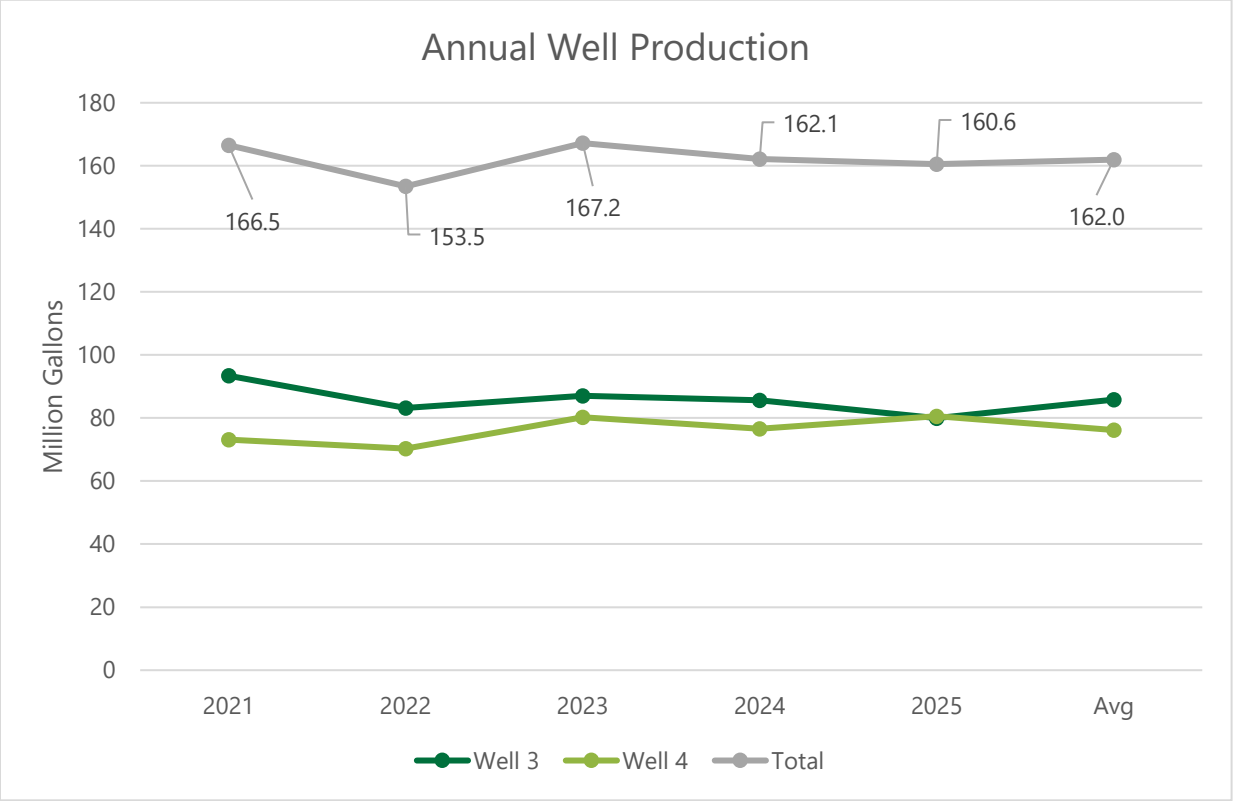


Figure 2-5 - Monthly Well Production, 5 Year Avg

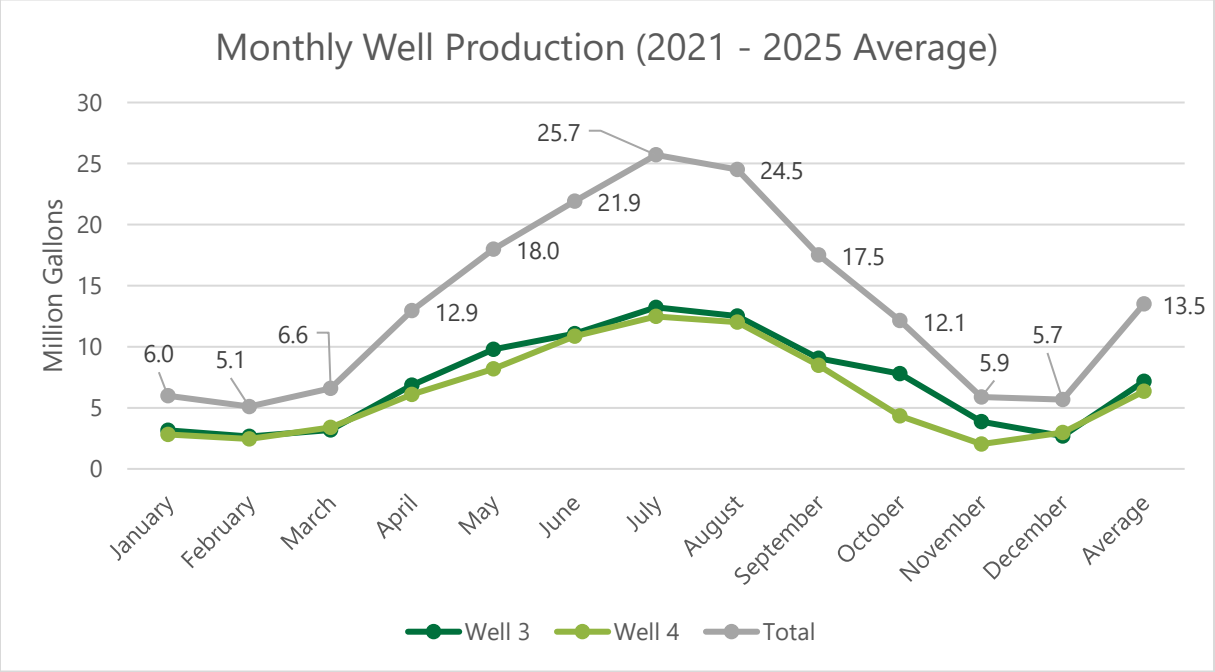
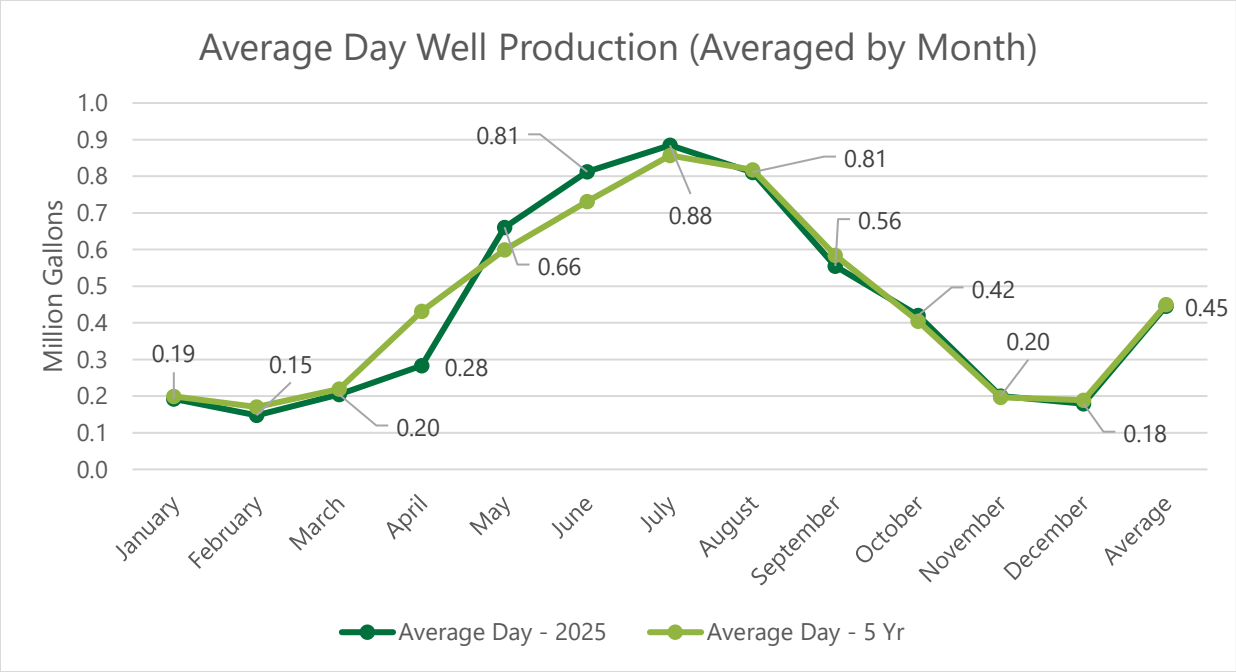


Figure 2-6 - Average Day Well Production



2.4.2 Customers Served

OAR 690-086-0140(6)

Irrigon's water customer breakdown is represented in the tables below. The majority of Irrigon's connections serve residential customers, which also accounts for 58% of the water volume used. This includes domestic irrigation, as Irrigon does not have a separate irrigation system. Also notable, Irrigon currently has no industrial users, which could represent a large increase in the future. All data presented below is from City of Irrigon water meter billing information. Note that while the user meter total is close to the annual well output, it does not match due to system loss, which is addressed below.

