

**COMMUNITY WATER
COMPANY
WATER
CONSERVATION PLAN**

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TABLE OF CONTENTS

SECTION 1 OVERVIEW 1-1

SECTION 2 SYSTEM DESIGN 2-1

SECTION 3 WATER RESOURCES - SUPPLY AND DEMAND 3-1

 WATER SUPPLY 3-1

 WATER DEMAND 3-1

SECTION 4 WATER BUDGET 4-1

SECTION 5 WATER PROBLEMS AND GOALS 5-1

SECTION 6 CURRENT CONSERVATION PRACTICES 6-1

SECTION 7 CURRENT CONSERVATION MEASURES 7-1

 PROGRESSIVE RATE SCHEDULE 7-1

 METER REPAIR/REPLACEMENT 7-1

 SYSTEM INSPECTION AND REPAIR 7-1

 EDUCATION 7-1

 MONTHLY AUDITS 7-2

SECTION 8 SUMMARY 8-1

List of Tables

3.1 Surface and Groundwater Supply Summary 3-1

4.1 Community Water Budget 2001 through 2009 4-1

5.1 Water Issues and Corresponding Goals 5-1

OVERVIEW

Community Water Company ("CWC") has been in operation for almost 40 years. During that time period, high quality water has been delivered in a reliable manner to its customer base of some 500 customers. Since the water system was acquired by its current owner The Canyons Resort, several operational and system improvements have been made to maintain the reliability of the system. These improvements have resulted in the uninterrupted delivery of water that meets every water quality standard of Utah's Division of Drinking Water. We continue to manage a very precious and limited resource **in** an efficient manner with the help of our customer base.

The need for conservation is a growing concern for our small system and throughout the State of Utah. The state legislature recently amended the requirements of a Water Conservation Plan to encourage water providers and its customers to manage the water resource in a prudent manner. As many of you are aware, water shortage is a real concern in our community. Conservation can go a long way in mitigating the problem.

SYSTEM DESIGN

CWC is located in the Willow Creek drainage area near The Canyons Resort just outside of Park City, Utah in Summit County. CWC obtains surface water from both the north and south fork drainages of Willow Creek. Willow Creek flows into Spring Creek, which is a tributary of the East Canyon Creek Watershed. Ultimately, water from Willow Creek finds its way to the East Canyon Reservoir which discharges to the Weber River.

The Service Area of CWC extends just north of Canyons Resort Drive and south beyond Red Pine Road. The eastern limit of the Service Area is framed by Park West Village and the west boundary ends at the base area of The Canyons Resort. The system includes approximately 260 metered connections that serve just over 525 active units/customers-including both culinary and irrigation demand-mainly residential with limited commercial customers. Some condominium units have master meters for larger, multi-family units. All delivered water is culinary grade. There is no secondary irrigation system.

With the exception of limited infill development within the service area, the customer base of CWC has remained relatively stable for the past 25 years. The main areas of water service include:

- Park West Village, 53 connections for single family homes, a 30-unit condominium and 40-unit motel
- Hidden Creek Condominiums - 130 Units
- Red Pine Condominiums and Townhomes - 258 Units
- Red Pine Road, 4 connections for single family homes
- The Canyons Resort, including only the original buildings and the Sun Lodge at Snow Canyon
- Miscellaneous commercial/institution customers along SR 224.

Connection holders in CWC are not limited to an allocated volume of water. Instead, customers can use however much water they need. Once paid, connection fees allow the customer to connect to a waterline within the service area. New infrastructure required to deliver water to the customer is the obligation of the builder/owner. Water use is controlled through a progressive rate structure, maintaining close communications with our customer base-especially the larger irrigation users, and education.

