

Water Management and Conservation Plan for the City of John Day, Oregon

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Prepared by



La Grande, Oregon

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Attachment A	Well Logs of City Water Supply Wells
Attachment B	Water Right Documents

WMCP Checklist

This checklist is provided as a guide to where each required WMCP element is located within the body of the plan.

\checkmark	Item	OAR Reference	Section No.
W	MCP Plan Elements		
	Affected local governments	690-086-0125(5)	1.5
	Proposed WMCP update schedule	690-086-0125(6)	1.6
	Additional time to implement conservation benchmarks	690-086-0125(7)	1.7
W	ater Supplier Description		
	Water Sources and System Description	690-086-0140(1)	2.1
	Current Population and Service Area	690-086-0140(2)	2.2
	Adequacy and Reliability of Existing Water Rights/Supply	690-086-0140(3)	2.3
	Quantification of Water Delivered by Water Supplier	690-086-0140(4)	2.4
	Inventory of Water Rights and Environmental Resource Issues	690-086-0140(5)	2.5
	Description of Customers Served	690-086-0140(6)	2.6
	Identification of Interconnections with other Municipal Supply Systems	690-086-0140(7)	2.7
	Schematic of System	690-086-0140(8)	2.8
	Quantification and Description of System Leakage	690-086-0140(9)	2.9
W	ater Conservation Element		
	Previous Water Management and Conservation Plan	690-086-0150(1)	3.1
	Water Supplier's Water Use Measurement and Reporting Program	690-086-0150(2)	3.2
	Description of Other Conservation Measures	690-086-0150(3)	3.3
	Description of Specific Activities for Implementation of Conservation	690-086-0150(4)	3.4
	Measures		
	Water Audit	690-086-0150(4)(a)	3.4.1
	Metering System	690-086-0150(4)(b)	3.4.2
	Meter Testing and Maintenance Program	690-086-0150(4)(c)	3.4.3
	Water Rate Structure	690-086-0150(4)(d)	3.4.4
	Leak Detection and Repair Program	690-086-0150(4)(e)	3.4.5
	Public Education Program	690-086-0150(4)(f)	3.4.6
	Plan for Leak Repair or Line Replacement	690-086-0150(5)	3.5
	Enhanced Conservation Measures	690-086-0150(6)	3.6
W	ater Curtailment Element		
	History of Supply Deficiencies	690-086-0160(1)	4.1
	List of Alert Stages	690-086-0160(2)	4.2
	Pre-determined levels of severity of shortage of water services	690-086-0160(3)	4.3
	List of specific standby water use curtailment actions	690-086-0160(4)	4.4
W	ater Supply Element		
	Service Area and Population Projections	690-086-0170(1)	5.1
	Estimated Schedule	690-086-0170(2)	5.2
	Water Demand Forecast	690-086-0170(3)	5.3
	Comparison of Projected Need to Available Sources	690-086-0170(4)	5.4
	Alternative Sources	690-086-0170(5)	5.5
	Conservation Measures	690-086-0170(5)(a)	5.5.1
	Interconnection	690-086-0170(5)(b)	5.5.2
	Quantification of Maximum Rate and Monthly Volume	690-086-0170(6)	5.6
	Mitigation Actions	690-086-0170(7)	5.7
	Future Needs	690-086-0170(8)	5.8

1 Introduction

1.1 Purpose/Plan Requirement

The City of John Day is located near the center of Grant County, in central-eastern Oregon, at the intersection of US Highways 26 and 395 (see Figure 1). It is the largest municipality in the county. It has a hospital, airport, and community college extension and serves as the regional center for many surrounding towns. The City presents this Water Management and Conservation Plan (WMCP) to the Oregon Water Resources Department (OWRD). The City believes this WMCP outlines a plan to effectively manage its present water rights and provide a means for developing a comprehensive strategy for meeting its needs for a reliable municipal water supply over the next 20 years.

Permit No. G-15101, which allows the development Well No. 5 of the City's water supply system, was issued on July 12, 2002 and included a requirement that the City submit a WMCP within a specified time. Although the City made substantial progress after 2002 in taking steps to conserve water, a formal WMCP was not submitted to OWRD. On April 10, 2015 OWRD issued a Final Order approving an extension of time for development of the water right, and specified that a WMCP under OAR Chapter 690, Division 86 must be submitted to the Department by April 10, 2018 (i.e., within 3 years of the Final Order). The City is submitting this WMCP as required by that Final Order.

1.2 Plan Organization

This WMCP is organized in a manner consistent with OAR 690-086.

- Section 2 describes the water supply system, including key demographic information, water consumption, and the type of infrastructure present in the water system.
- Section 3 identifies the conservation measures the City has implemented with associated benchmarks for each measure.
- Section 4 describes the tools available to the City in the event of a water emergency, including a water curtailment plan.
- Section 5 uses the information presented in Section 2 to forecast future demand, compare that demand to present water rights, and assess the adequacy of the City's source water capacity.

1.3 Summary of Data Sources

This WMCP was created with records provided by staff of the City of John Day. Information provided includes water production and usage records, maps, and the City's Water System Master Plan (Anderson-Perry & Associates, Inc. 2001).

1.4 Input During Plan Development

The City's Public Works Director has had a major amount of input to this WMCP.

1.5 Affected Local Governments

Besides the City of John Day, the only local government that may be affected by this WMCP is the Town of Canyon City because of the intertie between the two water systems that is located between the two cities along Highway 395. As described in Section 2.7, the City of John Day sometimes provides water to Canyon City when there is a shortage of water in Canyon City and the John Day water system has sufficient water.

1.6 Plan Update Schedule

As allowed by OAR 690-086-0120(6), the city suggests that submittal of an updated WMCP is unnecessary. As discussed in this WMCP, water usage by the City's water supply system is already one of the lowest in the region, with much of the credit being due to steps the City has already taken that have had the effect of reducing water usage (see Section 3.4 of this Plan). The City's water system is fully metered. The City's audit system allows identification of unusual usage, and notice of unusual usage is given to users. Estimated leakage from the water system is already quite low (about 6 percent), and suspected leaks are investigated and repaired if necessary. As long as the City continues to implement current practices, water use in the City is expected to continue to be relatively low for the region.

1.7 Request for Additional Time to Implement Metering or Benchmarks

There is no need for the City to request additional time since meters have already been installed throughout the City's water system, and there have been no benchmarks established in a previous WMCP.

2 Municipal Water Supplier Description

This section provides a description of the City of John Day municipal water supply and distribution system as required under OAR 690-086-0140. Information provided includes a description of the water sources, a delineation of the service area, the population served, existing water rights, and demands for water. A discussion of the adequacy and reliability of the existing water supply is included. This section also provides a description of the City's customers and their water use patterns, the water system, a description of an interconnection with Canyon City, and an estimate of water leakage from the system.

2.1 Water Sources and System Description

A schematic drawing of the City of John Day Water Supply System is shown in Figure 2. A brief description of the system follows.

2.1.1 Description of Supplier's Sources of Water

Sources of the City of John Day's water supply include five wells (Wells No. 1 through No. 5) and Long Gulch Springs, as described more fully below. The locations of the wells and springs are shown in Figure 2. Well logs from the five wells are contained in Attachment A. The wells are all completed in the confined basalt aquifer that underlies the City. Capacities of the existing pumps in each well are listed in Table 2-1.

Well No.	Pump Capacity (see note)	Well ID in OWRD Database				
1	None	GRAN 444				
2	150 gpm (0.33 cfs)	GRAN 435				
3	1,000 gpm (2.23 cfs)	GRAN 434				
4	900 gpm (2.00 cfs)	GRAN 427				
5	1,000 gpm (2.23 cfs) GRAN 50					
Note : Although the pumps have the capacities listed above, water-level drawdown limits the time that the wells can sustain the listed flows.						

 Table 2-1.
 Summary of Existing Pump Capacities

Water usage from each well (except for Well No. 1, which is not currently utilized) and from Long Gulch Springs is metered, and the water produced from the sources is recorded monthly. The meters were installed in 2005 and 2006. As described below, there are certificated water rights for four of the wells, and there is a water right permit for the remaining well (i.e., Well

No. 5). Well No. 5 is utilized currently under a Limited License granted by OWRD. The City also has a water right certificate for Long Gulch Springs. Copies of the various water right certificates and the water right permit and Limited License for Well No. 5 are contained in Attachment B. Additional information pertaining to the City's water rights is contained in Section 2.6. A brief description of each of these sources follows:

Well No. 1 - Well No. 1 is a 12-inch well that is located inside the old city hall on Highway 395 that was drilled to a depth of 240 feet below ground surface in 1947. The well is completed in the confined basalt aquifer. The well reportedly caved in, necessitating the drilling of Well No. 2, and is currently capped and not in use. The City has a right to use water from the well for municipal uses at a rate of up to 0.47 cubic feet per second (cfs), which is equivalent to 211 gallons per minute (gpm).

Well No. 2 - Well No. 2 is located in a city maintenance building just northeast of the confluence of Davis Creek and the John Day River, near the City's wastewater treatment plant. The well was drilled in 1952, and extends to a depth of 310 feet. The upper part of the well has a 12-inch casing, but at some depth the casing is downsized to a diameter of 10 inches. When drilled, the well was a flowing artesian well indicating that it, like the other City wells, is completed in the confined basalt aquifer. The City's water right for Well No. 2 allows the City to use up to 0.71 cfs (319 gpm) from the well for municipal uses. The existing pump produces a flow of approximately 0.33 cfs (150 gpm). The well discharges directly into the City's main distribution system in the lower pressure zone.

Well No. 3 - Well No. 3 is located in a concrete building just north of Trowbridge Ditch, near Trowbridge Creek, in the northeast part of the City. The well was drilled in 1963 and has a total depth of 250 feet. The well has a 12-inch casing, and extends into the confined aquifer, as indicated by the fact that when drilled the well had an artesian flow of 500 gpm. The City has two water rights for Well No. 2, allowing for the use of up to 2.23 cfs (1,001 gpm) for municipal uses, and the existing pump can produce up to about 1,000 gpm, but is usually pumped at a rate of 850 gpm. Pumped water from the well discharges directly into the City's main distribution system in the lower pressure zone.

Well No. 4 - Well No. 4 is located near the east end of 7th Street on the north side of the street, in the northeast part of the City. The well was drilled in 1981 and has a total depth of 185 feet. The upper part of the well has an 18-inch casing, but the casing downsizes to 16-inches and then 12-inches at the bottom. The well is completed in the confined basalt aquifer. The City has a water right allowing for the use of up to 2.23 cfs (1,001 gpm) for municipal uses, and the existing pump can produce about 900 gpm. Pumped flow from the well discharges directly into the City's main distribution system in the lower pressure zone.

<u>Well No. 5</u> - Well No. 5 is located roughly midway between Well No. 2 and Well No. 4, just north of the intersection of Bridge and 7th streets. The well was drilled in 2003 to a depth of 236 feet. The well casing has a diameter of 20 inches at the ground surface, but downsizes to a

12-inch liner in the bottom part of the well. Like the other city wells, Well No. 5 is completed in the basalt aquifer. The existing pump in the well is capable of producing a flow about 1,000 gpm, but is usually run at a rate of about 850 gpm. However, the well cannot sustain a flow of 850 gpm for more than several hours without creating excessive drawdown in the well.

The City was granted a water right permit for Well No. 5 allowing for the development of a well producing up to 2.23 cfs (1,001 gpm), but the right has not yet been certificated. An extension for the permit was granted on April 10, 2015 that gives the City until October 1, 2019 to apply the water to full beneficial use. However, the Oregon Water Resources Department has granted the City a Limited License (LL-1562) granting the City permission to use 840 gpm from Well No. 5 until October 1, 2019 while the City obtains a certificated water right from the well.

Long Gulch Springs - Long Gulch Springs consist of groundwater that drains from old mining shafts located on the hillside just east of Highway 395 and just outside of the southernmost extent of the City limits, but within the City's Urban Growth Boundary (UGB). Water from the springs is collected by three gravel-covered pipes that extend about 20 to 30 feet into the three adjacent mine shafts. Water from the springs is conveyed by gravity in a pipeline to Reservoir No. 1 and then is chlorinated as it flows from Reservoir No. 1 to the adjacent Reservoir No. 2. From Reservoir No. 2 the chlorinated water can either be pumped into a pipe that leads up to Reservoir No. 4, or can be pumped into the Main Distribution System in the lower pressure zone.

The City has three water-right certificates on water from Long Gulch Springs (certificates 25379, 21130, and 21243), which combine to provide the right to use a total flow of 3.09 cfs (1,387 gpm) for municipal uses, 2 cfs (898 gpm) for irrigation during April and May, and 1 cfs (449 gpm) for irrigation during June, July, August, and September. The maximum volume used for irrigation is also subject to limits, as shown in Table 2-2.

Metered flow from the springs has little or no seasonal variability. Annual flows during the 2010 through 2014 period have ranged from an average of about 77.8 gpm in 2010 to an average of 89.4 gpm in 2013, with a 5-year average of 84.2 gpm. In August 2015 the flow from the spring was about 75 gpm. The spring flows reportedly were closer to 125 gpm in the past. The reason for the decline is not known, although it may be at least partially influenced by the fact that a number of recent years have had less than normal precipitation.

