

# WATER CONSERVATION PLAN 2018 UPDATE

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*West Corinne Water Company*

*PWS ID 02022*

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*Prepared by:*



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## List of Abbreviations

ac-ft – acre feet

DDW – Utah Division of Drinking Water

DEQ – Utah Department of Environmental Quality

DWSP – Drinking Water Source Protection

DWSPP – Drinking Water Source Protection Plan

gpcd – gallons per capita-day

gpm – gallons per minute

SCADA – Supervisory Control and Data Acquisition

UAC – Utah Administrative Code

UDiWaRi – Utah Division of Water Rights

UGS – Utah Geological Survey

USGS – United States Geological Survey

VOC – Volatile Organic Compound

WCP – Water Conservation Plan

WCWC – West Corinne Water Company

## **1. SYSTEM PROFILE**

The West Corinne Water Company (WCWC) is a privately held culinary water company with a large service area in Box Elder County. The goal of WCWC is to provide reliable, high quality water to its stockholders.

Figure 1-1 is a map of WCWC's service area that also shows key facilities of the water system.

# West Corinne Water System

Figure 1-1  
Service Area

- 2 Inch
- 3 Inch
- 4 Inch
- 6 Inch
- 8 Inch
- 10 Inch
- 12 Inch
- Reservoirs

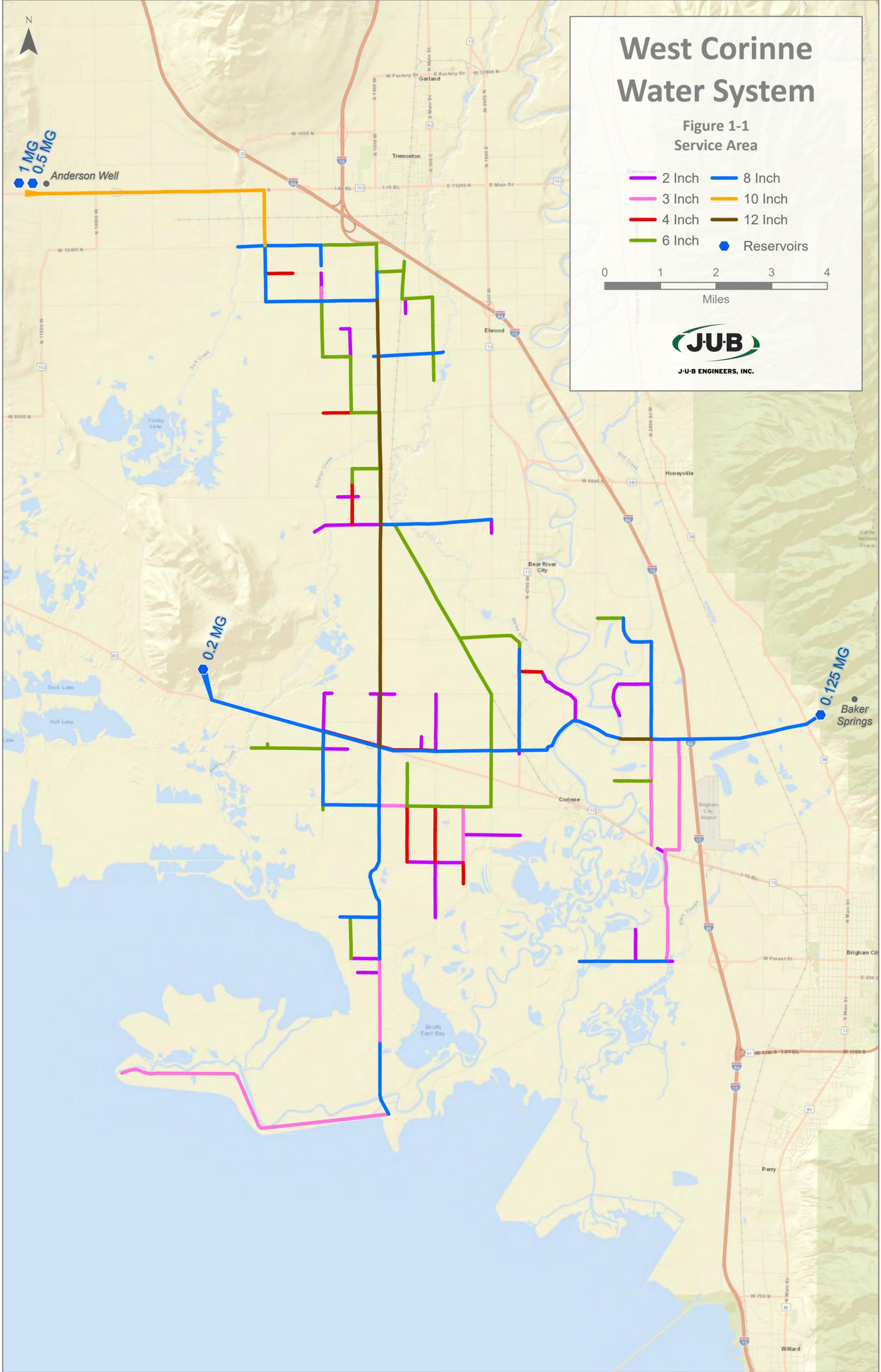
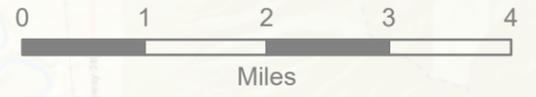


