# WATER RESOURCES REPORT

## Seder Subdivision
## 2725 Akers Drive
## El Paso County, Colorado 80922

Prepared For:

**Seder Investment, LLC**

2725 Akers Drive
El Paso County, Colorado 80922

Prepared By:

**Baseline Engineering Corporation**
1046 Elkton Drive
Colorado Springs, Colorado 80907

Steven Baggs, PE

**Date: October 16, 2023**

PCD Filing No.: Please add: VR2319

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# 1) Project Location and Description

## a) Location

This Water Resources Report has been prepared for the proposed Seder Subdivision, located on Lot 7 of the Akers Acres Subdivision No. 1. The address of the site is 2725 Akers Drive and the parcel number is 5332002015. The property is bound to the North by Lot 6 of the Akers Acres Subdivision No. 1, the East by Marksheffel Road Right-of-Way, the South by Lot 8 of the Akers Acres Subdivision No. 1, and the West by Akers Drive Right-of-Way. The site is located within the SE ¼ of Section 32, Township 13 S, Range 65 West of the 6th Principal Meridian.

## b) Description of Property

For the purposes of this report "the site" will refer to Lot 7 of the Akers Acres Subdivision No. 1, which is approximately 9.37 acres. The property is to be replatted as Seder Subdivision with two lots, Lot 1 containing 2.76 acres and Lot 2 containing 6.58 acres. There is an existing one-story office building, RAS pavement drive aisles and parking, and outdoor storage area on the property. The site was formerly an asphalt shingle recycling facility but that operation has ceased and the shingle storage piles are currently being removed from the site.

This project only proposes a replat of the property, no proposed surface improvements will be made at this time. The site is currently zoned M CAD-O. There is no zone change action proposed for this site.

VICINITY MAP

# 2) GENERAL WATER REQUIREMENTS

## a) Water Service Provider

This site is within the Cherokee Metropolitan District (CMD) water and wastewater service area. A copy of the district map showing the site located is included in the Appendix. The existing building on the site is currently served by CMD from the existing water main in Akers Drive. CMD utilizes Colorado Springs Utilities Water Line Extension & Service Standards with some identified exceptions. All future water improvements required at this site will be in accordance with these standards.

## b) Future Development

Development of the site is not proposed as part of this Vacation and Replat application. However, the current scheme for the site is that the existing building remains on Lot 1 and development acceptable in the M CAD-O zone will occur on Lot 2. A Site Development Plan will be required once final development plans are determined for Lot 2. Preliminary concept is for an outdoor RV/Boat storage yard with a small office. The existing water main in Akers Drive would be the point of connection for Lot 2 development also. The SDP application for Lot 2 would finalize water requirements and an updated Water Resources Report may be required if different from preliminary concept.

## c) Water Resources Report

This Water Resources Report has been prepared to satisfy the requirements of the Land Development Code and in accordance with the Water Resources Report Checklist. This report has been prepared based on development information for this Vacation and Replat application only and will need to be updated at the time of future Site Development Plan applications.

# 3) SITE SPECIFIC WATER RESOURCES REQUIREMENTS

## a) Point of Connection

The Point of Connection (POC) for this proposed subdivision includes an existing POC for the existing building (Lot 1) and a future POC for Lot 2. The existing water main in Akers Drive is the current water source for this site. Since the specifics of Lot 2 development are undetermined at this time the future POC is subject to change and revision. A Point of Connection exhibit is included in the Appendix of this report.

## b) Sufficient Quantity of Water

**Water Demand:** The water demand for an additional lot is based on a potential storage yard use for the new lot. Other storage yards within the Cherokee Metropolitan District service area average 0.14 AFY. Considering that average and potential landscaping the anticipated water demand for this site is 1.3 AFY. See the Water Providers Supplemental Report in the Appendix.

**Quantity of Available Water:** A summary of the water quantity available in the District is included in the Water Providers Supplemental Report. The water balance for CMD is 212.7 AFY prior to the

development of the site and is adjusted to 211.4 AFY after the development of the site. See the Water Providers Supplemental Report in the Appendix.

**Groundwater Source Information:** See the Water Providers Supplemental Report in the Appendix.

**Production Wells Information:** See the Water Providers Supplemental Report in the Appendix for production well information.

**Surface Water Sources:** See the Water Providers Supplemental Report in the Appendix for surface water source information.

### c) Sufficient Dependability of Water Supply

Please refer to the Water Providers Supplemental Report for discussions of water supply dependability including water rights, well facilities and yields, capital improvements, available well sources and determination of ability to provide the required demand for this site. The report is included in the Appendix.