2.1.2 Source Treatment

All water sources that are ready for use (i.e., Wells No. 2 through 5 and Long Gulch Springs) are currently in compliance with state drinking water standards outlined under OAR 333-065.

Withdrawals from Wells No. 2, 3, 4, and 5 are disinfected with gaseous chlorine. Water produced from Long Gulch Springs is treated with chlorine tablets as it flows between Reservoir No. 1 and Reservoir No. 2. Chlorine tablets are also used at times to maintain adequate residual chlorine levels in Reservoir No. 6. Well No. 1 has not been used for many years, and does not currently have a chlorination system in place.

Table 2-2. City of John Day Municipal Water Rights Inventory

Application	Permit	Priority Date	Certificate	Source of	Type of	Maximum Instantaneous and	Average Monthly and Daily Diversion		Authorized	Streamflow
No.	No.	Filonity Date	No.	Water	Beneficial Use	Annual Quantity of Water Allowed	2014	2010-2014	Completion Date	Dependent Species
G-840	G-1219	Jan 21, 1959	35080	Well No. 1	Municipal	0.47 cfs 340 Acre-feet (111 MG)	None	None	Completed	N/A
G-839	G-1218	Jan 21, 1959	30270	Well No. 2	Municipal	0.71 cfs 514 acre-feet (167 MG)	None	None	Completed	N/A
G-2820	G-2695	Mar 31, 1964	44465	Wall No. 2	Municipal	1.34 cfs 970 acre-feet (316 MG)	Monthly: 2.36 MG	Monthly: 2.08 MG	Completed	N/A
G-7007	G-6690	Jun 23, 1975	58326	Well NO. 5	Municipal	0.89 cfs 644 acre-feet (210 MG)	Daily: 77,500 gal	Daily: 68,500 gal	Completed	N/A
G-10244	G-9319	Apr 1, 1981	67796	Well No. 4	Municipal	2.23 cfs 1614 acre-feet (526 MG)	Monthly: None Daily: None	Monthly: 0.19 MG Daily: 6,300 gal	Completed	N/A
G-15640	G-15101	Oct 22, 2001	None	Well No. 5	Municipal	2.23 cfs 1614 acre-feet (526 MG)	Monthly: 3.95 MG Daily: 129,900 gal	Monthly: 3.58 MG Daily: 117,500 gal	October 1, 2006	N/A
	Limited License #1562				Municipal	1.87 cfs (840 gpm) 1354 acre-feet (441 MG)			License expires April 19, 2020	N/A
N/A	N/A	Dec 31, 1884	25379	Long Gulch	Irrigation, Domestic, Municipal	Domestic & Municipal 3.0 cfs 2172 acre-feet (708 MG) Irrigation April-May 2.0 cfs June-Sept 1.0 cfs 363 acre-feet (118 MG)	Monthly: 3.92 MG	Monthly: 3.69 MG	Completed	Under the Endangered Species Act Steelhead and Bull Trout are listed as Threatened and Endangered in the John Day River into which flow
S-8875	S-5838	Mar 24, 1923	21130	Springs	Municipal	0.06 cfs 43 acre-feet (14 MG)	Daily: 128,800 gal	Daily: 121,400 gal	Completed	from Long Gulch Springs would discharge if it were not diverted first.
S-13739	S-9926	Sep 19, 1930	21243		Municipal	0.03 cfs 22 acre-feet (7 MG)			Completed	

2.1.3 Water Storage

The City has six storage reservoirs. The reservoir locations are shown in Figure 2. One of the reservoirs (Reservoir No. 1) stores untreated water from Long Gulch Springs, and the other five reservoirs (Reservoirs No. 2 through 6) store chlorinated water. The untreated water storage capacity of Reservoir No. 1 is 75,000 gallons, and the treated (by chlorination) water storage capacity of Reservoirs No. 2 through 5 totals 2,333,000 gallons. A summary of the available storage capacity of the reservoirs is provided in Table 2-3.

Reservoir No.	Storage (gal)	Comments
1	75,000	Untreated
2	438,000	Treated
3	275,000	Treated
4	400,000	Treated
5	400,000	Treated
6	820,000	Treated

Table 2-3.	Water	Storage	Summary	/
	W atci	Storage	Samary	,

<u>Reservoir No. 1</u> - Reservoir No. 1 was constructed in 1938 and has a capacity of 75,000 gallons. It is located on a hill above the Fire Station near the center of the City near Ferguson Road, and is adjacent to Reservoir No. 2. Reservoir No. 1 is a concrete, partially buried, rectangularshaped reservoir. Reservoir No. 1 is filled by gravity with flow from the Long Gulch Springs.

<u>Reservoir No. 2</u> - Reservoir No. 2 was also constructed in 1938, is adjacent to Reservoir No. 1, and has a capacity of 438,000 gallons. It is a concrete, partially buried, rectangular-shaped reservoir, with a metal roof. Water from Reservoir No. 1 flows into Reservoir No. 2 and is chlorinated as it flows between the two reservoirs. Water from Reservoir No. 2 is either pumped into the upper pressure zone fed by Reservoir No. 4 (i.e., the Upper Ferguson Road System pressure zone), or pumped into the City's Main Distribution System pressure zone.

Reservoir No. 3 - Reservoir No. 3, known as the Crisp Heights Reservoir, was constructed in 1950 with an original capacity of 14,000 gallons, but has been rebuilt with a capacity of 275,000 gallons. It is a round, above-ground steel reservoir located just northeast of the airport. Water from the City's Main Distribution System lower pressure zone is pumped up the considerable hill to Reservoir No. 3 through two booster pump stations (i.e., the Crisp Heights Lower and Lower Airport booster pump stations) positioned in series. The Upper Airport Booster Pump Station, located adjacent to Reservoir No. 3, pumps water from the reservoir to the Airport System pressure zone that serves the airport and surrounding areas.

Reservoir No. 4 - Reservoir No. 4 was constructed in 1964 with a capacity of 400,000 gallons. It is a circular, above-ground, concrete reservoir located up the hill and south of Reservoirs No. 1 and 2. A booster pump pumps water from Reservoir No. 2 up to Reservoir No. 4. Water from Reservoir No. 4 supplies a few users in the southern part of the City near Highway 395 and along Upper Ferguson Road. Water from Reservoir No. 4 also flows through a Pressure Reducing Station to serve the eastern part of the City. When needed, water from Reservoir No. 4 also supplies Canyon City through an intertie near Highway 395 (discussed more fully in Section 2.2.1 of this Plan).

<u>Reservoir No. 5</u> - Reservoir No. 5 is an above-ground, circular steel reservoir that was constructed in 1980. It has a capacity of 400,000 gallons and is located north of Charolais Drive near the northern City limits. Reservoir No. 5 is connected directly to the City's Main Distribution System (i.e., the lowest pressure zone in the City).

Reservoir No. 6 - Reservoir No. 6 is a fiberglass tank that was constructed in 2003 with a capacity of 820,000 gallons. It is located near the upper end of La Costa Drive near the western City limits. As is Reservoir No. 5, Reservoir No. 6 is connected directly to the City's lowest pressure zone, so can be filled from any of the City's water sources.

2.1.4 Transmission/Distribution

The City has a system network of pipe sizes ranging from 2-inches to 12-inches in diameter (see Figure 2).

2.1.5 Pressure Zones and Pump Stations

Because of the elevation variations within the service area of City's water system, the system is divided into six separate pressure zones, summarized in Table 2-4 below. City wells pump directly into the Main Distribution System, which is the largest and lowest pressure zone in the city. Water from Long Gulch Springs flows by gravity to Reservoir No. 1, then is chlorinated as it flows from Reservoir No. 1 into Reservoir No. 2, and then is pumped from Reservoir No. 2 either into the Upper Ferguson Road System or into the Main Distribution System. Water is pumped from the Main Distribution System into the Ironwood Subdivision System at the Ironwood Booster Pump Station. Water is pumped from the Main Distribution System through a sequence of two booster pump stations. The water is first pumped by the Crisp Heights Lower Booster Pump Station, and then pumped again by the Lower Airport Booster Pump Station to serve the Airport System.

There is a diesel-powered backup pump at the Upper Airport Booster Pump Station and a backup power supply at the Ironwood Booster Pump Stations for periods when the electrical power is interrupted. There is also a mobile generator that can be used at the Lower Airport, Crisp Heights Lower, and Ferguson booster pump stations if needed.

Pressure Zone	Storage Reservoir Source	Service Area
Main Distribution System	Gravity flow from Reservoirs No. 5 & No. 6, or pumped into system from Reservoir No. 2	Valley floor areas and lower hillsides
East John Day System	Flow from Reservoir No. 4 (after flowing through a Pressure Reducing Valve)	John Day east of Elm Street
Upper Ferguson Road System	Gravity flow from Reservoir No. 4	Ferguson Road users above booster pump station, gravity flow users south of Reservoir No. 4, and Canyon City intertie
Ironwood Subdivision System	Pumped from Main Distribution System by Ironwood Booster Pump Station	Ironwood Subdivision above Valley View Drive
Crisp Heights System	Gravity flow from Reservoir No. 3, which is filled by pumping from Main Distribution System by Crisp Heights Lower and Lower Airport Booster Pump Stations	Crisp Heights Subdivision
Airport System	Pumped from Reservoir No. 3 by Upper Airport Booster Pump Station	From outlet of Reservoir No. 3 to the airport area

Table 2-4. City of John Day Water System Pressure Zones

2.1.6 Intergovernmental Agreements

As described more fully in Section 2.7, there is a formal agreement between the City of John Day and the Town of Canyon City to provide water to each other when one of the entities has sufficient water and the other entity has a shortage. The agreement specifies that it is not the intent of the Agreement for either City's water supply to become a permanent source for the other city. Historically, John Day has provided water to Canyon City a number of times. The John Day public works director is not aware of any instance where Canyon City supplied water to John Day through the intertie (*personal communication between Lance Woodcock and George Chadwick, July 2015*). Because of the limitations of the Canyon City water supplies, Canyon City is not deemed to be a reliable backup water supply for John Day during times of shortage.

2.2 Current Population and Service Area

The water system's service area includes all developed areas within the City limits as well as areas outside the City limits that are within the Urban Growth Boundary (UGB). As shown in Figures 1 and 2, these areas within the UGB are almost entirely to the west and south of the City.

The City of John Day had an estimated population of 1,745 on July 1, 2014 (Portland State University 2015). The City water system provides water to all of the City residents as well as an estimated 70 more people who reside within the UGB, resulting in an estimated service area population in 2014 of approximately 1,815.

2.2.1 Agreement with the Town of Canyon City

Besides supplying water to the approximately 1,815 residents within the service area (as of 2014), the City also supplies water to the Town of Canyon City during times of shortage. As described more fully in Section 2.7, there is a formal agreement between the City of John Day and the Town of Canyon City to provide water to each other when one of the entities has sufficient water and the other entity has a shortage. According to the Agreement, John Day may deliver up to a weekly average of 200 gpm to Canyon City, when needed.

2.2.2 Water Supply/Delivery Contracts

The City also provides bulk water to different entities including the Fire Department, the U.S. Forest Service, and various private contractors. These bulk deliveries are normally recorded. Recorded deliveries are included in the monthly water records maintained by the City.

2.3 Adequacy and Reliability of Existing Water Rights/Supply

The City currently has 5.64 cfs of certificated water rights for municipal use from four wells (Wells No. 1 through 4), and 3.09 cfs of certificated water right for municipal use from Long Gulch Springs. The City also has a certificated water right for 2 cfs of irrigation water from Long Gulch Springs during April and May, and 1 cfs of irrigation water from the springs from June through September. There is also a water right permit for a municipal use of 2.23 cfs from Well No. 5. That water right is in the process of being certificated, but the well is currently being operated under a Limited License from OWRD that allows the use of 840 gpm (1.87 cfs) until October 1, 2019.

Operational constraints currently limit the amount of water that can be used from all certificated sources to about 1,975 gpm (4.40 cfs) (i.e., 150 gpm from Well No. 2, 850 gpm from Well No. 3, 900 gpm from Well No. 4, and a minimum of 75 gpm from Long Gulch Springs). However, during a power outage none of the wells having certificated water rights can be utilized because there is no backup power available at those wells. Well No. 5 does not yet have a certificated water right, but also has a pump capable of producing 1,000 gpm. However, the well is usually pumped at a rate of 850 gpm, and cannot maintain that flowrate for more than several hours before the water level in the well falls such that the flow needs to be reduced. Additionally, because these wells are all completed in the same aquifer, they cannot be pumped concurrently at these flow rates for a significant amount of time.

2.4 Quantification of Water Delivered by Water Supplier

This section contains information on the amount of water that is being used by the City of John Day water supply system.

2.4.1 Average Annual and Average Day Water Use

The water produced from the City's water sources for the 5-year period extending from 2010 through 2014 is tabulated in Table 2-5. As shown in the table, the water produced by the City's water sources varied from 107.6 million gallons (MG) in 2010 to a peak of 122.6 MG in 2014, averaging 114.5 MG. These annual totals are equivalent to average annual flowrates varying from 204.7 gpm to 233.3 gpm. Based on an estimated population served of 1,815 (see Section 2.2, above), the 2010-2014 average flow is equivalent to an average flow of 173 gallons per capita per day (gpcpd), and ranged from a low of 162 gpcpd in 2010 to a high of 185 gpcpd in 2014.