Table 2-6 – 2025 User Account Summary

Account Type	# of Accts	Percent of Total Accounts	Average Annual Use (MG)	Avg Yearly Use Per Acct (MG)	Percentage of Total Water Use
Residential	670	90%	92.3	0.14	57.7%
Commercial (Small)	15	2%	1.9	0.13	1.2%
Commercial (Large)	5	1%	2.8	0.56	1.7%
Public (Small)	23	3%	24.3	1.06	15.2%
Public (Large)	22	3%	37.7	1.71	23.5%
Bulk Sales	9	1%	1.1	0.12	0.7%
TOTALS	**744**	**100%**	**160.1**	**0.22**	**100.0%**

Table 2-7 –User Account Summary – Last 5 Years

Account Type	2021	2022	2023	2024	2025	4 Year Growth (2022 - 2025)
Residential	629	653	663	673	670	7%
Commercial (Small)	15	15	15	15	15	0%
Commercial (Large)	3	4	5	5	5	67%
Public (Small)	19	17	10	21	23	21%
Public (Large)	23	20	18	22	22	-4%
TOTALS	**689**	**709**	**711**	**736**	**735**	**7%**

Table 2-8 –Annual Water Use Per Account Type – Last 5 Years

Account Type	Total Annual Use (MG)					4-Year Growth (2022 – 25)
	2021	2022	2023	2024	2025	
Residential	86.7	83.9	95.3	93.7	92.3	6%
Commercial	1.5	2.1	2.5	2.0	1.9	27%
Commercial	2.4	2.4	3.1	3.1	2.8	17%
Public (Small)	23.0	17.0	15.9	15.9	24.3	6%
Public (Large)	35.4	37.2	35.0	33.1	37.7	6%
Bulk Sales	6.4	1.5	2.0	12.2	1.1	-83%
TOTALS	**155.4**	**144.1**	**153.8**	**160.0**	**160.1**	**3%**

Recent water user characteristics are very similar to the 2003 data presented on page 2-11 of the 2006 Water System Master Plan (WSMP), except for the conservation measures that have been instituted in the past two decades. Overall, the number of accounts has dropped slightly over the years, and the volume of water used between 2003 and 2025 dropped 24%.

In 2003, residential connections were over 90% of the accounts and responsible for ~60% of the water usage, which is still the case. Most of the rest of the water was, and still is, used by public accounts. Commercial and miscellaneous uses made up the remaining ~5% both then and now.

The 2006 WSMP and 2014 WMCP also presented adjusted data, which took school usage out to reflect a new irrigation source they had contracted with during the time the reports were written. For this comparison, the unadjusted usage was used.

Table 2-9 – User Comparison to 2003

	2003 # of Accts	2003 Annual Use (MG)	2025 # of Accts	2025 Annual Use (MG)	Change in # of Accts	Change in Annual Use (MG)
Residential	726	125.6	670	92.3	-8%	-27%
Commercial	28	10.9	20	4.7	-29%	-57%
Public	8	73.9	45	62.0	463%	-16%
Other	0	0	9	1.1	NA	NA
Total	**762**	**210.4**	**744**	**160.1**	**-2%**	**-24%**

2.4.3 Quantification of System Leakage

OAR 690-086-0140(9)

Unaccounted for water over the past five years has been between 0.3% and 8%. This number is determined by taking the difference between the well meter volume and service meter volume recorded at all City meters. Irrigon has no known unmetered connections. This lost water is a combination of leakage, faulty meters, unmetered (illicit) connections, potential accounting/meter read losses, and other potential unknown losses. Irrigon has a regular meter testing and replacement program described in Section 3. Section 5 discusses strategies to reduce future water loss.

Table 2-10 – Lost Water Volume

Year	Well Pump Output (MG)	User Meter Usage (MG)	Difference (MG)	Percent Difference
2021	166.55	155.36	-11.19	-7%
2022	153.51	144.07	-9.44	-6.1%
2023	167.20	153.84	-13.36	-8.0%
2024	162.15	159.96	-2.19	-1.3%
2025	160.55	160.10	-0.45	-0.3%

2.5 Interconnections with Other Systems

OAR 690-086-0140(7)

Irrigon does not have interconnections with neighboring water systems. The nearest community water systems are Umatilla and Boardman, which are located approximately 6 and 12 miles away from Irrigon, respectively. The cost of extending an interconnection to Umatilla is deemed cost prohibitive.

3 WATER CONSERVATION ELEMENT

OAR 690-086-0150

This section provides a status report on conservation measures previously proposed in the 2014 WMCP, describes the current water conservation program, and proposes new conservation measures. Irrigon's water use reporting and water rate structure are also summarized in this section.