Table 1-1 provides a summary of services connections in the WCWC system.

Table 1-1 Connection Summary

Connection Type	Number of Connections (2017)
Residential	660
Commercial	8
Industrial	0
Institutional	2
Stock	0
Other	0
Unmetered	0
<b>Total</b>	<b>670</b>

## 2. CURRENT WATER SUPPLY

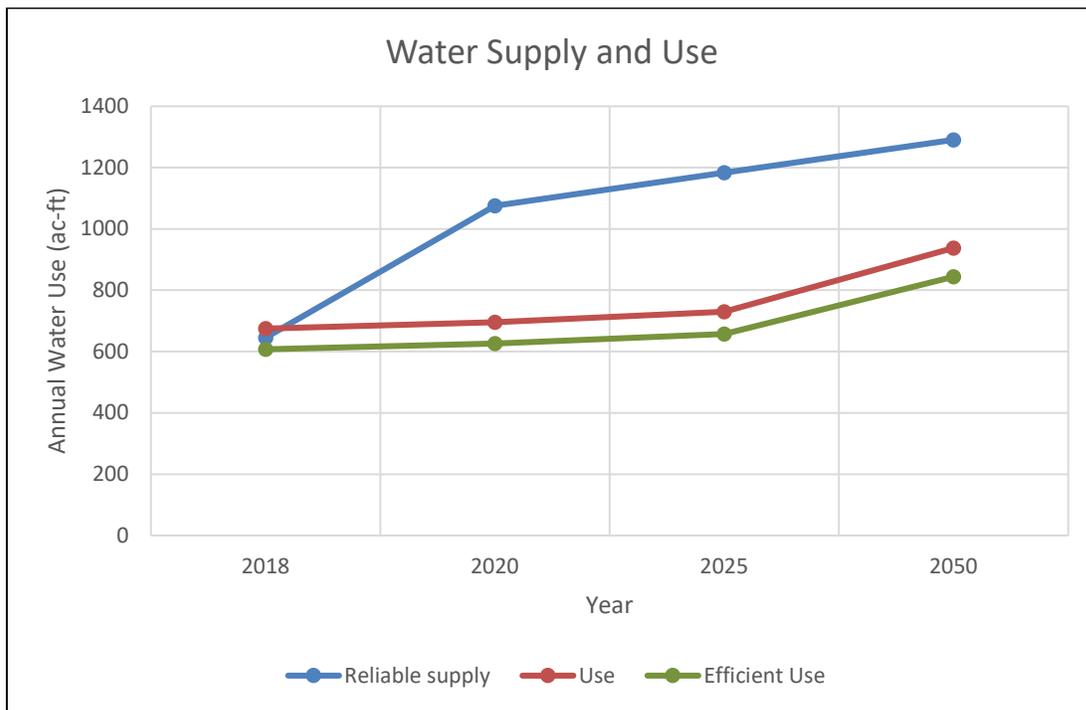
WCWC owns two water sources, namely the Anderson Well and Baker Springs. Based on historical spring flow data and well performance tests these sources can produce the minimum flows shown in Table 2-1.