Water production and use has been significantly lower in recent years than previously. As reported in Anderson-Perry & Associates, Inc. (2001), the annual water produced during the 1993 through 1999 period ranged from 151.2 MG to 227.3 MG, and averaged 255 gpcpd, significantly higher than the 173 gpcpd average for the 2010-2014 period. There are at least a few reasons for this 32 percent reduction in the amount of water produced from the various water sources on a per capita basis. One reason is that some leaky water line mains were replaced. Another is that the telemetry capabilities added to the system's meters in the 1990's allowed for better leak detection. A third significant reason for the reduction in per capita water use is that a large lumber mill (i.e., the Grant Western Lumber Company) in John Day ceased most of its operations (a shop and office at the mill are still in use).

	Total Production in Million Gallons (MG)								
Source	2010	2011	2012	2013	2014	2010-2014 Average	% of Supply		
Well No. 1	0	0	0	0	0	0	0%		
Well No. 2	0	0	0	0	0	0	0%		
Well No. 3	27.4	27.8	11.9	29.6	28.3	25.0	22%		
Well No. 4	0	0	11.5	0	0	2.3	2%		
Well No. 5	39.3	42.0	42.7	43.2	47.4	42.9	37%		
Long Gulch Springs	40.9	41.4	45.1	47.0	47.0	44.3	39%		
Total (MG)	107.6	111.1	111.3	119.8	122.6	114.5	100%		
Average Day (MG)	0.30	0.30	0.30	0.33	0.34				

Table 2-5. Annual Water Production, 2010-2014

2.4.2 Peak seasonal use

Figure 3 shows a graphical representation of the water produced each month from January 2010 through December 2014. It can be seen that much more water is used in the summer

months than in the spring, fall, and winter months. As shown in Table 2-6, the ratio of the average flow during the peak month each year to the average flow during the entire year during the 2010 through 2014 period varied from 1.61 to 1.93, and averaged 1.72. In the City's Water System Master Plan the ratio of the peak daily flow to the average flow was estimated to be 3.2 (Anderson-Perry & Associates, Inc. 2001). Using that value, the peak daily flow during the 2010-2014 period is estimated to be 747 gpm (i.e., 3.2 times the average daily flow in 2014).



Figure 3. Monthly Water Production, 2010-2014

Calendar	Total Water	Produced	Peak Cal Pro	Ratio of Peak Month Flow	
Year	Total (gal)	Average (gpm)	Total (gal)	Average Flow (gpm)	to Average Flow
2010	107,610,400	204.7	17,484,500	391.7	1.91
2011	111,134,700	211.4	18,004,000	403.3	1.65
2012	111,291,400	211.2	15,859,400	355.3	1.68
2013	119,769,600	227.9	17,841,300	399.7	1.75
2014	122,631,600	233.3	16,753,200	375.3	1.61
2010-2014 Average	114,487,540	217.7	17,188,480	385.1	1.72

Table 2-6. Annual and Peak Month Water Production

2.5 Inventory of Water Rights and Environmental Resource Issues

This section of the report describes the City water rights, and discusses state or federally listed streamflow-dependent species in the City water sources.

2.5.1 Water Rights

The City of John Day has certificated water rights for wells No. 1, No. 2, No. 3, and No. 4, and three certificated water rights for Long Gulch Springs. The City also has a water right permit for Well No. 5, and a limited license (LL #1562) that currently allows usage of water from the well while the water right is in the process of being certificated. These rights are all tabulated in Table 2-2. Copies of these rights and a copy of the Limited License for Well No. 5 are all contained in Attachment B.

As shown in Table 2-2, the water rights for the City wells allow for municipal usage, and the water rights in Long Gulch Springs allow for irrigation, domestic, and municipal usage. The table also shows the average monthly diversions from the various sources from 2010 through 2014. Daily flow records are not available.

2.5.2 Environmental Resource Issues

All of the City's water sources are from groundwater. The City's five wells all pump from a confined basalt aquifer underlying the City. The wells are not located within a designated critical groundwater area.

Two perennial streams, the John Day River and Canyon Creek, run through the City of John Day. Flow from Long Gulch Springs would naturally flow into Canyon Creek, which flows into the John Day River in the City of John Day. The John Day River within the City limits is currently listed as a water-quality limited stream due to elevated summer temperatures, elevated bacteria levels, biological conditions, and dissolved oxygen.

Steelhead and bull trout are both classified as threatened in the John Day River region by the Federal Government under the Endangered Species Act.

2.6 Description of Customers Served

The City of John Day's water supply system is the only supplier of potable water within the system's service area. Table 2-7 shows the percentage of water delivered to each type of account (i.e., residential, commercial, industrial, and miscellaneous) during 2014. As evident from that table residential customers use the large majority of the water delivered by the City's water supply system, with commercial customers utilizing a significant amount. In recent times, industrial users use just under 1 percent of the total water delivered by the water supply system.

Account Type	2014 Use (MG)	Percent of Total			
Residential	70.79	68.7%			
Commercial	28.83	28.0%			
Industrial	0.87	0.8%			
Other*	2.62	2.5%			
Total	103.1	100%			
*Other uses include water for the shop hydrant, vacuum truck,					
tanker, flushing, washrack, Well No. 4 irrigation, Upper Airport					
irrigation, and f	ire department				

Table 2-7. Account Type and Usage

2.7 Identification of Interconnections with other Municipal Supply Systems

As mentioned previously, there is a formal agreement between the City of John Day and the Town of Canyon City to provide water to each other when one of the entities has a shortage and the other entity has sufficient water to sell. When used, this water is delivered through an 8-inch connection between the two water systems located along Highway 395 near the southern end of the City's UGB (i.e., near Grant Union High School), as shown in Figure 2. The agreement specifies that upon the request of Canyon City, when John Day has more than enough water for its own needs, the City will furnish up to 2,016,000 gallons per week (200 gpm) of potable, domestic water to Canyon City at the intertie station. Water delivered from one city to the other is metered, and is included in the John Day water audit.

2.8 Schematic of System

A schematic of the John Day water supply system is contained in Figure 2. That figure shows the service area (i.e., the area within the UGB), the location of the system's water supply sources, the storage facilities, major transmission and distribution lines, pump stations, and the interconnection with Canyon City.

2.9 Quantification and Description of System Leakage

System leakage can be estimated from data provided in the monthly water audits. Differences between the metered flows from the various water sources and the metered flows to the various users, expressed as a percentage of the metered source flows, are tabulated in Table 2-8 for each year during the 2010 through 2014 period. There was a 10-inch water main break at Patterson Bridge in the end of December 2012 that was fixed in January 2013, and in December 2013 there was a major line leak at the airport. These two issues account for a large increase in the metered differences reported for 2013. In January of 2014 there were two major leaks (one in an alley on Brent Drive and another at the Grant Western Lumber

Company) which were fixed. Primarily because of these large leaks, which have been fixed, the differences between water produced and water distributed during 2014 were higher than in recent years. It is expected that a portion of the discrepancies between the metered flows from the sources and metered flows delivered to the users are due to unreported deliveries to bulk water users, such as for firefighting.

An examination of the monthly water audits shows that the difference between metered deliveries and metered usage rarely falls below about 470,000 gallons, and the differences for quite a few months range between about 470,000 gallons and 600,000 gallons a month. It consequently seems that a good estimate of current system leakage (i.e., after fixing the large leaks in 2013 and 2014, mentioned above) is probably within that range, which is equivalent to about 4.9 to 6.3 percent of the water produced, and equal to a flow of about 11 to 14 gpm. Monthly differences between water produced and water delivered to users that are significantly larger than that are likely due to unrecorded uses or to the major line breaks or leaks that have been fixed, as mentioned above.

Calendar Year	Water Produced by all Sources (MG)	Water Delivered to Users (MG)	Difference as a Percent of Production (%)					
2010	107.6	99.6	7.4%					
2011	111.1	103.5	6.8%					
2012	111.3	105.2	5.5%					
2013	119.8	104.5	12.8%					
2014	122.6	103.1	15.9%					
Average	114.5	103.2	9.9%					
Note: Diff occ usa	Note: Differences are expected to be a result of leakage, occasional line breaks, and occasional unmetered usage from fire hydrants.							

Table 2-8. Differences BetweenProduced and Delivered Water Quantities

3 Municipal Water Conservation Element

This section outlines conservation measures the City of John Day has already implemented, and includes information on the water measurement and reporting program.

3.1 Previous Water Management and Conservation Plan

There has been no previously OWRD-approved Water Management and Conservation Plan for the City of John Day.

3.2 Water Supplier's Water Use Measurement and Reporting Program

The water use reporting program for the City of John Day is in accord with the measurement standards of OAR 690-85. There are flow meters at all water sources that are read monthly. Flow delivered to the users are metered as well, except for at fire hydrants. Usage from fire hydrants is manually recorded, and is reported monthly by the fire chief to City officials in City Hall.

3.3 Description of Other Conservation Measures

The City does a number of other things in an attempt to conserve water usage within the water system's service area. For example, the city monitors water usage by its customers, and notifies them if usage rates are unusually high. The City utilizes leak detection equipment (borrowed from Canyon City) to investigate suspected leaks. The City provides maintenance or replacement of flow meters that are not working correctly. The City has adopted a rate schedule that bases the charges for water usage on the amount of water used. Additionally, the City of John Day provides water conservation information in the quarterly newsletter that is sent out with water bills. Pamphlets with that information are also displayed on a bulletin board at City Hall.

Besides efforts expended by the City, the local electric company (Oregon Trail Electric Cooperative, or OTEC), has offered water users low-use water faucets and showerheads in an attempt to reduce power and water usage.

3.4 Description of Specific Activities for Implementation of Conservation Measures

OAR 690-086-0150(4) requires all municipal water suppliers to establish a schedule with 5-year benchmarks for implementation of six specific conservation measures. As stated previously, the City's average per capita deliveries from the City's water sources averaged 173 gpcpd during the 2010-2014 period. This consumption rate is already quite low for a small city in this region. Anderson-Perry & Associates, Inc. (2015) lists average per capita water usage for 22 metered water systems of small cities in Eastern Oregon and Eastern Washington. After excluding John Day from that list, the average per capita water usage of the 21 remaining cities

is 284 gpcpd, and only one of the 21 cities has a lower per capita usage rate than does John Day (i.e., 170 gpcpd for Lostine, Oregon). The low usage rate in John Day is attributed partially to the steps already taken by the City to reduce water use. However, the City recognizes the need to continue its efforts at reducing water use. A description of what the City of John Day has done and the 5-year benchmarks for these six conservation measures are described below.

3.4.1 Water Audit

The City of John Day conducts monthly and annual water audits. This in-depth auditing system has been place since at least July 2009. Flow data from meters at each of the water sources and at all of the metered users are recorded. Estimates of water deliveries to unmetered locations (e.g., at fire hydrants throughout the service area) are also recorded monthly. The audit report shows the amount of water obtained from each source, and shows the metered water uses and estimates of the unmetered water uses each month. The differences between the total water from the sources and the total water delivered is calculated and listed as a water loss.

Five-Year Benchmark: The City will continue tracking water use through its monthly and annual audits.

3.4.2 Metering System

The water system of the City of John Day is fully metered, with the exception of fire hydrants. The City upgraded the meters at its water sources (i.e., Wells No. 2 through 5 and Long Gulch Springs) to magnetic meters in 2005 and 2006. The City also replaced all of the meters for its water users in 2008.

Five-Year Benchmark: The City will continue to require the installation of meters at service connections for all new development within its service area.

3.4.3 Meter Testing and Maintenance Program

The meters on the John Day water system are still fairly new. Meter testing and maintenance is currently performed on an "as-needed" basis.

Five-Year Benchmark: The City will continue testing and replacing or maintaining meters on an as-needed basis.

3.4.4 Water Rate Structure

Resolution No. 14-734-20, adopted on December 9, 2014, sets the current water rate structure for the City of John Day water system customers. As shown in Table 3-1, rates are based on the quantity of water used except for non-industrial customers that use less than 4,000 gallons per month. Additionally, for industrial customers the unit price of water increases for usage greater than 20,000 gallons per month.

	Base water rate (less than 4,000 gallons)	Additional usage (4,000 – 20,000 gallons)	Additional usage (greater than 20,000 gallons)	
Within City limits	\$33.00	\$0.00250 per gallon	\$0.00310 per gallon	
Outside City limits	\$66.00	\$0.0050 per gallon	\$0.00620 per gallon	
Industrial (Bulk) Rate for Nondomestic Use	\$0.00470 per gallon			

Table 3-1: Monthly Water Rate Structure

Five-Year Benchmark: The City will continue to maintain a water rate structure that includes a volumetric charge based on the amount of water metered at the customer's service connection. It is anticipated that the City will raise rates if needed for inflation or infrastructure needs.

3.4.5 Leak Detection and Repair Program

As discussed in Section 2.9, leakage from the City's water supply system is thought to already be significantly less than 10 percent. In spite of the low leakages rates, on an as-needed basis the City of John Day borrows leak detection equipment from Canyon City to investigate suspected leaks. The City also monitors usage from water customers, and when usage is unusually high the City notifies the water user of the unusual use, and inspects the water meter.