OAR 690-086 requires that all water suppliers implement the following basic conservation measures:

- Progress Report on Conservation Measure Implementation from Previous WMCP
- Water Use Measurement and Reporting Program
- An annual water audit
- Full metering of the system
- A meter testing and maintenance program
- A rate structure based, at least in part, on the quantity of water metered
- A leak detection program (if system leakage exceeds 10 percent)
- A public education program on efficient water use and low water use landscaping

OAR 690-086 Also lists the following enhanced conservation measures:

- Program to reduce system leakage to 15%
- Program to reduce system leakage to 10%
- Retrofit/replacement of inefficient fixtures
- Rate structure/billing practices for conservation
- Reuse, recycling, non-potable opportunities
- Other proposed conservation measures

3.1 Progress Report on Conservation Measure Implementation from Previous WMCP

OAR 690-086-0150(1)

Per the 2014 WMCP, the following conservation measures were planned for implementation. The table below shows whether the planned measures were successfully implemented and the new proposed timelines for all previously proposed conservation measures. New goals are discussed at the end of the section.

Table 3-1 – Summary of 2014 WMCP Conservation Benchmarks

Benchmark	2014 Plan	2025 Update	2025 Plan
Visual Inspection of Water System	Daily by Operators	Completed	Continue Daily by Operators
Water Audit	Quarterly	Completed Annually	Monthly
Increasing Block Rate Structure	To implement Fall 2006	Repealed no later than 2014 with updated rates	Not currently planned due to public concern.
Public Education	Quarterly Mailings	Completed	Quarterly via website and utility bill inserts
Source Meter Testing	Every 5 Years	Yes	Annual
User Meter Testing	Monthly observation of use trends	Completed	Use trends are observed and meters tested when use pattern changes
Meter Replacement	As needed by testing, approx. 20 per year	Completed	Approx. 20 per year – As needed by testing and older meters.
Additional Conservation Measures	If per capita water use increases excessively	Excessive increases not observed	Completed in this WMCP, to be reevaluated in 5 years
Source:	2014 WMCP	City of Irrigon Staff	City of Irrigon Staff

Five-Year Benchmark: Provide five-year update to WMCP proposed goals.

3.2 Water Use Measurement and Reporting Program

OAR 690-086-0150(2)

Per the requirements of OAR 690-085, Irrigon's water use reporting is submitted on an annual basis before December 31 each year. The report is submitted in the format provided by OWRD for each supply source used during the water year from October 1 through September 30 of the following year. Irrigon submits annual reports as required for both wells 3 and 4. Reporting results are available in Appendix B.

Both wells 3 and 4 have an in-line totalizing flow meter which is used to prepare the required annual report using the "flowmeter method" in accordance with OAR 690-085-

0015(5). Each meter records the cumulative water volume produced over the full range of discharge. Irrigon staff reads the meters on a daily basis when possible, except on weekends, holidays, and occasional other instances when staff are unavailable.

All withdrawals from Irrigon's wells are recorded and submitted to OWRD in accordance with regulatory requirements. As such, no new benchmarks are planned for this requirement.

Five-Year Benchmark: Continue providing annual report per OWRD requirements.

3.3 Other Conservation Measures

OAR 690-086-0150(3)

No additional conservation measures are currently being undertaken at this time.

3.4 Annual Water Audit

OAR 690-086-0150(4)(A)

The 2014 WMCP showed Irrigon sold nine percent more water than it pumped in 2003. At that time, Irrigon had old wells and likely old meters and did not conduct regular water audits. The 2014 WMCP proposed regular water audits, source well meter testing, and review of water usage for significant changes as the primary methods of leak detection.

Since then, Irrigon has constructed new wells with new meters (2009 & 2010) and conducted annual water audits that are now tracking its lost water as less than one percent.

Going forward, simple monthly audits of water produced versus water billed would help Irrigon identify demand changes by comparing monthly usage to prior years on a system-wide and user type basis as well as new lost water sources.

Five-Year Benchmark: Monthly audits of water supply vs demand. Continue annual detailed audits.

3.5 Full Metering of System

OAR 690-086-0150(4)(B)

All known water service connections have been metered since the beginning of the previous WMCP, with all new permitted connections since then receiving a meter. Meters are read and recorded monthly for each service connection. Meters are tested and replaced as noted below. Irrigon is in compliance with these requirements. See Section 3.5 for proposed improvements.

Five-Year Benchmark: Continue requiring meters at all new connections. Monitor/check records for illicit connections. Monitor and replace existing meters as noted below.

3.6 Meter Testing and Maintenance Program

OAR 690-086-0150(4)(c)

Prior to the 2014 WMCP Irrigon was replacing up to 20 meters per year, as funds permitted, prioritizing those with erroneous readings, damage, and old age. With Irrigon's 744 connections as of 2025, this represents an average replacement period or service life of about 35 years per meter.

The 2014 WMCP identified three benchmarks for improved meter testing.

1. Formally tracking meter installation dates to prioritize old meter replacement.
2. Reviewing high-volume users' meter readings to identify significant changes in monthly usage.
3. Source well meter testing every five years.

Irrigon has undertaken a meter replacement program to upgrade existing meters to auto-read meters, which not only streamlines meter reading, but also communicates meter data such as location, size, and diagnostics. This program funding has been committed through next year. Irrigon's expenditures and approved 2025-2026 budget for meter replacement is shown below. All small meters (under 2-inch) have now been replaced.