WATER RESOURCES -SUPPLY AND DEMAND

WATER SUPPLY

The water supply for CWC includes both surface and groundwater sources. Surface water for CWC originates in the Willow Creek Drainage Basin. Surface water is collected at in-stream impoundments located in the north and south fork reaches of the Willow Creek. Streamflow is conveyed from the impoundments via underground pipes to the Water Treatment Plant located just below the confluence of the two reaches of Willow Creek. Surface water is treated at the Plant, and then stored in 2 reservoirs, which total 657,000 gallons of water. Surface water supply, which is limited by streamflow, is summarized in Table 3.1 below.

Groundwater sources consist of 2 active wells in the Drainage Basin. The Gulch Well is the main source of groundwater for the system. The Gulch Well continues to produce approximately 100 gpm. The Wagon Trail #2 well is the second source of groundwater to the system. Wagon Trail #2 produces approximately 30 gpm. Both sources of groundwater are conveyed via underground pipes to the two reservoirs where they are mixed with surface water that is treated at the Water Treatment Plant. Table 3.1 provides a summary of this supply.

Table 3.1 Surface and Groundwater Supply Summary

Water Source	Water Right(s)	Rated Capacity	2007 Production	2008 Production	2009 Production
Gulch Well	EX-1286, EX-1714	95 QOffi	38,617,900 gal	40,877,100 gal	38,053,600 gal
Wagon Trail #2 Well	EX-1286, EX-1714	30 Qnm	7,882,100 gal	2,814,700 gal	3,931,100 gal
Willow Creek WTP (surface water)	35-8411, 35-8416, EX-574, EX-1255	180 QDffi	16,223,300 gal	9,215,600 gal	23,062,800 gal

WATER DEMAND

As noted above, customers within CWC own right to connect and the right to use water produced and delivered by the existing infrastructure. Unlike some other systems, there technically is no limit to the amount of water customers can use. Therefore, it is imperative that our customer base manages their water use properly and conserve where possible.

The Service Area of **eWE** consists mainly of 3, large condominium/townhome units that account for approximately 75% of the customer base. Several of these units are second homes or managed as rental properties-mainly in the winter season due to their proximity to the adjacent ski resort. For this reason, water demand is considerably less than the calculated value recommended by the Utah Division of Drinking Water.

Water demand is much greater in the summer based upon irrigation useage. Typically, irrigation water consumes about 70% of the water used during the year. **eWE** does not have a secondary or untreated irrigation water system. This means that all water used for irrigation is culinary or potable grade water. Irrigation water cuts into the culinary water reserve of the system. Minimizing the amount of water used for irrigation is much more critical than conserving the in-house use of water.

To avoid over-use, one particular large condominium complex monitors water use on a weekly basis during the irrigation season. Results of routine monitoring allow the property manager to closely track water use and identify potential leaks promptly.

WATER BUDGET

Table 4.1 provides a water budget for the past three years. The budget reflects ongoing efforts to satisfy the water needs of the customer base, yet implement conservation measures where possible. The difference represented between 2002 and 2003 reflect in part a new rate structure designed to encourage conservation. Summer precipitation and temperature also have a significant impact on water use.

Table 4.1 Community Water Budget 2001 through 2009

Year	Inflow in Acre Feet			Outflow in Acre Feet			
	Wells	Stream	Total	Resid	Comm	Total	% Diff
2001	159	84	243	121	42	163	28
2002	149	166	315	189	24	214	32
2003	136	129	265	137	22	160	36
2004	141	49	190	109	17	126	34
2005	118	77	195	107	18	125	36
2006	159	40	199	109	18	127	36
2007	143	50	193	110	17	127	34
2008	134	28	162	136	25	161	6*
2009	128	70	198	107	19	126	36

*does not reflect additional water from interconnect.

Differences between inflow and outflow i.e. system losses are the result of actual losses (chronic and acute), unmetered sources and inaccurately metered sources both on the inflow and outflow sides of the system. The ewe infrastructure is almost 40 years old, and is located in alluvium/colluvium deposits at the base of the mountain. Leaks in this type of porous media are very difficult to identify sometimes resulting in significant losses before being detected and repaired. This in part explains the high system loss.