Five-Year Benchmark: The City will continue to perform leak detection investigations on an as-needed basis. The City will also continue monitoring usage from individual customers, and notify users when their usage is unusually high. The City will also inspect individual water meters when requested by users.

3.4.6 Public Education Program

As discussed in Section 3.3, the City of John Day provides water conservation information in quarterly newsletters that are sent to water customers with their water bills. The information is also displayed on a bulletin board at City Hall.

Five-Year Benchmark: The City will continue to distribute water conservation information to its customers and have water conservation brochures available at the City offices.

3.5 Plan for Leak Repair or Line Replacement

As discussed in Section 2.9, evaluation of the City's water audit data indicates that water leakage from the City's water supply system already averages less than 10 percent, and is estimated to be about 5 to 6 percent. Consequently, there is no current line replacement program in place. The current program for leak repairs is to repair line breaks when they occur.

Additionally, when there is reason to suspect unusual leaks the City borrows the leak detection equipment from Canyon City to help locate the leak.

3.6 Enhanced Conservation Measures

As mentioned in Section 2.5.2, Steelhead and Bull Trout are both classified as threatened in the John Day River region under the Endangered Species Act. However, the net effect of the City's water use is not expected to be detrimental to the threatened species for the following reason. Water pumped from the City wells is withdrawn from the confined basalt aquifer underlying the area, which does not freely discharge into the surficial aquifer or streams. However, the portion of the water that is pumped from the City wells that finds its way to the John Day Wastewater Treatment Plant (WWTP) is discharged into percolation ponds adjacent to the John Day River where it readily discharges into the John Day River. For example, flow to the treatment plant during 2014 averaged about 145 gpm (personal communication between Lance Woodcock and George Chadwick on August 17, 2015). The large majority of that 145 gpm would have been returned to the John Day River by way of percolation from the wastewater percolation ponds. As stated in the City's Total Maximum Daily Load (TMDL) Implementation Plan "Seepage from these [percolation] ponds into the shallow and highly permeable alluvial aquifer is expected to interact with the river, and increase its flow" (George Chadwick Consulting 2012). Water system leakage and deep percolation from irrigation using City water would also find its way into the river.

The City's use of water from Long Gulch Springs keeps some water out of the river system, although the non-consumed portion of this diversion would eventually find its way back into the John Day River, primarily by way of the percolation ponds at the City's treatment plant. However, this diverted spring flow (averaging about 84 gpm in recent years) is significantly less than the flow that discharges into the river from wastewater discharges into the percolation ponds (e.g., close to 145 gpm during 2014). Pumping water from confined aquifers and discharging much of it into the shallow unconfined aquifer beneath the percolation ponds is expected to provide a slight benefit to the river habitat by sustaining low flow during critical periods with the discharge of relatively cool shallow groundwater to the river during times of high river temperatures.

Because the City's sole dependence on the use of groundwater, which is not expected to have net adverse effects on surface water streams (for the reasons described above), adoption of the various enhanced conservation measures listed in OAR 690-086-0150(6) is not required in this WMCP.

4 Municipal Water Curtailment Element

This section of this Plan describes the curtailment element of the WMCP. It briefly addresses deficiencies of the current water supply, and presents the City's plan for curtailing water usage at various levels of concern.

4.1 History of Supply Deficiencies

Within the past ten years the City of John Day has not had any supply deficiencies. The groundwater sources on which the City depends have effectively protected the City against long-term droughts. However, the water supply is currently susceptible to power outages. The only water source that can provide water during a power outage is Well No. 5. Consequently, without the water that can be provided from Well No. 5, the City is vulnerable to long-term power outages. As stated in Section 2.1.1, the Limited License that currently allows the use of Well No. 5 is set to expire on October 1, 2019.

4.2 List of Alert Stages

The City's curtailment plan is comprised of three stages of alert: Mild, Moderate, and Critical. Each stage of alert is outlined in detail in Table 4-1.

4.3 Pre-determined Levels of Severity of Shortage of Water Services

Each of the City's three stages of alert is triggered by a pre-determined level of severity of water shortage, which is based upon the amount of water being used as compared to the capacity of the system to meet water demands. The trigger for each stage of alert is described in Table 4-1 below.

4.4 List of Specific Standby Water Use Curtailment Actions

The specific water curtailment measures that will be implemented under each stage of alert upon enactment of the water curtailment plan are outlined in Table 4-1 below.

The City of John Day has identified a number of water use curtailment actions for each of the three stages of alert outlined in Table 4.1. As shown in the table, the actions range from publicizing the need to conserve water for a mild shortage, to prohibiting some types of usage (e.g., for irrigation) for an extreme water shortage.

Table 4-1. Water Curtailment Plan for the City of John Day

Stage	Trigger	Curtailment Measures		
Mild	If use reaches 60% of system capacity* -OR- Water Level in Wells 3, 4, and 5 drop to 25 feet below ground surface	 Contact KJDY and Blue Mountain Eagle to publicize the potential for water shortage Post water conservation messages on the City's website, at City Hall, and in the water bills Reduce water use at City facilities and/or parks Encourage customers to minimize irrigation to 2 hours per day. 		
Moderate	If use reaches 70% of system capacity* -OR- Water level in Wells 3, 4, and 5 drop to 50 feet below ground surface	 Further reduce non-essential water use at City facilities and parks, as determined by the City manager Implement odd/even watering schedule for irrigation Prohibit use of water to wash sidewalks, streets, and parking lots Encourage fire department to limit or avoid training exercises that use water Discontinue non-emergency flushing of water mains 		
If use reaches 80% of system capacity* -OR- Water level in Wells 3, 4, and 5 drop to 75 feet below ground surface• Prohibit all outdoor water usage and irrigation • Restrict all use of City-supplied water to essential uses only, s for firefighting and maintenance of human health • Prohibit water use from fire hydrants for any purpose other t firefighting • No new water service connections to be approved		 Prohibit all outdoor water usage and irrigation Restrict all use of City-supplied water to essential uses only, such as for firefighting and maintenance of human health Prohibit water use from fire hydrants for any purpose other than firefighting No new water service connections to be approved 		
*System capacity is defined as the total rate of water accessible at any given time from the City's wells and diversion from Long Gulch Springs.				

5 Municipal Water Supply Element

This section describes the City's current and future service area and population projections and projected 10- and 20-year demands for water, and compares the City's projected water needs with their existing available sources of supply.

5.1 Service Area and Population Projections

This section describes the City's service area and contains population projections of the service area.

5.1.1 Current and Future Service Areas

Currently, the City's service area serves developed areas within the City limits and portions of the land within the UGB. Expansion of the service area throughout some or all of the remaining portions of the UGB may occur, as that land has been designated for future development. Because of this potential, both the City limits and the UGB have been shown in Figures 1 and 2.

5.1.2 Population Projections

As mentioned previously, the City's population on July 1, 2014 was estimated to be 1,745. Those residents and an estimated 70 people residing within the UGB are all served by the City's water system, for an estimated total population served as of July 1, 2014 of 1,815. The Water System Master Plan (Anderson-Perry & Associates, Inc. 2001) used an assumed growth rate of 1 percent per year. Table 5-1 provides a summary of population projections for 10 and 20 years from now (i.e., in 2025 and 2035). As can be seen in that table, using an assumed growth rate of 1 percent per year and a service area population of 1,815 in 2014 would result in an estimated population 10 years from now (i.e., in 2025) of 2,025, and a population 20 years from now (i.e., in 2035) of 2,237. These population projections do not account for the fact that the City's water system sometimes supplies up to 200 gpm of water to Canyon City when it has a water shortage.

Year	Estimated Population within Service Area				
2014	1,815				
2015	1,833				
2025	2,025				
2035	2,237				
 Notes: 1) These population estimates do not account for water that is supplied to Canyon City during times of shortage. 2) Based on an assumed service area population of 1,815 in 2014 and 1 percent annual growth thereafter. 					

Table 5-1	Sorvico	Aros D	Donulation	Projections
Table 5-1.	Service	Area F	opulation	projections

Between the 2000 and 2010 censuses the City population dropped by an average of about 0.6 percent per year. Regardless, it is deemed more reasonable to assume that the demands on the City's water system will increase with time, not decrease, as new development at the industrial park and other areas is likely to occur, and the extent of the water distribution system (especially within the UGB) is more likely to expand than to contract, regardless of the total population. Hence, using an annual population growth rate of 1 percent per year, as was used in the Water System Master Plan mentioned above, still seems like a reasonable assumption when considering future source demands on the City's water supply system.

5.2 Estimated Schedule

The City currently has a total of eight certificated water rights for four wells (Wells No. 1 through 4) and Long Gulch Springs. All eight of these rights allow for municipal use, and one of the rights also allows for irrigation use.

The City also has a water right permit for municipal use from Well No. 5. Currently, that well is being operated under a Limited License issued by OWRD while the water right goes through the certification process. A schedule for obtaining a certificate for this water right is presented in Table 5-2.

Source	Permit No.	Priority Date	Certificate	Permitted Rate (cfs)	Maximum Beneficial Use to Date (cfs)	Use	Perfection Schedule	
Well No. 1		Jan 21, 1959	35080	0.47	unknown	Municipal	Complete	
Well No. 2		Jan 21, 1959	30270	0.71	0.49	Municipal	Complete	
Well No. 3		Mar 31, 1964	44465	1.34	1.34	Municipal	Complete	
Well No. 5		Jun 23, 1975	58326	0.89	0.89	Municipal	Complete	
Well No. 4		Apr 1, 1981	67796	2.23	2.23	Municipal	Complete	
Well No. 5	G-15101	Oct 22, 2001		2.23	2.23	Municipal	Submitting WMCP in Sep 2015, then awaiting issuance	
Long Gulch		Dec 31, 1884	25379	3 to 5 (depends on month)	~0.28	Municipal & Irrigation	Complete	
Springs		Mar 24, 1923	21130	0.06	0.20	Municipal	Complete	
		Sep 19, 1930	21243	0.03		Municipal	Complete	
Total				10.96 to 12.96	7.46			

Table 5-2. Water Rights Perfection

5.3 Water Demand Forecast

As mentioned in Section 2.4, the highest average annual water production by the City's water supply system during the 2010-2014 period was 233.3 gpm, the peak month flow during that period was 403.3 gpm, and the highest peak day flow for the period, if assumed to be 3.2 times the highest average annual use, is estimated to be 747 gpm.

Projected future demand is calculated by assuming that the population within the service area increases by an annual rate of 1 percent, and that the usage per person stays constant. Consequently, the annual water demand is also assumed to increase at an annual rate of 1 percent. As shown in Table 5-3, the resulting water requirements are estimated to increase to an average of 260 gpm in 2025 and to 288 gpm in 2035. Similarly, the peak month flow is estimated to increase to 832 gpm in 2025 and to 920 gpm in 2035. It is important to recognize that these projected water requirements do not yet include the 200 gpm that is sometimes provided to Canyon City during times of shortage in that town, and those shortages are quite likely to occur when peak demands are the highest.

Year	Average Daily Demand (gpm)	Peak Month Demand (gpm)	Peak Day Demand (gpm) (see note)				
2015	236	407 955 (2.13 cf					
2025	260	450	1,032 (2.30 cfs)				
2035	288	497 1,120 (2.50					
Note: Peak Day Demands are estimated by multiplying the Average Daily Demand by 3.2, then adding 200 gpm to account for possible deliveries to Canvon City.							

Table 5-3. Projected Future Water Supply Requirements

5.4 Comparison of Projected Need to Available Sources

The production capacity of the existing pumps in wells with water right certificates (i.e., Wells No. 2, No. 3, and No. 4) totals about 2,050 gpm. Long Gulch Springs also has a certificated water right and quite reliably produces a minimum of 75 gpm. Table 5-4 shows the current supply capacity of the City's existing water supplies. Table 5-3 shows the 20-year projected peak day demand of 1,120 gpm is significantly less than the production capacity of the available certificated water right sources, although it should be noted that the City wells all extract water from the same confined aquifer, so if multiple wells are being pumped at the same time the interference between wells would likely reduce the total pumping capacity below the total

capacity shown in Table 5-4. Additionally, as described below, there are other important considerations involved with providing a reliable water supply.

Source	Water Right	Permitted Quantity for Municipal Use	Available Reliable Supply Capacity (see note 1)	Limiting Factors
Well No. 1	Certificate 35080	0.47 cfs	0.00 cfs (not in use)	Well caved in
Well No. 2	Certificate 30270	0.71 cfs	0.33 cfs (150 gpm)	Limited by pump size and drawdown
Well No. 3	Certificate 44465	1.34 cfs	1 89 cfs (850 gpm)	Typical pumping
	Certificate 58326	0.89 cfs	1.05 613 (050 Spin)	rate is 850 gpm
Well No. 4	Certificate 67796	2.23 cfs	2.01 cfs (900 gpm)	Limited by pump size
Well No. 5	Permit G-15101	2.23 cfs	Estimated 1.44 cfs (645 gpm) (see note 3)	Limited by drawdown in well
	Certificate 25379	3.0 cfs (see note 2)		Limited by natural flow from spring,
Springs	Certificate 21130	0.06 cfs	0.17 cfs (75 gpm)	which dropped to
	Certificate 21243	0.03 cfs]	2015
Total Available Supply Capacity for Municipal Use:		10.96 cfs	5.84 cfs (2620 gpm)	

Table 5-4. Current Supply Capacity

Notes: 1) The supply capacities listed in the table cannot be sustained for long periods due to waterlevel drawdown. Because the wells are completed in the same aquifer, this would especially be true if the wells are used concurrently due to interference between wells.