Table 3-2 – Meter Replacement Expenditures & Budget (2025-2026)

2021-22	2022-23	2023-24	2024-25	2025-26
$33k	$47k	$18k	$138k	$119k

Proposed meter testing improvements include:

1. GIS data tracking of all new meters –Completed in the fall of 2023.
2. GIS data collection of existing meters –Completed in the fall of 2023.
3. Monthly review of high-volume user meter readings.
    a. Significant changes in monthly usage could identify potential meter errors or opportunities to conserve.
4. Annual source well meter testing.
    a. All water audit supply data is based on these two meters, so this information is especially crucial.

Five-Year Benchmark: Track all new meters using GIS and radio-read meters. Monthly review of high-volume users. Annual source well meter testing and monthly user consumption read.

3.7 Rate Structure Based on Quantity of Water Measured

OAR 690-086-0150(4)(D)

3.7.1 Updates from 2014 WMCP

According to the 2014 WMCP, Irrigon implemented an increasing block rate structure in 2006, which encourages water conservation by charging more per unit as water consumption increases. At some point, the increasing block rate structure appears to have been revised to the decreasing block rate structure Irrigon has had for at least the last 10 years.

In 2014, rates were passed that resulted in a decreasing block rate structure where water usage over 10,000 gallons was roughly half the cost of the initial 10,000 gallons.

Table 3-3 – 2014 Water Rate Structure

Monthly Usage	Volume (cf)	Volume (Gal)	Flat Cost (dollars)	Unit cost (cents/cf)	Unit cost (cents/gallon)
<10,000 gallons	1337	10000	$ 38.44	2.876	0.38
>10,000 gallons	1	7.48	0	1.526	0.20

Source: Ordinance 227-14

In 2016, Irrigon passed new water rates that would have raised the rates on usage over 10,000 gallons by 64% (2.5 cents/cf vs 1.526 cents/cf) but received public dissent. Irrigon City Council compromised and approved a 44% increase on usage over 10,000 gallons. In 2019, a 5-year annual rate increase was implemented. (*Source: Irrigon City Website, 11-1-2024*.) Rates were raised for 2025 to catch up with recent high inflation, and a 2.1% increase was recommended for the future. The City will be performing a rate study later in 2026. Additionally, Title VIII of the Municipal Code, which structures how rates are established and properties charged, will be updated.

3.7.2 Current Rates and Recommendations

Irrigon's current in-town water rate structure is summarized in Table 3-2 below. It represents a decreasing block rate structure. Out-of-town users pay an additional flat rate per month for a general obligation bond. As noted above, Irrigon now only delivers water to new customers residing within Irrigon limits per city ordinance.

Table 3-4 – 2026 Water Rate Structure

Monthly Usage	Volume (cf)	Volume (Gal)	Flat Cost (dollars)	Unit cost (cents/cf)	Unit cost (cents/gallon)
<10,000 gallons	1337	10000	$ 45.94	3.437	0.46
>10,000 gallons	1	7.48	0	2.414	0.32

Since 2016, Irrigon has had annualized rate increases of 2.09% on usage under 10,000 gallons and 1.17% on usage over 10,000 gallons. These rate increases have not kept pace with inflation, especially during a historically high inflation period. Irrigon has committed $8,000 in 2025-2026 for a water rate study, per their approved budget.

The average Irrigon residential usage was 0.14 MG over 2025, or 11,500 gallons per household per month. An increasing block rate structure starting at 10,000 gallons per month would generally not impact the median resident and would instead impact high-volume users.

Five-Year Benchmark: Revise water rates as needed to financially sustain the water department. Perform a rate study if not completed within the last five years.

3.8 Public Education Program

OAR 690-086-0150(4)(F)

The previous WMCP recommended Irrigon create quarterly water conservation public education mailings for customers, which was completed.

This WMCP recommends creating quarterly online and mailed utility bill inserts, depending on how the customer receives their bill. Spring and summer community events are also a good time to reach the community. It is recommended that summer lawn irrigation be a special point of emphasis as an opportunity to conserve water, with financial savings for the user.

Five-Year Benchmark: Quarterly postings/mailings to encourage and educate users about conservation, particularly prior to summer irrigation season.

3.9 System Leakage Reduction Program <10%

OAR 690-086-0150(4)(E)

Oregon Administrative Rules state:

If the annual Water Audit indicates that the system's Water Losses exceed 10 percent:

A. Within two years of approval of the water management and conservation plan, the water supplier shall provide a description and analysis identifying potential factors for the loss and selected actions for remedy;
B. If actions identified under subsection (A) do not result in the reduction of Water Losses to 10 percent or less, within five years of approval of the water management and conservation plan, the water supplier shall:
    i. Develop and implement a regularly scheduled and systematic program to detect and repair leaks in the transmission and distribution system using methods and technology appropriate to the size and capabilities of the Municipal Water Supplier or a line replacement program detailing the size and length of pipe to be replaced each year; or,
    ii. Develop and implement a water loss control program consistent with American Water Works Association's standards.