Table 2-1 Source Name and Capacity

Water Source	Capacity (gpm)
Baker Spring	200 (min.)
Anderson (aka Bothwell) Well	800
<b>Total</b>	<b>1,000</b>

Water from these sources supply 4 storage reservoirs in the system with a total storage capacity of 1.8 million gallons. The Anderson well has always been reliable and has produced a consistent amount of water over the years. The Baker spring is more susceptible to variance in production from year to year. From 2014 to 2016, Baker spring saw abnormally low production numbers because of the low snowfall amounts. In addition, the WCWC has emergency connections to the Brigham City, Tremonton, and Bear River Water Conservancy District culinary water systems.

A project is currently being initiated to rehabilitate the company-owned Baker spring. After the rehabilitation, water supply from that source is expected to double and the overall water supply will be greater than the projected use for the foreseeable future. Figure 2-1 shows the projected reliable water supply and water use projections through 2050.



**Figure 2-1 Water Supply and Use**

If, in the future, it becomes apparent that WCWC needs additional water supply to meet the growing demand, a new well will likely be drilled. The well would be located near the company-owned spring on the east side of the system on the mountain bench. An opinion of probable cost for a new well was prepared in June of 2018 and showed a total project cost of \$912,000.

### 3. WATER MEASUREMENT AND BILLING

WCWC meters each water source and has installed meters on all existing water services. Meters are also required on new connections to the system. New customers who want to connect to the system are required to pay a connection fee and impact fee. The connection fee covers the cost of the meter and labor to connect into the system. The impact fee is used to pay for costs of system upgrades as needed. Over the last four years, WCWC has been replacing all meters throughout the water system.

WCWC uses a SCADA system and monitors flows and water levels daily. At the Baker Spring, manual readings are taken three times a week throughout the year. The Anderson well is read manually whenever it is turned on and pumping, which is daily during the summer months and once a week during the winter months.

Fees are calculated according to WCWC’s standard rate schedule. WCWC water rates are based on the connection type and water usage. Table 3-1 summarizes WCWC’s current rate schedule.

Table 3-1 Current Rate Schedule

Connection Type	Price Per 10,000 Gallons (Base)	Price Per 1,000 Gallons Over Base
Class A (Residential)	\$46.00	\$1.25
Class B (Agricultural)	\$46.00	\$1.25
Class C (Commercial)	\$60.00	\$2.75

There are currently no known major leaks or water losses in the system. Regular system maintenance is completed to avoid future issues and leaks, and to replace aging infrastructure. In the past, WCWC has made major upgrades to the water system which have included rehabilitation and re-equipping the existing well to provide 50% more flow, construction of an additional 1 million gallon storage reservoir, replacing undersized distribution piping and replacing a non-functioning pressure reducing station.

WCWC is currently beginning the process of upsizing a pipeline that transports water from its Baker spring to a nearby storage tank. A future project will include the construction of a new transmission line with increased capacity from a storage tank to tie into the system.

## 4. WATER USE

Water use in the WCWC system generally increases from year to year. Table 4-1 reviews the quantity of service connections in the WCWC system and shows the reported water delivery for 2017 categorized by type.

Table 4-1 Current Water Delivery Summary by Connection Type

Connection Type	Number of Connections (2017)	Reported 2017 Water Delivery (ac-ft)
Residential	660	638.01
Commercial	8	36.62
Industrial	0	0
Institutional	2	0.25
Stock	0	0
Other	0	0
Unmetered	0	0
Total	670	674.88

The previous Water Conservation Plan (WCP) reported water use data from 2011, which was very atypical of subsequent years. Water use data from 2017, shown in Table 4-1, is more typical of water use data from 2014 – 2016.