2) Certificate 25379 for Long Gulch Springs has some additional water right for irrigation use.

3) Well No. 5 is usually pumped at 850 gpm (1.89 cfs), but cannot sustain that flow for more than several hours because of water level drawdown. Based on the well driller's original pumping test, it appears that the well might be able to sustain 645 gpm (1.44 cfs) for 24 hours or more.

Municipal water systems should have adequate system reliability. For example, it would be unreasonable to assume that all City wells are always available. System maintenance, mechanical failures, and/or the need for well maintenance will result in occasional downtime for each well. Power outages will at times also interrupt water production from sources that do not have access to backup power supplies. Besides the water that is stored in Reservoirs No. 3, 4, 5, and 6, the City's only water source that can provide water during a power outage is Well No. 5, which has been equipped with a backup power supply. Although Long Gulch Springs continues to flow during power outages, the spring water must be pumped from Reservoir No. 2 to get into the City's distribution system. This makes Well No. 5 particularly valuable in times of power outages. Well No. 5 does not yet have a certificated water right, and the limited license allowing its use expires October 1, 2019.

To provide for system redundancy, particularly in light of expected increasing system demands, the City deems the water from Well No. 5 to be crucial. This is especially true with regard to the almost inevitable power interruptions, since Well No. 5 is the only City well with a backup power source. It is also important in the event that there is a major fire in or near the City. This need has been emphasized recently with the significant forest fires that approached the City in August 2015. During that time, when many houses were burned in Canyon Creek Canyon and the fire was approaching the City of John Day, several hundreds of thousands of gallons of water were supplied by the City water system to fight the fire. At the same time numerous City residents were running sprinklers to keep their lawns and house roofs wet to prevent them from catching fire from burning embers falling from the sky. The water used for fighting this large fire near the City and for fire prevention within the City during the forest fire is probably not adequately incorporated in the water projections of Figure 5-3. During this time water was also provided to Canyon City with the system intertie mentioned previously.

Without the water that can be provided from Well No. 5, the reliability of the City's water supply is in jeopardy. It is expected that obtaining a water right certificate for Well No. 5 would enable the City of John Day to continue to provide a reliable water supply for future growth, and provide a significant amount of redundancy to allow for occasionally taking a well off line for maintenance and to provide needed water during power failures. Obtaining a certificated water right for Well No. 5 will create some redundancy that will add reliability to the system, as well as help provide for future growth.

5.5 Alternative Sources

It is not expected that the City will need additional water sources to meet the water demands of the City's water system during the next 20 years, except for the need to obtain a water right certificate for the use of Well No. 5. Currently, the limited license under which the well is being utilized is set to expire on October 1, 2019.

5.5.1 Conservation Measures

As discussed in Section 3, the City has already implemented conservation measures that have substantially reduced the amount of water used by the City's water system. New meters were installed in 2005 and 2006 at the City's water sources, and were installed at the delivery points to the system's users (not including on fire hydrants) in 2008. The City charges users for water use based on the volume of water delivered to the user. Low-flow fixtures are offered to City

users by the local electrical utility company. The City provides information to water users regarding water conservation. The estimated leakage rate of roughly 5 or 6 percent of the produced water is already fairly low (see Section 2.9) for municipal systems in the region. The accumulated effect of these measures has been to reduce the per capita water usage by over 30 percent since the Water System Master Plan was published in 2001 (Anderson-Perry & Associates, Inc. 2001).

5.5.2 Interconnection

As discussed in Section 2.1.6, the City already has an intertie with the Town of Canyon City, but Canyon City has a limited water supply and it is expected to be much more likely that Canyon City will need extra water from John Day rather than be able to supply extra water to John Day during times of peak demands.

5.6 Quantification of Maximum Rate and Monthly Volume

As mentioned previously, no new water rights are expected to be needed during the next 20 years, although to enhance the reliability of the system the City feels that it is important to perfect the water right for Well No. 5. As anticipated development occurs within the system's service area increased water diversions are expected. Within the next 20 years, the City is planning to expand the use of water under its existing water rights to help meet projected water demands in the year 2035.

5.7 Mitigation Actions

As mentioned previously, pumping water from the confined basalt aquifers underlying the City of John Day has minimal environmental impacts to surface waters in the area, and the net effect may be slightly positive because much of the pumped water will end up in the river, thereby slightly augmenting river flows and possibly helping to reduce river temperatures during the hottest times of the summer. No mitigation actions seem warranted, and none are proposed.

5.8 Future Needs

It is expected that with the permanent addition of Well No. 5 to the City's water sources, no additional water sources are likely to be needed within the next 20 years. Of course this expectation would need to be reevaluated if the service area population were to expand significantly more than projected, or if the production of the City's existing City water sources were to decline significantly.

6 References

- Anderson-Perry & Associates, Inc. 2001. *City of John Day, Oregon Water System Master Plan,* 2001.
- Anderson-Perry & Associates, Inc. 2015. *City of Vale, Oregon Water Management and Conservation Plan, 2015.*
- George Chadwick Consulting 2012. *City of John Day Total Maximum Daily Load (TMDL) Implementation Plan.* July.
- Portland State University 2015. Oregon Annual Pop Report Tables 2014 v3(2).pdf downloaded from http://www.pdx.edu/prc/population-reports-estimates

FIGURES

DELORME

Data Zoom 13-0



www.delorme.com

MN (14.5'E)



ATTACHMENT A Well Logs of City Water Supply Wells

File Original and First Copy with the STATE ENGINEER WATER	SERVATION WELL: WELL REPORT State Well No. G-1219
SALEM, OREGON	State Permit No
(1) OWNER: Name City of John Day	(11) WELL TESTS: Drawdown is amount water level is, lowered below static level
Address John Day, Oregon	Yield: 270 gal /min with 385 (the dependence of the
(2) LOCATION OF WELL:	""" """ Bailer test gal./min. with ft. drawdown after hrs.
NE 14 NW 14 Section 26 T. 138 R 21 P.W.	M Artesian flow g.p.m. Date
Bearing and distance from section or subdivision corner	Temperature of water Was a chemical analysis made? [] Yes [] No
(Located in SE) NW Sec. 26 147.8' South- east corner of NEL NW Sec. 26, T13S,	(12) WELL LOG: Diameter of well
	Formation: Describe by color, character, size of material and structure, and
an Alexandria and a second and the second and the second section of the second second second second second second	- stratum penetrated, with at least one entry for each change of formation.
	= MATERIAL FROM TO
(3) TYPE OF WORK (check):	ROCK 0 213
New Well G Deepening D Reconditioning D Abandon	D Brown Rock & Coal 213 235
is avandonment, describe material and procedure in Riem 11.	_ Poroas black Rock & Sand 255 240
PROPOSED USE (check): (5) TYPE OF WELL:	Water Dearing
Domestic 🔲 Industrial 🗋 Municipal 🔂 Rotary 🔲 Driven 🖸	J J
Irrigation Test Well Other Dug Bored	
	-
(6) CASING INSTALLED: Threaded Welded	
	- Called Jannson Drilling
"Diam. from	
	= 2/10/89
(7) PERFORATIONS: Perforated? Yes INO	MITLY
Type of perforator used	
SIZE of perforations in. by in.	
	It.
perforations from ft. to	
perforations from ft. to	.t.]
	-
(8) SCREENS: Well screen installed Yes No	
Manufacturer's Name	
Type	
ft to ft to	
2	Work started JULY 1947. Completed Oct. 1947.
(9) CONSTRUCTION:	(13) PUMP :
Was well gravel packed? Yes No Size of gravel:	Manufacturer's Name A. D. COOK 210 GPH
Gravel placed from ft. to ft.	Type: G.E. Motor H.P. 20
Was a surface seal provided? [] Yes [] No To what depth? f	
Did any strata contain unusable water?	- Well Driller's Statement:
Type of water? Depth of strata	- I must well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Method of sealing strata off	
	NAMEA. M. Jennsen Drilling. Co.
(10) WATER LEVELS:	Address Portland, Oregon
Artecian pressure	-
na venena preseure 108. per square inch Date	Driller's well number
Log Accepted by:	[Signed]
[Signed]	(Well Driller)

Well No 1

.

Well	N	0,	2
------	---	----	---

21	xl and	DBSERV	ATION WEL	L			cb
File Original and First Copy with the WATER WI		ELL REPORT		State Well No	3/31-	23 A	
	STATE ENGINEER, SALEM, OREGON	STATE O	FOREGON	1	State Permit No.	G=1218	
	(1) OWNER:		(11) WELL	TESTS:	Drawdown is amount	water leve	i is
	Name City of John Day Address John Day Omegon		Was a pump test	made? [] Yes	No If yes, by who	ievel ·	
			<u>Yield: 320</u>	gal./min, witi	h 180 ft. drawdo	wn after	hrs.
	(2) LOCATION OF WELL.				••		*
	County Grant Owner's number, if any	<u>~</u> #2	Baller test	gal./min. with	ft. drawdor	wn after	hrs.
	NW 14 SW 14 Section 23 T. 138	R. 31 E.W.M.	Artesian flow Temperature of w		g.p.m. Date FE	<u>B. 195</u>	3
		1 Comer		Valiet Was a	chemical analysis h		
	22 & 23.)	4 0011161	Depth drilled	LUG: 310 # 1	Diameter of well	12& <u>10</u>	inches.
Y			Formation: Descr show thickness of	the by color, cha	racter, size of mater	ial and stru	cture, and
	The states and a state of the states of the		stratum penetrate	d, with at least	one entry for each	change of	ormation
	(3) TYPE OF WORK (check):			MATERIAL		FROM	TO
1	New Well 🗶 Despening 🗋 Reconditioning 🗆	Abandon 🔲					
ć	If abandonment, describe material and procedure in Item 1						
`.	(1) PROPOSED USE (check): (5) TYPE	E OF WELL:					- ,
1	Domestic 🔲 Industrial 🗋 Municipal 📴 Rotary [Cable	Driven		<u> </u>			
1	Irrigation Test Well Other Dug	Bored					
((6) CASING INSTALLED: Threaded	Welded 🗌		·····-			
•	// " Diam. from	Gage					
	" Diam. from	Gage	•				
-						·[
) T	() FERFORATIONS: Perforated?	Yes 🗌 No		· · · · · · · · · · · · · · · · · · ·	······································		
S	IZE of perforations in. by	in.					
•••	perforations from ft. to	It.				<u> </u>	·····
	perforations from	ft.	·				
•••	perforations from ft. to						
(······				
(8) SCREENS: Well screen installed	Yes No		<u></u>			
М	anufacturer's Name	······		·····			
T,	ype	A					·
(em Slot size Set from ft. t	o ft.	Work started	Sent 105	2 Completed D		- 1059
- (9) CONSTRUCTION:		(12) DIR(D				11.72
W	as well gravel packed? [] Yes [] No Size of gravel:		(13) PUMP:		Ceek	320 61	em .
G	ravel placed from ft. to f	rt.	Type:G. E.	Moter	•	н.р. 30	
W: Mi	as a surface seal provided? 🗌 Yes 🔲 No To what depu aterial used in seal	n? £t.					
Ы	d any strata contain unusable water? 🔲 Yes 🗍 No		This well was	tement: drilled under	my juriediction	nd this w	onomi in
Ty	pe of water? Depth of strata		true to the best of	f my knowledg	e and belief.		eport is
M	rund of sealing strata off		NAME	A. A. Dura	nd & Son		
(1	0) WATER LEVELS:		<br Address L	erson, firm, er eg	rporation) (Ty	pe or print)	
Su Ar	tesian pressure lbs per square inch. Det	<u> </u>	CO3		L-y	••••••	*****
=	Accorded hus	<u> </u>	Driller's well nun	nber			*****
1.0	R Accepted Dy:		[Signed]	/117.			
{S :	igned] Date	19	License No		Date		19