WATER CHALLENGES AND GOALS

Table 5.1 below identifies the major water issues of the system, and the goal to rectify or mitigate that problem.

Table 5.1 Water Issues and Corresponding Goals

Problem	Goal(s)
Insufficient source capacity	Obtain funding for well improvement
Insufficient storage	Obtain funding for additional storage
Overuse and water wastin.g	Educate customers to achieve 15% reduction, increase rates for over-use
Slow leak identification and response time	Monitor system routinely and diligently
Unmetered sources	Reduce unmetered sources to "0" by 2012
Inaccurately metered sources	Maintain 10% meter replacement program. Focus on large irrigation meters
Insufficient capital budget	Seek rate increase to grow budget

CURRENT CONSERVATION PRACTICES

Contingency measures that will be used by CWC during drought or other water supply shortages include the following practices based upon the severity of conditions:

- Level I: No watering between 9:00 a.m. and 7:00 p.m.
 Water every other day.
 Avoid watering after recent rains

- Level II: Water every 3rd day.

- Level III: Hand watering only for major landscape
 components (trees/shrubs).

- Level IV: Cease all irrigation watering to conserve for in-
 house and life safety use.

CURRENT CONSERVATION MEASURES

PROGRESSIVE RATES

CWC received approval from the Public Service Commission (PSC) of its progressive rate structure in January 2002. The rate structure provides for a reasonable allocation of 5,000 gallons per month for each user at the base service rate. A two-tiered progressive rate is applied beyond the base level. The first tier charges customers \$1.25/ 1,000 gallons up to 10,000 gallons. Beyond 10,000, the rate structure becomes highly punitive and charges customers \$5.12/1,000 gallons for all use above the 10,000 gallon threshold. The progressive rate structure encourages water conservation while maintaining compliance with PSC requirements.

METER REPAIR/ REPLACEMENT

eWE maintains a regular meter replacement program to better understand and measure water usage. Meter replacement/repair practices are applied to both the inflow and outflow sides of the system. **eWE** attempts to replace old and inoperable meters through a systematic approach, which includes reviewing water usage and the age of equipment. Problematic meters are replaced when identified. Focus is directed single family homes that have higher outside water use.

SYSTEM INSPECTION AND REPAIR

The CWC infrastructure is over 30 years old. Therefore, close monitoring of the entire infrastructure system is critical. Operating personnel are routinely monitoring the system to identify promptly areas of concern. Special attention is paid to large irrigation users. Recent efforts also focus on responding quickly to any identified leaks to avoid or minimize water outages.

EDUCATION

When available, CWC participates in a water provider workgroup that review water use practices and operational issues in the Snyderville Basin and Park City areas. Through that program, brochures have been developed and are distributed to our customer base and lodging visitors. The brochure provides background information and recommends practices that encourage conservation.

Additionally, CWC works closely with its entire customer base on

an as-requested basis to reduce water use. **eWe** is somewhat fortunate that over the past several years, approximately 50-60% of its water demand was by the 2, large condominium/townhome complexes. The management and operating staff of **eWe** maintains close communications with these two users, and works closely with them to manage the water useage in a prudent manner. As noted above, one of those customers conducts weekly meter reads during the irrigation season.

MONTHLY AUDITS

Management personnel at **eWe** conduct monthly audits of water usage following meter reads. The purpose of the audits is to evaluate water produced versus water delivered to the customers. These audits have been instrumental in identifying discrepancies that may be the result of metering problems (inoperable and unmetered connections), leaks, and system other losses.

SUMMARY

Water quality and reliable service remains our primary focus. There is also an ongoing effort to increase source and storage capacity. However, **eWe** continues to encourage water conservation from all of its users, and reduce water losses. Better recordkeeping based upon more accurate metering will help customers and **eWe** improve water management.