



# CHEROKEE METROPOLITAN DISTRICT

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## Water Provider's Supplementary Report for proposed Crossroads North Development

June 17<sup>th</sup>, 2022

Commitment 2022-12

This document has been prepared to satisfy the requirements of El Paso County for a Water Provider's Report in support of **Crossroads North** at the **west corner of U.S. Highway 24 and State Highway 94**.

## **Introduction**

Cherokee Metropolitan District (CMD) is a Title 32 special District which provides water and wastewater to an approximately 5000-acre enclave of unincorporated El Paso county surrounded by the City of Colorado Springs. Currently CMD serves approximately 7000 residential taps and 600 commercial taps in addition to bulk users in eastern El Paso County including Schriever Air Force Base.

CMD water is sourced entirely from groundwater in two regions. The majority is recovered from the alluvial Upper Black Squirrel (UBS) Aquifer in eastern El Paso County through 20 wells. The remainder is sourced from two wells in deep bedrock aquifers in the northern part of the county on the “Sundance Ranch” property. Water from eight of the 20 wells in the eastern part of the county can only be used to serve a fixed set of customers. Water for the main service area of CMD comes only from the remaining 12 wells in UBS along with the two wells in Black Forest.

## **Calculation of Anticipated Water Demand**

The proposed development covers an approximately 95 acre triangular area bounded by U.S. Highway 24, State Highway 94, and Marksheffel Road. This area is split between Colorado Springs city limits and unincorporated El Paso County within CMD’s service area. This project will not change either boundary and as such will have split water and wastewater service.

The southern portion of the property is within City limits and will consist of a sports complex with associated outbuildings. The city is responsible for water and wastewater service to this area.

The northern portion of the property is within unincorporated El Paso County and CMD’s service area. A retail commercial development is planned for this area. Final uses are unknown but total square footage has been set. Due to the uncertainty of final uses, the water use estimation was based on the County’s presumptive use value of 0.1 gallon per day per square foot. Across 341,986 square feet of commercial floor space, this yields 38.3 acre-feet per year of water demand. The developer has also established the irrigated area and will be opting for traditional irrigation rather than xeric landscaping. The County’s established 2.43 feet of water use for traditional lawns across 73,454 square feet yields 4.1 acre-feet per year of irrigation demand. The total expected water demand for the development area to be served by CMD is 42.4 acre-feet per year.

## **Water Supplies**

Cherokee has eight wells that are restricted to serving a maximum of 653 AFY to specified in-basin customers. Excess allocation for these wells is unavailable for new developments, even if they are inside the Basin, so this water is tracked separately from CMD’s

general supply portfolio. CMD’s other alluvial wells are available for export outside the UBS basin. The total annual volume available to CMD from these exportable supplies is 3,985 AFY (Table 1). The physical yield of these wells is significantly higher than their annual appropriation, allowing flexibility in satisfying summer peak demand.

Table 1: Water rights and tributary status of Exportable Wells

Well Number	Water Right (AFY)	2020 Use (AFY)	Permit Number	Aquifer	Aquifer Status
Well 9	176	175	14145-FP-R	UBS Alluvium	Tributary
Well 10	176	143	14146-FP-R	UBS Alluvium	Tributary
Well 11	244	174	6821-FP-R	UBS Alluvium	Tributary
Well 12	244	166	11198-FP	UBS Alluvium	Tributary
Well 13	1268	830	49988-F	UBS Alluvium	Tributary
Well 14	0	0	52429-F	UBS Alluvium	Tributary
Well 15*	281	117	54070-F	UBS Alluvium	Tributary
Well 16*	219	115	54069-F	UBS Alluvium	Tributary
Well 17*	175	123	63094-F	UBS Alluvium	Tributary
Well 18	225	161	16253-RFP-R	UBS Alluvium	Tributary
Well 19	95	65	20567-RFP-R	UBS Alluvium	Tributary
Well 20	400	94	4332-RFP	UBS Alluvium	Tributary
Well 21	290	224	81782-F	UBS Alluvium	Tributary
DN-4**	110	88	78315-F	Denver Aquifer	Non-Tributary
AR-1	347.7	306	75881-F	Arapahoe Aquifer	Non-Tributary
<b>Total</b>	<b>4184.7</b>	<b>2464</b>			

\*Wells 15-17 can produce a total of 609 AFY instead of their nominal total of 675 AFY. This limitation is reflected in the 3984.7 AFY total available production.