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Well No. 3 GRAN. 4.34. NOTICE TO WATER WELL CONTR The original and first copy of i of this report are to be filed with the SEP J 19 CATHR WELL REPORT 13/31-23k State Well No. STATE ENGINEER, SALEM 10, ORE TATE FIGNATE OF OREGON within 30 days from the date that the date of the contract of the or print) of well completion. State Permit No. Drawdown is amount water level is lowered below static level (11) WELL TESTS: (1) OWNER Was a pump test made? Yes I No If yes, by whom? DKILLCA Name Yield: S gal/min. with / DC ft. drawdown after hrs. Address 61.M. 11 ... 11 ** (2) LOCATION. OF WELL: Bailer test gal./min. with ft. drawdown after hrs. -, County 6 KANT Driller's well number 8-14-500 g.p.m. Date Artesian flow .24 T. / W.M. % Section R. Temperature of water 58 Was a chemical analysis made! 🗌 Yes 🚺 No Bearing and distance from section or subdivision corner (12) WELL LOG: u+ H 7A Diameter of well below casing Depth drilled 950 350 ft. Depth of completed well ft. Formation: Describe by color, character, size of material and structure, and show thickness of aquifiers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. aC: MATERIAL FROM TO (3) TYPE OF WORK (check): Abandon [] Well Deepening Reconditioning bandonment, describe material and procedure in Item 12. 5) TYPE OF WELL: (4) PROPOSED USE (check): Driven 📋 Rotary Q, Domestic [] Industrial [] Municipal [] Jetted. Cable Irrigation 🔲 Test Well 📋 Other Dug Bored Welded 🔲 (6) CASING INSTALLED: Three ded 🖠 _ th. Gage 1980 59 2 Diam. from ft. Gage " Diam. from ft. to . ft. to ft. Gage " Diam. from . (7) **PERFORATIONS**: Perforated? | Yes 2000 Type of perforator used Size of perforations in. by 'n **?**? ft. At to ... perforations from 55 ft. perforations from ft. ft. perforations from ft to 22 perforations from . ft. to £1. ft. perforations from ft. to (8) SCREENS: Well screen installed? 🔲 Yes 🔛 No il Asto Manufacturer's Name Model No. -ft. Slot size . Set from -3 1963 Completed 196 Work started Slot size .. Set from ft. to ft. Diam. ... Date well drilling machine moved off of well (9) CONSTRUCTION: (13) PUMP: Well scal-Material used in scal Manufacturer's Name Depth of seal . ft. Was a packer used? H.P. Type: Diameter of well bore to bottom of scal fm Water Well Contractor's Certification: Were any loose strata cemented off? [] Yes 2 No Depth This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Was a drive shoe used? I Yes 🔲 No Was well gravel packed? [] Yes PNo Size of gravel: Gravel placed from ... ft. to NAME A Did any strata contain unusable water? [] Yes [] No Address Depth of strata Type of water? Method of scaling strata off Drilling Machine Operator's License No. (10) WATER LEVELS: [Signed] .. ft. below land surface Static level lbs. per square inch Date Contractor's License No. ... Artesian pressure Date (USE ADDITIONAL SHEETS IF NECESSARY)

WATER WELL REPORT

STATE OF OREGON

LUL. CED Q MAR 2 . GRAN 427

State Well No.

WATEP RESOURCES DEPT SALEM. OREGON GRAN

State	Permit	No.
	-	

.......... Appl. 6-10244

(1) OWNER:	(10
Name Canyon City	Cour
Address 123 S Washington	<u>_S</u>
City Canyon City State Ckepon	Tax.
(2) TYPE OF WORK (check):	Add
New Well 😰 Deepening 🗆 Reconditioning 🗆 Abandon 🗆	(11
If abandonment, describe material and procedure in Item 12.	Dent
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Stati
Rotary Air 🕙 Driven 🗆 Domestic 🗆 Industrial 💭 Municipal 😰	Arte
Rotary Mud 🗋 Dug 🔤 Inrigation 🗆 Test Well 💭 Other 🗆 🗌 ~ 🖸 Bored 🖂 Thermal: Withdrawal 🖸 Reinjection 🖂	(12
	Dept
CASING INSTALLED: Steel & Plastic Threaded Welded &	Form
18." Diam. from	for e
	and
LINER INSTALLED:	
12 "Diam. from . + 2	
(a) DEDENDATIONS. Butweet 2 Edita I No	
Type of performance ward for tory berfore ted	
Size of perforations in. by in.	
736 perforations from	لم
perforations from	
perforations from ft. to ft.	
(7) SCREENS. Wall arrays installed?	
Menufacturer's Name	
Type	
Diam	
Diam	
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	
^W · a pump test made? EXes □ No If yes, by whom? JARMORE.	
d: 1000 gal/min. with 160 ft. drawdown after 2 hrs.	
······	
Air test gal/min. with drill stem at ft. hrs.	
Bailer test gal/min. with ft. drawdown after hrs.	
eian flow g.p.m.	
perature of water So Depth artesian flow encountered	Wor
(9) CONSTRUCTION: Special standards: Yes I No I	Dat
Well seal-Material used	Dri
Well scaled from land surface to ft.	0.001
Diameter of well have to bottom of seal	[Sic
Diameter of well bore below seal	
Number of sacks of compart used in well seal	Dri
now was content group process:	Wa
Was pump installed?	the
Was a drive shoe used? 27Yes 🗆 No 🦳 Plugs	Na
Did any strata contain unusable water? 🗆 Yes 🖃 No	Ad
Type of Water? depth of strata	[Sid
Method of sealing strata off	
Was well gravel packed? U xes Hrno Supe of gravel	
unave placed from	

) LOCATION OF WELL:

County Grant							
SE	*	n W & Section	23	T. 135	R.	318	W.M.
Tax Lot (•		Lot	Blk		Subdivision	
Address	at w	all location:					

) WATER LEVEL: Completed well.

Depth at which water was first found	/68 <u>ft</u>
Static lovel 17	ft. below land surface. Date /2-2-&
Artesian pressure	lbs. per square inch. Date

) WELLLOG: 185 h drilled ft. Depth of completed well 185 ft.

nation: Describe color, texture, grain size and structure of materials; and show mess and nature of each stratum and aquifer penetrated, with at least one entry ach change of formation. Report each change in position of Static Water Level indicate principal water-bearing strata.

MATERIAL	From	То	SWL
9 ROVEL	0	20	
Velay + gRavel	20	32	
Soft black basalt	32	50	
black clay + black belt	50	85	
black clart black sand	85	90	
black clay + black basalt	90	92	
black basalt + gray shall	92	165	
black basalt & J	165	168	
RED poerus pasalt	168	175	Ha O
black, bogonis, besalt	175	185	HO
/			
· · · · · · · · · · · · · · · · · · ·			
		[
			
Work started 11 - 2 4 19 80 Complete	xd /	- 7	19 81
Date well drilling machine moved off of well		- 8	<u> 19 <i>8</i> /</u>

lling Machine Operator's Certification:

Drilling Machine O	perator's License No.	1345	

ter Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to best of my knowledge and belief.

Name	<u></u>	HO.R.N.	VEM W	Relling	
Addung	, lt l-	Box 14	in Ribt	: Roch	(Type or print)
- Autom	\mathcal{R}	aOU	V.		
Signed			Water Well Cor	stractor)	•••••
Contrac	ctor's Licen	se No7.5.9	Date		

NOTICoriginal and first copy of this report The are to be filed with the

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WATER WELL REPORT GRAN 427 STATE OF OREGON
(Please type or print)

(Do not write above this line)

GRAN 477

State Permit No.

State Well No.

Ĵ

(1) OWNER:	(10) LOCATION OF WELL:
Name Canpon City	County GRant Driller's well number
Address 1230 S. Walking Ton	SE 14 14/14 Section 23 T. 135 R. 318 W.M.
Camon City, OK. 97820	Bearing and distance from section or subdivision corner
(2) TYPE OF WORK (check):	Dearing and distance from section of subdivision conjer
New Well D Deepening Reconditioning Abandon	
If abandonment, describe material and procedure in Item 12.	(11) WATTER I EVEL Completed mall
(2) TYPE OF WELL, (1) PROPOSED USE (aback);	(11) WATER LEVEL: Completed Well.
(3) TIPE OF WELL: (4) FROFOSED USE (check):	Depth at which water was first found 168 ft.
Cable _ Jetted _ Domestic _ Industrial _ Municipal _	Static level 17 ft. below land surface. Date 12.2-80
Dug 🖸 Bored 🖸 Irrigation 🗇 Test Well 🗍 Other 🗌	Artesian pressure lbs. per square inch. Date
(5) CASING INSTALLED: STEEL	
(d) Crabine into internet. Internet and weided by	(12) WELL LOG: Diameter of well below casing
1/2 Them from 0 that 104 the Gause $3/2$	Depth drilled 185 ft. Depth of completed well 185 ft.
12° Diam from $+2^{\circ}$ th to 184° th Gage $3/2^{\circ}$	Formation: Describe color, texture, grain size and structure of materials;
	with at least one entry for each change of formation. Report each change in
(6) PERFORATIONS: Perforated Tres D No.	position of Static Water Level and indicate principal water-bearing strata.
Type of perforator used factory wer Lo rated	MATERIAL From To SWL
Size of perforations 1/8" in by 6 in.	QRAVIE 0 20
7.36 nertorations from 104 th to 182 th	Elan + Spanst 20 32
nerforations from the to the	Solf black barold 32, 50
nerforations from the to the fit.	black clay + plack papalt 50 85
	plack clan + black sand 85 90
(7) SCREENS: Well screen installed? [] Yes []/No	bluck class + black basalt 90 92
Manufacturer's Name	black hadalt + gran shale 92 165
Type	black kesalt 1 165 168
Diam, Slot size Set from ft. to ft.	Kt d pore & heralt. 168 175 H20
Diam Slot size	black porus basalt 175 185 H.D.
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	
Was a pump test made? BYes D No If yes, by whom? Facuoks	
Yield: 1000 gal./min. with 160 ft. drawdown after 2 hrs.	
y u y 4	
y w y w	
Dellas fact del mán with de desudorm after has	EEB 3 1981
Dener test gal/ nun. with It. drawdown alter mis.	WATER RESOURCES DEPT
Artesian flow g.p.m.	
Temperature of water 56 " Depth artesian flow encountered ft.	Work started 7/57. 24 19 60 Completed /- 7 198/
(9) CONSTRUCTION: no special sids.	Date well drilling machine moved off of well / - 8 19 8/
Wall cool-Marial used Instland (sment	Drilling Machine Operator's Certification:
Well sealed from land surface to 104 ft.	This well was constructed under my direct supervision.
Diameter of well bore to bottom of seal	Materials used and information reported above are true to my best knowledge and belief.
Diameter of well bore below seal $\frac{15^{1/2}}{15}$ in	$\begin{bmatrix} \text{Signad} \end{bmatrix} \qquad \qquad \text{Data} \begin{bmatrix} -\mathcal{S} & \text{if } \mathcal{S} \end{bmatrix}$
Number of sacks of cement used in well seal	(Drilling Machine Operator)
How was cement grout placed? 104 m pEd	Drilling Machine Operator's License No
	Water Well Contractor's Certification:
(1)as humber installed ? A)a	This well was drilled under my jurisdiction and this report is
Was a drive shap was do 12 Was 10 No Diversion Direction to anti-	true to the best of my knowledge and belief.
was a unive snoe usear by res in no Plugs	Name LADD HUFN WELL DRILling
The of water	Address (1) Rox 14 Pilst Rock A. G781.
Type of water? depin of strata	A A A A A A A A A A A A A A A A A A A
Method of sealing strata off	[Signed] All ft
Was well gravel packed? [] Yes @No Size of gravel:	(Water Well Contractor)
Gravel placed from ft. to ft.	Contractor's License No
, (USE ADDITIONAL SI	EETS IF NECESSARY) SP44666-119

50574 WELL ID # <u>L61610</u> (START CARD) # <u>150737</u>
(START CARD) # <u>150737</u>
(9) LOCATION OF WELL by legal description:
County Grant Latitude Longitude
Section 23 NF 1/4 SW 1/4
Tax lot 4301 Lot Block Subdivision
Street Address of Well (or nearest address) Next to Marge Wagners
at end of N. end of Bridge St.
(10) STATIC WATER LEVEL:
Artesian pressure ib. per square inch. Date
(11) WATER BEARING ZONES:
Depth at which water was first found 12
From To Estimated Flow Rate SVVL
69 70 ? 12
80 83 75 9
<u>109 178 1000+ 9</u>
(12) WELL LOG:
Ground elevation
Motorial From To SWL
Clavee Top Soil & Tree Roots 0 6
Small to Large Gravels & Sand 6 12
Clean Large Gravels & Boulders WB 12 23 12
Green Clay & Gravels 23 43
Green Shale & Coal Seem 43 44
Coal Seam 56 57
Green Shale & Coal slightly 57
caving 67
Hard Gray Basalt
mud
Hard Gray Basalt 70 80
Broken Basalt with brown soft 80
seam 82 9
Roken Basalt Green & Brown 109
shale seams
Hard Gray Basalt with some 121
fractures WB 130 9
Broken Gray Basalt with Brown 130
Continued on next page
Date started 11/20/02 Completed 3/7/03
(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment
of this well is in compliance with Oregon water supply well construction standards.
Materials used an WESTERN MWAPPER DEVEROPMENT Knowledge and ballef
P.O. Box 1670 www. Number
signed Redmond, OR 977560
(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, aneration, or abandoriment work
performed during this time is in compliance with Oregon water supply well
construction elandards. This report is true to the best of my knowledge and belief.
WWC Number 1385
Signed 1000 - Cur fac Date 3/9/03

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STATE OF OF ソニロ

(1) OWNER:

Rotary Air

Domestic

Thermal

Other

City

Name City of John Day

Address 450 East Main St.