Based on raw production versus billed water data, Irrigon has not exceeded the 10% loss threshold in the last five years and has a 5-year average of 4.5% lost water, with the last two years becoming progressively less loss, down to 0.3% loss in 2025.

3.9.1 Potential Factors for Loss and Selected Actions

Potential factors for loss in the last 5 years include:

- Production/source/well meter inaccuracy
- Customer/use/sale meter inaccuracy
- Water accounting losses
- Leakage from distribution lines

Proposed Actions (Discussed in other sections in more detail):

- Continue periodic source meter testing
- Continue user meter replacement program and billing review of high-volume users
- Continue detailed auditing
- Consider a leak detection survey on selected lines if evidence of leaks (see Section 3.9.2)

3.9.2 Leak Detection Program

OAR 690-086-0150(4)(E)B

A formal leak detection survey program will be considered in the future if evidence of significant leakage is discovered. It is recommended that the priority lines be the older, lower elevation (higher pressure), larger diameter lines, as those are most likely to have

significant leakage. Irrigon could either contract this service out, purchase their own equipment and train staff, or potentially partner with a neighbor with these capabilities.

3.10 Enhanced & Other Conservation Measures

OAR 690-086-0150(5)

OAR 690-086-0150(5) states:

> If the Municipal Water Supplier serves a population greater than 1,000 and proposes to expand or initiate diversion of water under an Extended Permit for which resource issues have been identified under OAR 690-086-0140 (Municipal Water Supplier Description for a Municipal WMCP)(5)(i), or if the Municipal Water Supplier serves a population greater than 7,500, a description of the specific activities, along with a schedule that establishes five-year Benchmarks, for implementation of each of the following measures; or documentation showing that implementation of the measures is neither feasible nor appropriate for ensuring the efficient use of water and the prevention of waste:

The Columbia River alluvial aquifer has not been identified as a resource with capacity concerns, so this section does not apply.

No other conservation measures are required by water supply contracts, interties, etc. Water right D (Permit G-16297) states that mitigation & avoidance during the summer months is required, but this was negated in the Settlement Agreement that is part of water right D by ceasing withdrawal from well 2 during the summer. Effectively, there are no legal restrictions requiring additional conservation, avoidance, or mitigation.

No additional conservation measures are currently being undertaken at this time, with the exception of reviewing meter results.

4 WATER CURTAILMENT ELEMENT

OAR 690-086-0160

This section is written to satisfy the requirements of OAR 690-086-0160. It describes and assesses any past events that have resulted in supply deficiencies or curtailment. It also presents a proposed curtailment plan that outlines stages of alert, associated triggers, and water curtailment actions. The curtailment plan items are described below and summarized in Table 4-1.

4.1 Water Supply Assessment and Description of Past Deficiencies

OAR 690-086-0160(1)

Irrigon's water sources and system are described in section 2 and the adequacy and reliability described in section 2.1.2. Irrigon has not had any water supply deficiencies or states of alert in the last 10 years.

Nitrate contamination to wells 3 and 4 is the biggest concern to Irrigon's water supply. However, nitrates build up over time and generally do not represent a short-term threat of contamination. Consistent monitoring of groundwater quality helps monitor nitrate levels and alert water right holders to potential looming threats.

The current alluvial wells do not have source capacity concerns, as the alluvial aquifer is hydraulically recharged by the plentiful Columbia River. In the event of drought leading to regional curtailment, Irrigon would limit irrigation as noted in the curtailment plan below, providing some level of buffer for essential domestic use such as firefighting and consumption. Pump capacity is currently the limitation on Irrigon's water quantity, but the pumps have sufficient capacity to serve Irrigon for the time period addressed in this report. The degradation of pumping capacity due to the filter pack is being monitored for potential solutions, but is not currently a major problem.

Having two supply wells in operation provides system reliability in case one of the well pumps is not in operation due to repairs or maintenance. Irrigon does not have a generator, and local vendors will need to be used to manually run one of the two wells in a power outage. Because of that, funding for new generators and automatic transfer setups is being sought.

4.2 Stages of Alert

OAR 690-086-0160(2)

The 2014 WMCP proposed a curtailment plan with three stages of alert: mild, serious, and emergency. That curtailment plan framework remains generally unchanged in this WMCP, but is updated to reflect the new wells and reservoir that have been constructed since.

4.3 Triggers for Each Stage of Alert

OAR 690-086-0160(3)

Each of the three stages of alert are triggered by a pre-determined level of severity of water shortage, which is based on the amount of water being consumed compared to the capacity of the system to meet the demand. This curtailment plan generally focuses on the supply side, as Irrigon has sufficient water rights from a reliable source and sufficient water system infrastructure to keep up with any reasonable increase in demand that may come up.