\*\*CMD holds additional water rights in the Denver Aquifer associated with the Sundance Ranch property but this particular well has a maximum annual recorded yield of 110 AFY.

CMD is developing owned water supplies to increase available water and improve flexibility in provision of summer peak flows. By the end of 2020, these new wells will contribute 458 AFY of capacity to the CMD system (Table 2) for a total of 4,443.0 AFY. Since 2011, observed demand from CMD customers has fallen 30-35% below commitments, partially due to some currently committed developments being incomplete but largely due to water saving measures undertaken by CMD customers.

Table 2: New water supplies slated for completion in 2020

Well Number	Water Right (AFY)	Permit Number	Aquifer	Aquifer Status
Well 22	153.5	27571-FP	UBS Alluvium	Tributary
DA-1	40.3	83604-F	Dawson	Not Non-Tributary
DA-4	64.5	83603-F	Dawson	Not Non-Tributary
<b>Total</b>	<b>258.3</b>			

By the end of 2021, CMD will have a total of 4,443 AFY of exportable water supplies sourced from alluvial and deep bedrock aquifers. Further development in the Denver Basin is not planned at this time and instead CMD is focusing on acquiring new renewable supplies proximate to existing infrastructure.

## Water Commitments

CMD's water commitments stand at 4,295.7 AFY before the addition of the proposed development. These commitments are broken down below in Table 3. The Tipton and Kane commitments are related to an arrangement from the mid-2000's where developers reserved commitments on two new wells. The water from these wells is considered fully committed to these developers even if they have not yet begun the projects associated with the reserved commitments. Due to a complex legal history, the "Kane" water right was not tied to a specific physical water well but instead operates as a commitment served from CMD's general supply portfolio. The "Tipton" water right corresponds to CMD's Well 18.

Table 3: CMD Commitments before addition of new development

Commitments	AFY
In-District (2015)	2693
Committed Since 2015	590.7
Schriever Air Force Base	537
Kane	200
Tipton	225
Construction	25
Parks	25
<b>Total</b>	<b>4295.7</b>

## Water Balance

With 4,443.0 AFY of exportable supply and 4,295.7 AFY of commitments, CMD has a water balance of 147.3 AFY before the subject development. After commitment of 42.4 AFY to this development, the District will have 104.9 AFY remaining for additional commitments.

Table 4: Water balance with new development

Water Balance Before New Commitment	147.3
New Commitment: Electronic Dr. Self Storage	42.4
<b>Water Balance Remaining</b>	<b>104.9 AFY</b>

## Other Relevant District Information

### Recent Water Acquisitions/Losses

CMD has not acquired any new water rights since 2015 but has been developing owned water rights. CMD has not engaged in any water trades nor lost any water rights in the last year. The District is not currently under contract to purchase new water rights although CMD is investigating purchases of renewable water rights proximate to its existing infrastructure on an ongoing basis.

### New Augmentation Plans

CMD is currently pursuing a replacement plan in partnership with Meridian Service Metropolitan District (MSMD) in order to maximize the efficiency of its water supplies.

### Major Water System Capital Improvements

CMD has been actualizing owned water by drilling wells and beginning production on several well sites. In February of 2020 CMD brought the Sweetwater 5 well (81782-F) online after a year of planning and construction. The District recently completed drilling of the Albrecht Well (Well 22) which after connection to the system will produce 153.5 AFY annually.

Smaller-scale improvements to the distribution system to improve reliability and resiliency have been ongoing and include deeper computer integration, upgrades to treatment systems, rehabilitation of tanks, and emergency generator refurbishment.