(2) TYPE OF WORK:

New Well Deepening

(3) DRILL METHOD:

(4) PROPOSED USE:

Explosives used Yes No

То

HOLE

Diameter From

Other

Casino:

Liner:

Pump

Yield gal/min

Temperature of Water

Depth of strata:

Backfill placed from

Gravel placed from

(6) CASING/LINER:

Final location of shoe(s)

Perforations C Screens

171

Diameter

John Day

Rotary Mud

Community

Туре

ft to

ft. to

То

Number

480

From

Shot

16

Bailer

Was a water analysis done? [] Yes By whom

Did any strata contain water not suitable for intended use?

Saity Muddy Odor Ocolored Other

Drawdown

Injection

50574 GRAN

WELL ID # 161610 WATER SUPPLY WEAD REPORT2003 (as required by ORS 537.765) (START CARD) # 150737 Instructions for completing this page of this form Page 2 SALEM, OREGONell Number: #5 (9) LOCATION OF WELL by legal description: Latitude County Longitude Grant Township 135 N or S. Range 31E E or W. of WM.
 Section
 23

 Tax lot
 4301
 1/4 SW Block Sub NE 1/4 State OR Zip 97845 Lot Subdivision Street Address of Well (or nearest address) Next to Marge Wagners at end of N. end of Bridge St. Alteration (repair/recondition) Abandonment (10) STATIC WATER LEVEL: ft. below land surface. Date Cable Auger Artesian pressure lb, per square inch. Date (11) WATER BEARING ZONES: Depth at which water was first found Industrial []Irrigation Livestock Other From Тο Estimated Flow Rate SWL (5) BORE HOLE CONSTRUCTION: Depth of Completed Well Special Construction approval Yes No Amount SEAL Amount (12) WELL LOG: Material From То sacks or pounds Ground elevation From То SWL Material Hard Gray Basalt some fractures 146 1<u>60</u> WB Medium Fractured Gray Basalt WB 160 163 9 Harder Gray Basalt 163 171 How was seal placed: Method 🔲 A [] B □c ΠD ΠE Fractured Gray Basalt & Green 171 178 Shale WB ft. Material 178 **Green Serpentine** 236 ft. Size of gravel Fill material from water bearing zone between 14D and 170'. Did not remove by airlift method upon Gauge Steel Plastic Welded Threaded completion of drilling so we pumped a 50 sack cement plug from 216' back to 199'. Ē 20" casing cuttoff 6' below ground level and Stee Ē ring welded solid between 16" and 20" casing. 15" Ű casing stickup is 3' above grade. After setting 11 casing and screen, silty material was found in bottom of well. Cleaned by airlift pumping with drill rig and redisinfected well. Video showed clear well with approx. 7' of same material in (7) PERFORATIONS/SCREENS: well after sitting overnight. Method FACTORY SALLS Stain -ess Tele/pipe Diameter Casing Liner []Completed 3/7/03 Date started 11/20/02 Ũ Π (unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. (8) WELL TESTS: Minimum testing time is 1 hour Materials used and we green we wat and we and we and we are and we are and we are and the set of th Air Flowing Artesian belief. P.O. Box 1670 wwc Number Redmond. OR 97756_ Drill stem at Signed Time (bonded) Water Well Constructor Certification: I accept responsibility for the construction, alteration, or abandonment work

performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief. WWC Number 1385

Robe	hrie a	B,	IC	kn	er

Signed

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT

Depth Artesian Flow found

Too little

SECOND COPY - CONSTRUCTOR

THIRD COPY - CUSTOMER

Date 3/9/03

9

9

g

9

ATTACHMENT B Water Right Documents

STATE OF OREGON

COUNTY OF GRANT

CERTIFICATE OF WATER RIGHT

This Is to Certify, That CITY OF JOHN DAY

of John Day

appurtenant, is as follows:

, State of Oregon , has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of City of John Day Well No. 1

a tributary of Canyon Creek (John Day River) municipal use

for the purpose of

under Permit No. G-1219 of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from January 21, 1959

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.47 cubic foot per second

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the SEL NWL, Section 26, T. 13 S., R. 31 E., W. M. Well located 447.8 feet West, 48.9 feet South from SE Corner, NEL NWT, Section 26.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to ---- of one cubic foot per second per acre,

and shall

conform to such reasonable rotation system as may be ordered by the proper state officer. A description of the place of use under the right hereby confirmed, and to which such right is

SWL SWE SEE Section 23 NWL

NH NE NWE SE NET SWE Section 26

SEL SEL Section 22 T. 13 S., R. 31 E., W. M.

This pertificate is issued to correct and supersede the certificate of water right issued to City of John Day and recorded at page 30271, Volume 22, State Record of Water Right Certificates, so as to correctly show the location of point of diversion.

The right to the use of the water for the purposes aforesaid is restricted to the lards or place of use herein described.

WITNESS the signature of the State Engineer, affixed

this date. July 25, 1968

CHRIS L. WHEELER

State Engineer

35080 Recorded in State Record of Water Right Certificates, Volume 27 , page

Permii A-414-2-51 State Printing 2230	-
STATE OF OREGON COUNTY OF GRANT CERTIFICATE OF WATER RIGHT	
Utility JS to Certify , That CITT OF JOHN DAY of John Day , State of Oregon , has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of City of John Day Well No. 2 a tributary of John Day River for the purpose of municipal use under Permit No. G-1218 of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from Jammary 21, 1959 that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed O-71 cubic foot per second or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the M2 SM4, Sec. 23, T. 13 S., R. 31 E., W.M. Well located 533.9 ft. S. and 578.2 ft. E. from W 4 corner, Sec. 23.	
and shall conform to such reasonable rotation system as may be ordered by the proper state officer. A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows: SEL SEL Section 22 SWL Swl SEL Section 23 NWL Section 23 NWL Section 26 T. 13 S., R. 31 E., W.M.	
The right to the use of the water for the purposes aforess'? is restricted to the lands or place of use herein described. WITNESS the signature of the State Engineer, affixed this date. NOVENBER 14 1962 <u>CHRIS 1. WHEFI.FR</u> State Engineer Recorded in State Record of Water Right Certificates, Volume 22, page 30270	

ι.

STATE OF OREGON

COUNTY OF

GRAMI

CERTIFICATE OF WATER RIGHT

This Is to Certify, That

CITY OF JOHN DAY

of 240 S. Canyon Blvd., John Day , State of Oregon, 97845 , has made proof to the satisfaction of the Water Resources Director, of a right to the use of the waters of Well No. 3

a tributary of John Day River Hunicipal

nft A-5M-I

for the purpose of

under Permit No. G-2695 and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from March 31, 1964

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 1.34 cubic feet per second

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the INM's SE's, Section 23, T. 13 S., R. 31 E., W. M., 450 feet South and 1700 feet West from the E's Corner, Section 23

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to ------of one cubic foot per second per acre,

and shall

conform to such reasonable rotation system as may be ordered by the proper state officer. A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

5 100003.	
E'S SEX	N ¹ 2 NE ¹ 2
Section 22	SW47, NE42
She	NWE
Wes SEZ	NL2 SWL
Section 23	Why SEA
NW1 NW1	Section 26
Section 25	T. 13 S., R. 31 E., W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described, and is subject to the existing minimum flow policies established by the Water Policy Review Board.

WITNESS the signature of the Water Resources Director, affixed

this date. June 17, 1977

mac F Sovcon

James E. Sexson Water Resources Director

Recorded in State Record of Water Right Certificates, Volume 36 , page 44465

STATE OF OREGON COUNTY OF GRANT CERTIFICATE OF WATER RIGHT THIS CERTIFICATE ISSUED TO CITY OF JOHN DAY 240 SOUTH CANYON BLVD. JOHN DAY, OREGON 97845 confirms the right to use the waters of WELL #3 in the JOHN DAY RIVER BASIN for the purpose of MUNICIPAL USES. The right has been perfected under Permit G-6690. The date of priority is JUNE 23, 1975. The right is limited to not more than 0.89 CUBIC FOOT PER SECOND or its equivalent in case of rotation, measured at the well. The well is located as follows: NW 1/4 SE 1/4, SECTION 23, T 13 S, R 31 E, W.M.; SOUTH 74 DEGREES 59 MINUTES WEST 1755.6 FEET FROM E 1/4 CORNER, SECTION 23. The right shall conform to such reasonable rotation system as may be ordered by the proper state officer. A description of the place of use under the right, and to which such right is appurtenant, is as follows: E 1/2 SE 1/4 SECTION 22 SW 1/4 W 1/2 SE 1/4 SECTION 23 NW 1/4 NW 1/4 SECTION 25 N 1/2 NE 1/4 SW 1/4 NE 1/4 NW 1/4 N 1/2 SW 1/4 W 1/2 SE 1/4 SECTION 26 TOWNSHIP 13 SOUTH, RANGE 31 EAST, W.M. The right to the use of the water for the above purpose is restricted to beneficial use on the lands or place of use described. WITNESS the signature of the Water Resources Director, affixed this date NOVEMBER 23, 1988. /s/ WILLIAM II. YOUNG Water Resources Director Recorded in State Record of Water Right Certificates numbered 58326 G-7007

STATE OF OREGON

COUNTY OF GRANT

CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

TOWN OF CANYON CITY CITY OF JOHN DAY 240 SOUTH CANYON BOULEVARD JOHN DAY, OREGON 97845

confirms the right to use the waters of WELL (#4) in the JOHN DAY RIVER BASIN for the purpose of MUNICIPAL USE.

The right has been perfected under Permit G-9319. The date of priority is APRIL 1, 1981. The right is limited to not more than 2.23 CUBIC FEET PER SECOND or its equivalent in case of rotation, measured at the well.

The well is located as follows:

NW 1/4 SE 1/4, SECTION 23, T 13 S, R 31 E, W.M.; 1530 FEET NORTH AND 110 FEET EAST FROM THE S 1/4 CORNER OF SECTION 23.

The right shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right, and to which such right is appurtenant, is as follows:

S 1/2 SE 1/4 SECTION 20 SE 1/4 NE 1/4 S 1/2 SECTION 21 S 1/2 NE 1/4 NW 1/4 S 1/2 SECTION 22 SW 1/4 NE 1/4 S 1/2 NW 1/4 SW 1/4 W 1/2 SE 1/4 SECTION 23 N 1/2 SECTION 25 N 1/2 SW 1/4 W 1/2 SE 1/4 SECTION 26 ALL SECTION 27 N 1/2 SECTION 28 NE 1/4 N 1/2 SE 1/4 SECTION 29 NE 1/4 N 1/2 NW 1/4 NE 1/4 SE 1/4 SECTION 34 ALL SECTION 35 TOWNSHIP 13 SOUTH, RANGE 31 EAST, W.M.

SEE NEXT PAGE

G-10244.DLM

PAGE TWO

W 1/2 SW 1/4 SECTION 36 TOWNSHIP 13 SOUTH, RANGE 31 EAST, W.M.

LOTS 1 & 2 (W 1/2 NW 1/4) SECTION 30 TOWNSHIP 13 SOUTH, RANGE 32 EAST, W.M.

> LOTS 1 & 2 (S 1/2 NE 1/4) LOTS 3 & 4 (S 1/2 NW 1/4) N 1/2 SW 1/4 N 1/2 SE 1/4 SECTION 1

LOTS 1 & 2 (S 1/2 NE 1/4) N 1/2 SE 1/4 SECTION 2 TOWNSHIP 14 SOUTH, RANGE 31 EAST, W.M.

The well shall be maintained in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon.

The right to the use of the water for the above purpose is restricted to beneficial use on the lands or place of use described.

WITNESS the signature of the Water Resources Director, affixed SEPTEMBER 30, 1992.

/s/ MARTHA O. PAGEL Martha O. Pagel

Recorded in State Record of Water Right Certificates numbered 67796.

G-10244.DLM

STATE OF OREGON

COUNTY OF GRANT

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

KEN BREMNER; CITY OF JOHN DAY 450 E MAIN JOHN DAY, OREGON 97845

(541) 575-0028

The specific limits and conditions of the use are listed below.

APPLICATION FILE NUMBER: G-15640

SOURCE OF WATER: WELL #5 IN JOHN DAY RIVER BASIN

PURPOSE OR USE: MUNICIPAL USE

MAXIMUM RATE: 2.23 CUBIC FEET PER SECOND

PERIOD OF USE: YEAR ROUND

DATE OF PRIORITY: OCTOBER 22, 2001

WELL LOCATION: NE ¼ SW ¼, SECTION 23, T13S, R31E, W.M.; 1880 FEET NORTH & 1700 FEET EAST FROM THE SW CORNER OF SECTION 23

The place of use is located within the service area boundary of City of John Day.

Measurement, recording and reporting condictors

- A. Before water use may begin under the permit, the permittee shall install a meter of other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the device of vacer used each month and shall submit a report unumparchase the recorded water use measurements to the Department annually or more frequently as may be required by the threator. Further, the Director may require the permittee to report general water use information, including the place as gather of use of water under the permit.
- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

Use of water under authority of this permit may be regulated if analysis of data available after the permit is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in

Application G-15640 Water Resources Department

PERMIT G-15101

quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.