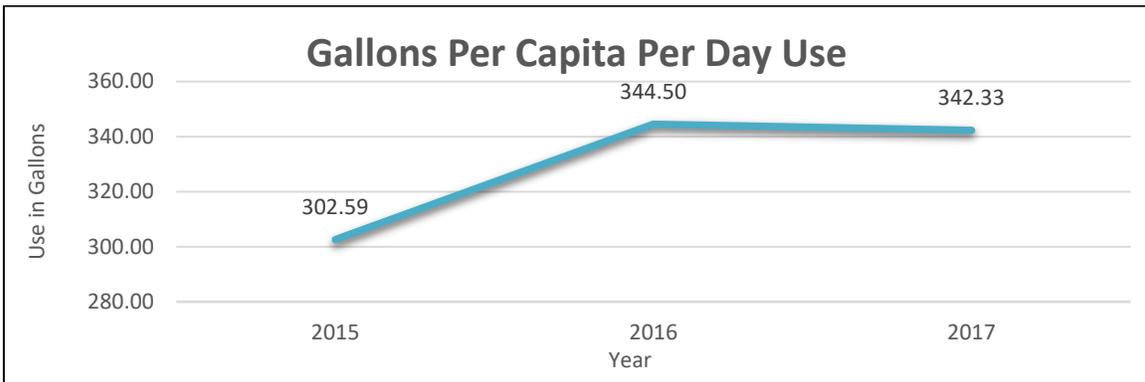
The WCWC services unincorporated areas of Box Elder County. This makes estimating the number of people served difficult. However, an estimate is made from the number of residential connections served and an assumption of the number of people per residence. The U.S. Census Bureau estimates 3.07 people per household for Box Elder County (see

<https://www.census.gov/quickfacts/fact/table/boxeldercountyutah,ut/PST045217>).

With this assumption the estimated population served by WCWC is 2,027. This estimate is higher than the estimated population of 1,760 that was reported to the Utah Division of Water Rights at the end of 2017.

The 2017 residential per capita water use calculated using a population of 2,027 is 281.11 gallons. However, the residential population served as reported to the Utah Division of Water Rights (UDiWaRi) in 2017 is 1760. This results in a residential per capita water use of 342.33 gallons.

Population and water usage data from years prior to 2015 was either not reported or unusually high. Reporting of this data for WCWC has improved in recent years but there is still not sufficient (and accurate) data to track water efficiency progress over a long period of time. Figure 4-1 shows the water efficiency progress from 2015-2017, years in which accurate data was found and verified.



*Figure 4-1 Water Efficiency Progress*

## 5. CONSERVATION PRACTICES

WCWC employs two full-time staff members that manage the day-to-day office and field operation work. Cary McFarland (435-744-5160) is the lead operator of the system and Kim Larkin is the company secretary. WCWC has a board of directors that helps to determine areas of focus for water conservation.

Currently, WCWC sends out letters during the hottest months of the summer to the public requesting that users reduce outside watering, especially during the daylight hours. This practice has proven effective in reducing water usage.

As mentioned previously, many projects have been completed that have upgraded the system infrastructure to reduce potential water leakage locations. The existing piping in West Corinne is mostly PVC and ductile iron pipe that is in fair to good condition. Some of these lines were installed as early as 1950. Replacing pipelines at appropriate times has reduced and will continue to reduce any potential leaks in the system. The new pipeline replacement project that was mentioned previously will replace approximately 3,550 linear feet of existing pipeline from the Baker Spring to its storage tank lower on the mountain. This project will not only allow for greater capacity but will also provide a water tight pipeline that will not lose water to leakage during conveyance to the tank. In turn, a greater amount of water should reach the storage tank that can be used throughout the system.

Another water conservation measure in West Corinne has been the use of a secondary water system. This secondary water system exists in the form of canals and ditches. Approximately 30% of residents in the service area currently use secondary water to water their lawns and gardens. This helps conserve potable water that would otherwise be used for irrigation purposes.

The WCWC rate structure encourages water conservation as fees increase with higher water usage. It also brings an increased awareness to consumers of the amount of water they use.

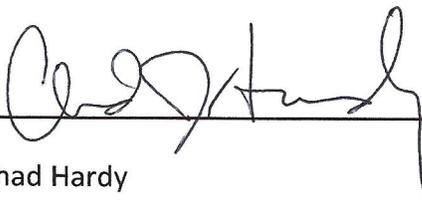
Since 2007 WCWC employed the services of professional divers to clean and inspect their storage reservoirs. This practice has conserved water by allowing WCWC to identify and correct any structural deficiencies in the tanks before they develop into water leaks.

The WCWC Board of Directors has established a water conservation goal to reduce per capita water use by 3% within 5 years.

## 6. WATER CONSERVATION PLAN ADOPTION

By May of 2020 the Board of Directors will include a review of this plan on the agenda of their board meeting. The board will review the goals and implement the action steps outlined. The board will be responsible for overseeing the implementation of the Water Conservation Plan. The board will also update the plan as required by the Utah Division of Water Resources.

This Water Conservation Plan was adopted by the WCWC Board April 30, 2020.



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Chad Hardy

President

West Corinne Water Company