4.4 Curtailment Actions

OAR 690-086-0160(4)

Curtailment actions are the defined course to take when the triggers of alert have been reached. They start with notifying customers and encouraging conservation and eventually become severe restrictions if the situation were to arise.

Table 4-1 – Water Curtailment Plan

Alert Level	System Status	Capacity	Notification	Curtailment Action	Enforcement Action
Mild	Either Well is Inoperable for Extended Repairs (Several Weeks in Summer / Months Rest of Year)	Peak Hour (PH) and Firefighting (FF) are Fully Supplied but No System Redundancy.	City website, utility bill insert (Passive)	Encourage Off-Peak Lawn Watering	Voluntary
Moderate	Source Quantity Concern	PH & FF Ok. Environmental Concern for Alluvial Aquifer	Passive & Active	Encourage Conservation via reduced lawn watering	Voluntary
Serious	Either Well is Inoperable for the Foreseeable Future (Contamination or Failure)	No System Redundancy for Foreseeable Future	Passive & Active	Lawn watering schedule of allowed days & hours	Enforced by Code Enforcement
Critical	Reservoir is Offline for Extended Repairs (Storage Deficiency)	Peak Hour and Firefighting are Not Fully Supplied	Passive & Active	Reduced lawn watering schedule of allowed days & hours	Enforced by Code Enforcement
Emergency	Both Wells Not Operational	Water System is on Emergency Mode via Wells 1 & 2	Active Public Service Announcements	Essential Water Use Only. Lawn watering prohibited.	Enforced by Code Enforcement

Note: The authority to enact these notifications, curtailment, and enforcement actions is retained by the Irrigon City Council. Once the curtailment plan is activated, Irrigon should notify the water system customers, Drinking Water Program (DWP), and Code Enforcement, as noted above.

5 WATER SUPPLY ELEMENT

OAR 690-086-0170

This section is written to satisfy the requirements of OAR 690-086-0170. It provides a description of Irrigon's current and future service area and population projections, identifies when Irrigon expects to fully exercise its water rights, and provides details for the projected 10- and 20-year water demands. This section also provides a comparison between projected water needs and the existing available sources of supply, analyzes potential alternative water sources, and describes required mitigation actions.

5.1 Future Service Area and Population Projections

OAR 690-086-0170(1)

As described in Section 2 of this WMCP, the current service area is intended to be within Irrigon city limits, but also includes some existing areas outside of city limits but within the urban growth boundary. With city growth, these areas may likely become incorporated into the city limits in the future. Figure 2-1 shows the current city limits and urban growth boundary. At this time, the future service area will be the city limits. As described in section 2, the current population served by the Irrigon water system is 2,372. Annual growth since 2010 was 1.76% and 0.66% since 2020.

To estimate the future population for Irrigon, data from Portland State University's Population Research Center (PRC) was reviewed. Data provided by the PRC for future population projections is presented below.

Table 5-1 - Projected Future Population

Year	PRC EST Population	% Increase	Pop at 2% Increase	Diff from PSU
2030	2,400	0.52%	2619	219
2035	2,453	0.44%	2891	438
2040	2,503	0.40%	3192	689
2045	2,549	0.36%	3525	976
2050	2,600	0.40%	3892	1292
2055	2,671	0.54%	4297	1626
2060	2,756	0.63%	4744	1988
2065	2,853	0.69%	5237	2384
20-year Annualized %		0.43%		

Based on actual recent population growth of 1.76% annualized since 2010, a more conservative growth rate of 2.0% will be used for analysis of the Irrigon water system. This will help account for potential growth in the commercial and industrial sectors,

which could have a large impact on the water system in a short time period if new businesses were to come to Irrigon. Small towns like Irrigon are more sensitive to population growth in percentage terms than larger cities. Additionally, Morrow County and Irrigon have successfully petitioned PRC in the past to increase their population numbers to account for the larger percentage of occupied homes than statewide trends. This growth rate number should be revisited annually to adjust for short-term trends. As shown below, Irrigon currently has adequate capacity for short-term growth that may be higher than 2%.

5.2 Demand Forecast

OAR 690-086-0170(3)

At a projected growth rate of 2.0%, Irrigon's water usage would be as noted below.

