

1.0 INTRODUCTION

The purpose of this report is to provide an outline of water supply and wastewater treatment capacity for the proposed Waterbury Preliminary Plan. There are 196 proposed residential lots and a 3.2-acre Recreation Center parcel within the roughly 62-acre subdivision. Please refer to the Land Use Exhibit in *Appendix A*.

2.0 LAND USES

2.1 *Projected Land Uses:* Lands within the subject area have been planned as residential development with a single Recreation Center parcel

3.0 WATER NEEDS AND SUPPLY

3.1 *Water Demand:* It is expected that the development will utilize the following water demands. *Appendix B* contains a more detailed breakdown of uses.

Table 1 – Summary of Water Demands			
<i>Land Use</i>	<i>Annual Water Demand (acre-feet)</i>	<i>Average Daily Flow (GPD)</i>	<i>Maximum Daily Flow (GPD)</i>
<i>Residential</i>			
Indoor Water Use ¹	39.2	34,993	38,492 ⁵
Irrigation ²	29.4	26,245	144,348 ⁶
<i>Rec. Center Parcel</i>			
Indoor Water Use ³	0.61	548	603 ⁵
Irrigation ⁴	0.92	822	4,521 ⁶
Totals	70.1	62,608	187,964

Note ¹ Based on 0.20 AF/SFE-Year Indoor

Note ² Based on 0.15 AF/SFE-Year

Note ³ Based on 20 GPY/Indoor SF

Note ⁴ Based on 36" of Water Application/Year

Note ⁵ Indoor MDF = 1.1 x ADF

Note ⁶ Irrigation MDF = 5.5 x ADF

3.2 *Water Supply:* The 4-Way Ranch Metropolitan District (4-Way, the District) will provide water to the subject property. The District has a perpetual lease for 800 annual acre-feet of Arapahoe and Laramie Fox-Hills water. A copy of the lease is included in *Appendix C* and is based on two Groundwater determinations. There are two water right determinations 510-BD and 511-BD within 4-Way Ranch. Both the Arapahoe and Laramie Fox Hills aquifers are determined to be fully non-tributary.

At this time, the District has 42 developed residential lots having a total water commitment of 17.6 acre-feet. The demand anticipated to be added by this development (70.1 acre-feet) would result in a total commitment of 87.7 annual acre-feet which is well under the 800 acre-foot annual capacity.

Please refer to *Appendix D* for the Water Supply Information Summary.

<i>Table 2 – Summary of Supply and Existing Commitments</i>		
<i>Commitment</i>	<i>Development Withdrawal</i>	<i>300-Year Water Commitment (Annual Acre-Feet)</i>
Filing #1	42 Large Residential Lots	17.6
Waterbury	196 Residential Lots & Rec. Center	70.1
	<i>Total Water Commitments</i>	<i>87.7</i>
	<i>Total El Paso County 300-Year Supply</i>	<i>800</i>

Note: Large 2.5-acre lots in Filing #1 water demand based on 0.42 AF-SFE/Yr

3.3 *District Supply:* In order to provide the District with adequate supply, it is expected that the owner of the rights, Four Way Ranch Partnership/ Spring Creek LLC, has entered into a perpetual lease with the District to supply up to 800 annual acre-feet for the purpose of meeting District requirements. The reservation of 800 acre-feet provides adequate cushion to absorb this use.

4.0 WATER SYSTEM FACILITIES

- 4.1 *Source of Supply (Wells):* District water demand will be met using Arapahoe (A) and Laramie-Fox Hills (LFH) wells. These wells were completed in 2006 and have been in service ever since. The yields of each well are 90 (gallons per minute) gpm for the Laramie-Fox Hills and 35 gpm for the Arapahoe.

Maximum daily flows required of existing residential and the proposed subdivision are roughly 130 gallons/minute. The existing treatment plant is sized for 140 gallons per minute, which is adequate to meet existing and proposed maximum daily flows.

- 4.2 *Water Treatment:* An existing water treatment plant is in place and has been operating since 2007. The facility has a maximum daily capacity equal to well yield or 0.20 million gallons/day. The facility is currently at approximately 6% capacity with existing development. The facility includes iron and manganese treatment along with disinfection, and operates under approval of the Colorado Department of Health and Public Environment PWSID # CO-0121111.

- 4.3 *Water Storage:* The 4-Way Ranch Water System has an existing water storage tank with a 522,000 gallon capacity that has also been on-line since 2007. This storage has the capability to meet a fire flow requirement of nearly 3,000 GPM for a duration of 3 hours.

The tank site is located on a knoll approximately 1 mile north of the existing water treatment facility.

- 4.4 *Distribution and Transmission Lines:* For the purpose of fire protection, the subject area would be connected and “looped” to existing 8-inch distribution lines in the existing residential area.