The water user shall develop a plan to monitor and report the impact of water use under this permit on water levels within the aquifer that provides water to the permitted well(s). The plan shall be submitted to the Department within one year of the date the permit is issued and shall be subject to the approval of the Department. At a minimum, the plan shall include a program to periodically measure static water levels within the permitted well(s) or an adequate substitute such as water levels in nearby wells. The plan shall also stipulate a reference water level against which any water-level declines will be compared. If a well listed on this permit (or replacement well) displays a total static water-level decline of 25 or more feet over any period of years, as compared to the reference level, then the water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s). Such action shall be taken until the water level recovers to above the 25-foot decline level or until the Department determines, based on the water user's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or senior water rights. The water user shall in no instance allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit.

Within two years of permit issuance, the permittee shall submit a Water Management and Conservation Plan consistent with OAR Chapter 690, Division 86. The Director may approve an extension of this timeline to complete the required Water Management and Conservation Plan.

STANDARD CONDITIONS

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate interference. The Department encourages junior senior and the appropriators to jointly develop plans to mitigate interferences.

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Application G-15640 Water Resources Department

PERMIT G-15101

PAGE 3

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

The Director finds that the proposed use(s) of water described by this permit, as conditioned, will not impair or be detrimental to the public interest.

Complete application of the water to the use shall be made on or before October 1, 2006. If the water is not completely applied before this date, and the permittee wishes to continue development under the permit, the permittee must submit an application for extension of time, which may be approved based upon the merit of the application.

Within one year after complete application of water to the proposed use, the permittee shall submit a claum of beneficial use, which includes a map and report, prepared by a Certified Water (ughts Examiner (CWRE). Issued July 12, 2002

101 *

PA Paul R. Cleary, Director Water Resources Department

Pursuant to ORS 537.330, in any transaction for the conveyance of NOTE : real estate that includes any portion of the lands described in this permit, the seller of the real estate shall, upon accepting an offer to purchase that real estate, also inform the purchaser in writing whether any permit, transfer approval order, or certificate evidencing the water right is available and that the seller will deliver any permit, transfer approval order or certificate to the purchaser at closing, if the permit, transfer approval order or certificate is available.

Basin 06 DIP

Application G-15640 Water Resources Department Volume 2A CANYON CR

PERMIT G-15101 District 4

Oregon Water Resources Department

Final Order Limited License Application LL-1562



Appeal Rights

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 either 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.

Requested Water Use

On March 6, 2015, the Water Resources Department received completed application **LL-1562** from the City of John Day for the use of 840 gallons per minute from well 5, located in the NE ¹/₄, SW ¹/₄, Section 23, Township 13 South, Range 31 East, W.M., for municipal uses, for the period of 5 years from license issuance.

Authorities

The Department may approve a limited license pursuant to its authority under ORS 537.143, 537.144 and OAR 690-340-0030.

ORS 537.143(2) authorizes the Director to revoke the right to use water under a limited license if it causes injury to any water right or a minimum perennial streamflow.

A license will not be issued for more than five consecutive years for the same use, as directed by ORS 537.143(8).

Findings of Fact

- 1. The forms, fees, and map have been submitted, as required by OAR 690-340-0030(1).
- 2. The Department provided public notice of the application, on March 10, 2015, as required by OAR 690-340-0030(2).
- 3. This license request is limited to an area within a single drainage basin as required by OAR 690-340-0030(3).
- 4. The Department has determined that there is water available for the requested use.
- 5. The Department has determined that the proposed source has not been withdrawn from further appropriation.

- 6. As part of its review to determine ground water availability, the Department's Ground Water/Hydrology Section has stipulated conditions pertaining to measurement and reporting, decline in static water level, and protecting scenic waterways.
- 7. The Department has not received comments related to the possible issuance of the license.
- 8. Pursuant to OAR 690-340-0030(4)(5), conditions have been added with regard to notice and water-use measurement.
- 9. The City of John Day has identified the use as compatible with its rules.

Conclusions of Law

The proposed water use will not impair or be detrimental to the public interest pursuant to OAR 690-340-0030(2), as limited in the order below.

Order

Therefore, pursuant to ORS 537.143, ORS 537.144, and OAR 690-340-0030, application LL-1562 is approved as conditioned below.

- 1. The period and rate of use for LL-1562 shall be from April 20, 2015, through April 19, 2020, for the use of 840 gallons per minute from well 5, for the purpose of municipal uses.
- 2. The licensee shall give notice to the Watermaster in the district where use is to occur not less than 15 days or more than 60 days in advance of using the water under the license. The notice shall include the location of the diversion, the quantity of water to be diverted and the intended use and place of use.
- 3. Before water use may begin under this license, the licensee shall install a totalizing flow meter at each point of appropriation. The totalizing flow meter must be installed and maintained in good working order. In addition, the licensee shall maintain a record of all water use, including the total number of hours of pumping, the total quantity pumped, and the categories of beneficial use to which the water is applied. During the period of the license, the record of use shall be submitted to the Department annually, and shall be submitted to the Watermaster upon request.
- 4. Use of water under authority of this license may be regulated if analysis of data available after the permit is issued discloses that the appropriation will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced.
- 5. The Director may revoke the right to use water for any reason described in ORS 537.143(2), and OAR 690-340-0030(6). Such revocation may be prompted by field regulatory activities or by any other information.

- 6. Use of water under a limited license shall not have priority over any water right exercised according to a permit or certificate, and shall be subordinate to all other authorized uses that rely upon the same source.
- 7. A copy of this license shall be kept at the place of use, and be available for inspection by the Watermaster or other state authority.

NOTE: This water-use authorization is temporary. Applicants are advised that issuance of this final order does not guarantee that any permit for the authorized use will be issued in the future; any investments should be made with that in mind.

Issued April 20, 2015

Timothy Wall .

E. Timothy Wallin, Water Rights Program Manager for Director, Oregon Water Resources Department

Enclosures - limited license, fish screen criteria

cc: Eric W. Julsrud, District 4 Watermaster Jeff Neal, ODFW Don Butcher, DEQ Hydrographics File

If you need further assistance, please contact the Water Rights Section at the address, phone number, or fax number below. When contacting the Department, be sure to reference your limited license number for fastest service.

Remember, this limited license does not provide a secure source of water. Water use can be revoked at any time. Such revocation may be prompted by field regulatory activities or many other reasons.

Water Rights Section Oregon Water Resources Department 725 Summer Street NE, Suite A Salem OR 97301-1271 Phone: (503) 986-0817 Fax: (503) 986-0901

Oregon Water Resources Department

Water Right Services Division

Water Rights Application Number G-15640

Final Order

Extension of Time for Permit Number G-15101

Permit Holder: City of John Day

Permit Information

Application File G-15640/ Permit G-15101

Basin 6 – John Day Basin / Watermaster District 4 Date of Priority: October 22, 2001

Authorized Use of Water

Source of Water:	Well 5 within the John Day River Basin
Purpose or Use:	Municipal
Maximum Rate:	2.23 Cubic Feet per Second (CFS)

This Extension of Time request is being processed in accordance with Oregon Revised Statute 537.630 and 539.010(5), and Oregon Administrative Rule Chapter 690, Division 315

Appeal Rights

This final order is subject to judicial review by the Court of Appeals under ORS 183.482. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.482(1). Pursuant to ORS 536.075 and OAR 137-003-0675, 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.

Application History

Permit G-15101 was issued by the Department on July 12, 2002. The permit called for complete application of water to beneficial use by October 1, 2006. On December 29, 2014, the City of John Day submitted an application to the Department for an extension of time for Permit G-15101. In accordance with OAR 690-315-0050(2), on February 17, 2015, the Department issued a Proposed Final Order proposing to extend the time to fully apply water to beneficial use to October 1, 2019. The protest period closed April 3, 2015, in accordance with OAR 690-315-0060(1). No protest was filed.

Final Order: Permit G-15101

Page 1 of 3

FINDINGS OF FACT

The Department adopts and incorporates by reference the findings of fact in the Proposed Final Order dated February 17, 2015.

At time of issuance of the Proposed Final Order the Department concluded that, based on the factors demonstrated by the applicant, the permit may be extended subject to the following conditions:

CONDITIONS

1. <u>Development Limitations</u>

Appropriation of any water up to 2.23 cfs under Permit G-15101 shall only be authorized upon issuance of a final order approving a Water Management and Conservation Plan (WMCP) under OAR Chapter 690, Division 86 that authorizes access to a greater rate of appropriation of water under the permit consistent with OAR 690-086-0130(7). The required WMCP shall be submitted to the Department within 3 years of this Final Order. The amount of water used under Permit G-15101 must be consistent with this and subsequent WMCP's approved under OAR Chapter 690, Division 86 on file with the Department.

The Development Limitation established in the above paragraph supersedes any prior limitation of the appropriation of water under Permit G-15101 that has been established under a prior WMCP or Extension final order issued by the Department.

The deadline established in the Extension Final Order for submittal of a WMCP shall not relieve a permit holder of any existing or future requirement for submittal of a WMCP at an earlier date as established through other orders of the Department. A WMCP submitted to meet the requirements of the final order may also meet the WMCP submittal requirements of other Department orders.

CONCLUSION OF LAW

The applicant has demonstrated good cause for the permit extension pursuant to ORS 537.630, 539.010(5) and OAR 690-315-0080(3).

ORDER

The extension of time for Application G-15640, Permit G-15101, therefore, is approved subject to conditions contained herein. The deadline for applying water to full beneficial use within the terms and conditions of the permit is extended from October 1, 2006 to October 1, 2019.

DATED: April 10, 2015

Dwight French Water Right Services Division Administrator, for Thomas M. Byler, Director Oregon Water Resources Department

If you have any questions about statements contained in this document, please contact Machelle A Bamberger at (503) 986-0802.

If you have other questions about the Department or any of its programs, please contact our Water Resources Customer Service Group at (503) 986-0900.

Court-1M-10-55	
STATE OF OREGON COUNTY OF GRANT CERTIFICATE OF WATER RIGHT This Is to Certify, That CITY OF JOHN DAY, J. D. COMBS, RECORDER of John Day of John Day , State of Oregon , has a right to the use of the waters of Springs on Long Gulch in SW2SE2 Section 26; T. 13 S., R. 31 E., W. M.	
for the purpose of Irrigation, Domestic and Municipal and that said right has been confirmed by decree of the Circuit Court of the State of Oregon for Grant County, and the said decree entered of record at Salem, in the Order Recard of the STATE ENGINEER, in Volume 15 , at page 161.; that the priority of the right thereby confirmed dates from 1884 that the amount of water to which such right is entitled, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 1/40 cubic foot per second per acre irrigated to June 1 and 1/80 cubic foot per second per acre thereafter; further limited to one acre-foot per calendar month to June 1 and four acro-feet per acre during season April 1 to Sept. 30, measured at point of diversionfor irrigation A description of the lands irrigated under such right, and to which the water is appurtenant (or, if for other purposes, the place where such water is put to beneficial use), is as follows: 10.0 acres in SWASWA	
30.0 acres in SEASMA Section 23, 10.0 acres in NWANEA 20.0 acres in NEANWA 5.0 acres in SEANWA 5.0 acres in SEANWA Section 26; T: 13 S:, R. 31 E.; W. M. Domestic and Municipal - 3.0 cubic feet per second	
And said right shall be subject to all other conditions and limitations contained in said decree. The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described. WITNESS the signature of the State Engineer, affixed this lst day of May , 19 59. LEWIS A. STANLEY State Engineer Recorded in State Record of Water Right Certificates, Volume 17, page 25379	

STATE OF OREGON

COUNTY OF GRANT

CERTIFICATE OF WATER RIGHT

This Is to Certify, That CITY OF JOHN DAY

of John Day , State of Oregon , has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of springs

for the purpose of

a tributary of Long Gulch municipal water supply

under Permit No. 5838 of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from March 24, 1923,

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed

0.06 cubic foot per second.

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the $5\pi\frac{1}{2}$, $SE^{\frac{1}{2}}_{+}$, Section 26, Township 13 South, Range 31 East, W. N.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to ______ of one cubic foot per second per acre,

and shall

conform to such reasonable rotation system as may be ordered by the proper state officer. A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

> SE Section 22 Section 23 NW Section 25 All Section 26 Township 13 South, Range 31 East, W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

this 9th

WITNESS the signature of the State Engineer, affixed

day of

April , ¹⁹ 56 ·

LENIS A. STAKLEY State Engineer

Recorded in State Record of Water Right Certificates, Volume 15 , page 21130.

STATE OF OREGON

COUNTY OF GRANT

CERTIFICATE OF WATER RIGHT

This Is to Certify, That THE CITY OF JOHN DAY

of John Day , State of Oregon , has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of springs

a tributary of Long Gulch

for the purpose of

municipal use under Permit No. 9926 of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from September 19, 1930,

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.03 cubic foot per second.

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the SW_4^1 SE⁴, Section 26, Township 13 South, Range 31 East, W. M.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to - - - - - - of one cubic foot per second per acre,

and shall

conform to such reasonable rotation system as may be ordered by the proper state officer. A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

> SE¹/₄ Section 22 S¹/₂ Section 23 NW¹/₄ Section 25 All Section 26 Township 13 South, Range 31 East, W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

this

WITNESS the signature of the State Engineer, affixed

18th day of May , 19 56.

LEWIS A. STANLEY

State Engineer

Recorded in State Record of Water Right Certificates, Volume 15, page 21243.