Table 5-2 - Projected Future Water Usage (MG)

Water Use (MG)	2025	2030	2035	2040	2045
Average Day	0.45	0.49	0.54	0.60	0.66
Avg Summer Day	0.88	0.98	1.08	1.19	1.31
Peak Day (1.5x Avg Summer)	1.33	1.47	1.62	1.79	1.97
Annual	161	177	196	216	239

Table 5-3 - Projected Future Water Usage (gpm)

Water Use (GPM**)	2025	2030	2035	2040	2045
Avg Day	372	410	453	500	552
Avg Summer Day	737	814	899	992	1096
Peak Day (1.5x Avg Summer)	1106	1221	1348	1488	1643
Annual	367	405	447	493	545
Water Rights	4000	4000	4000	4000	4000
Pump Capacity*	980	1800	1800	1800	1800
***Assumes Filter Pack Capacity Limitation is resolved in the future.** ****Assumes 20 hours of operation per day.**					

5.3 Schedule to Fully Exercise Each Permit

OAR 690-086-0170(2)

As noted in Section 2, Irrigon has four water rights. Water rights A, B, and C have been fully exercised/perfected/certificated. Water right A (basalt aquifer) is inactive in the state system. Water right D, the newest and largest, has not yet been fully exercised.

Further, Irrigon does not currently have pump capacity to pump the full 8.92 cfs (4,000 gpm) instantaneous rate that they are allowed by right; the pumps at Wells 3 and 4 have a current capacity of 4.0 cfs (1800 gpm), with the filter pack limitation degrading the actual rate to about 980 gpm. The City plans to address the filter pack capacity limitation as the need for additional capacity develops.

From a projected city growth perspective, Irrigon's current summer average day usage of 0.88 MG only represents a peak flowrate of 737 gpm, assuming pump operation of 20 hours per day, per AWWA recommendations. Projected out at the 2.0% growth rate mentioned above, this would require 1096 gpm in year 2045 at 20 hours of pumping per day.

Water right D notes that the flowrate is based on peak day demand, so a peaking factor should be applied to the peak month average day demand presented above. Without daily meter readings, this peaking factor must be estimated. Assuming a conservative daily peaking factor of 1.5 from the average summer day, this would result in a peak beneficial use of 1643 gpm in year 2045, which is still well short of the allotted 4,000 gpm allowed by water right.

As such, there is no practical timeframe for Irrigon to fully exercise their water rights at this time. Extensions should be filed with OWRD in the meantime to see how Irrigon grows in the coming years. Water right D is valid until February 14, 2028 under the existing permit. An extension will need to be filed to keep this permit open for the foreseeable future.

5.4 Comparison of Projected Need and Available Sources

OAR 690-086-0170(4)

Irrigon currently has sufficient water rights (4,000 gpm) and system capacity (1,800 gpm) to supply its needs through the 20-year projection period (1,643 gpm) at 2% growth. (This assumes the filter pack capacity limitation is resolved in the future.)

The critical pieces of infrastructure are Irrigon's only storage reservoir and only transmission line connecting the wells and reservoir to the distribution grid. As noted in Section 4, if the reservoir goes offline, Irrigon becomes reliant on both pumps to provide peak day, peak hour, and fire flows. If the single transmission line goes offline, the City is reliant on reservoir storage until repairs can be made or the old wells are reconnected.

Irrigon's water system would become more resilient with construction of a second reservoir and transmission main.

An intertie, as described in Section 2, would also provide system redundancy and may prove more cost effective, especially with a cost-sharing program with the intertie participant.

5.5 Analysis of Alternative Sources

OAR 690-086-0170(5) AND (8)

As Irrigon grows, it will likely need to expand its diversion of water allocated under existing permits. Given that Irrigon already has water rights for its future needs from the Columbia River alluvial aquifer that does not have significant capacity or quality concerns, no preferred new sources have been identified. Nitrate concentrations should be monitored closely to identify if levels are rising to help properly plan for any mitigation that may become necessary in the future.

It is unknown what exact level of savings future conservation efforts may have. This can be monitored each year to provide a baseline for estimating at the five-year WMCP update. It is very feasible that conservation efforts could match Irrigon's 0.5%-2% projected annual growth rate.

As noted above, an intertie and/or increased storage would help improve system reliability, but the neighboring communities generally draw from the same alluvial aquifer, so no appreciable environmental improvements would be expected. An intertie would likely only be used under special circumstances.

5.6 Mitigation Actions Under State and Federal Laws

OAR 690-086-0170(7)

Irrigon is not currently required to perform any environmental monitoring or mitigation actions for use of its water rights. The avoidance and mitigation with water right D is accomplished by forgoing withdrawal from Well 2, as noted in sections 2.1 and 3.9.

5.7 Greenlight Water Request

OAR 690-086-0130(7)

Irrigon will need to file a permit extension prior to 2028 for water right D, but the maximum rate needed will be within the permitted amount, so a Greenlight Water Request does not apply.

APPENDICES

Appendix A – Water Rights Documents

Appendix B – Well Summaries

Appendix C – City Water Production Data

Water Management and Conservation Plan (WMCP)

THE LANGDON GROUP

GATEWAY MAPPING INC.

J·U·B ENGINEERS, INC.

J-U-B FAMILY OF COMPANIES