### d) Sufficient Water Quality

The Cherokee Metropolitan District 2022 Water Quality Report provides information on water quality sufficiency for the District and thusly for this site. The water quality report is included in the Appendix.

### e) Water Provider Information

The Cherokee Metropolitan District is the water provider for this proposed replat. A description of the District is included in the Water Providers Supplemental Report in the Appendix.

### f) Commitment Letter

As part of the final plat application submittal, a commitment letter to provide service was requested from Cherokee Metropolitan District for water and wastewater services. Cherokee Metropolitan District currently provides water and wastewater services to the site and the commitment letter indicates that the District has capacity to continue to provide service to the site upon completion of the two lot replat. A copy of the letter is included in the Appendix of this report.

## 4) CONCLUSION

This Water Resources Report has been prepared to meet the submittal requirements for a Vacation and Replat application. The checklist for a final plat level report was utilized in the preparation of this report. A Water Providers Supplemental Report prepared by Cherokee Metropolitan District was referenced in the preparation of this report. Changes to the preliminary concept of Lot 2 development could require additional Water Resources Report requirements at time of Site Development Plan application.

# Appendix A

## Cherokee Metropolitan District Map

# CHEROKEE METROPOLITAN DISTRICT

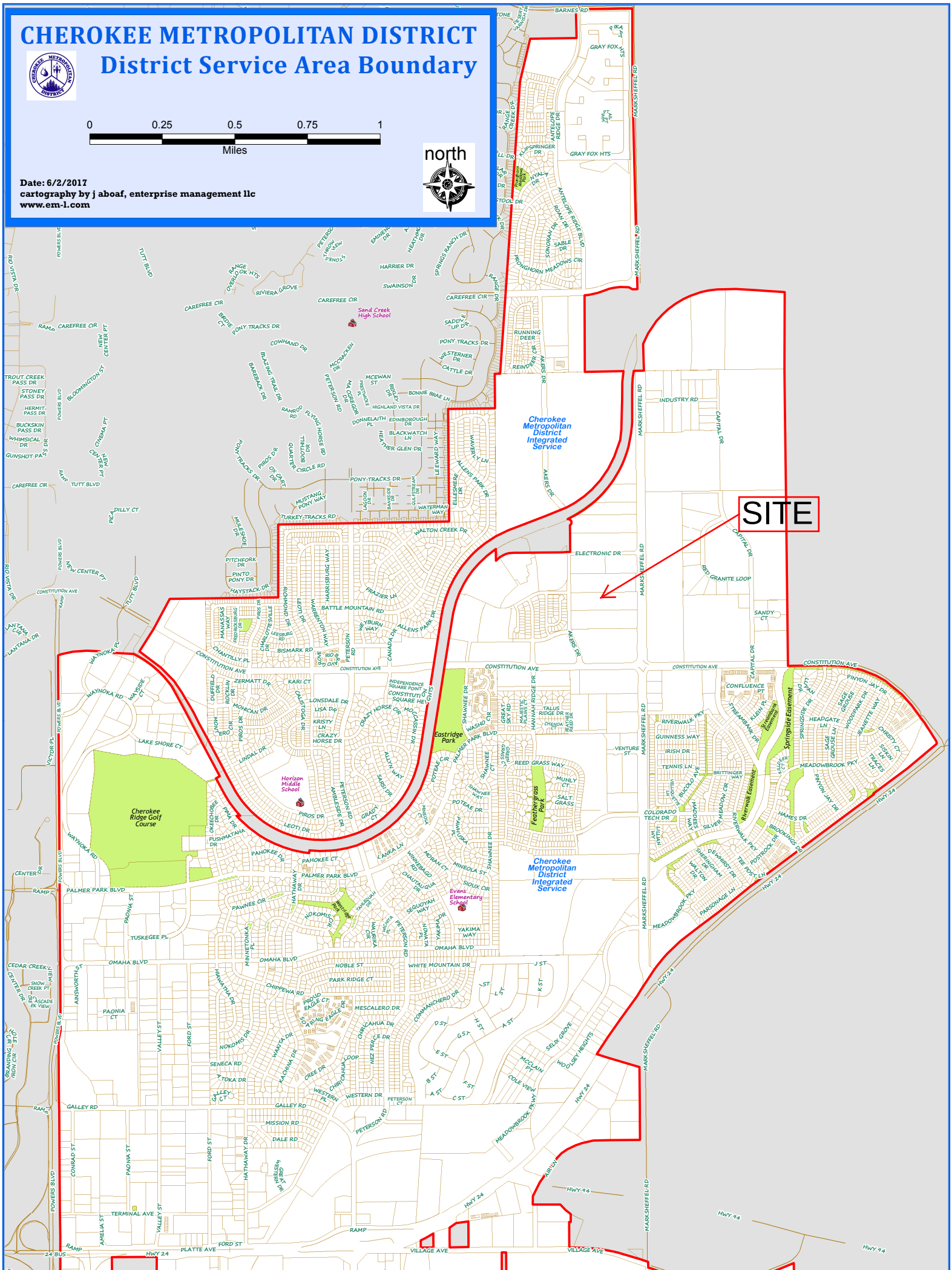
## District Service Area Boundary

0 0.25 0.5 0.75 1

Miles

north

**Date: 6/2/2017**
**cartography by j aboaf, enterprise management llc**
**www.em-l.com**



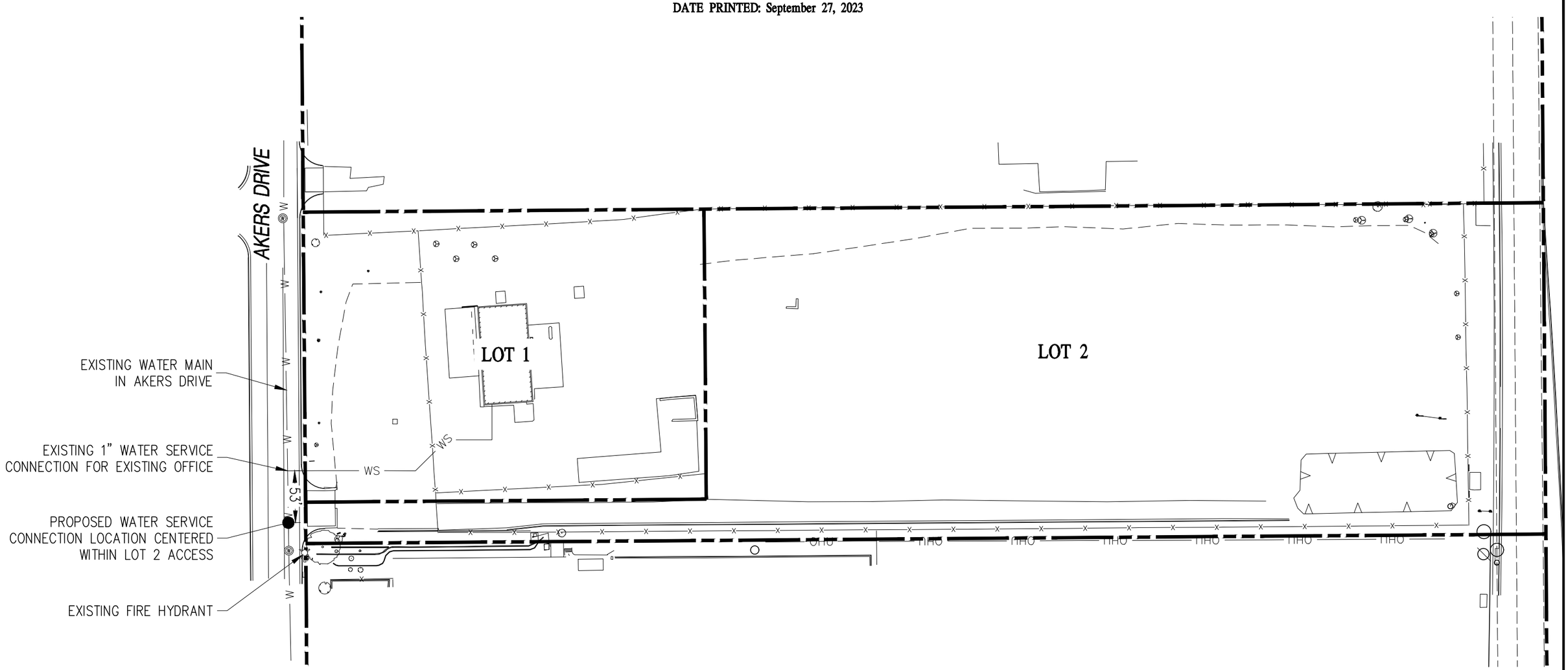
# Appendix B

## Water Point of Connection Map

# WATER CONNECTION POINT EXHIBIT

# SEDER SUBDIVISION

DATE PRINTED: September 27, 2023




## LEGEND

| EXISTING LINETYPES | PROPOSED LINETYPES | |
|---|---|---|
| | | SECTION LINE |
| | | LOT LINE |
| | | WIRE FENCE |
| | | CURB AND GUTTER (SPILL/CATCH) |
| | | EDGE OF BUILDING |
| | | EDGE OF ASPHALT |
| | | EDGE OF GRAVEL |
| W | W | WATER LINE |
| WS | WS | WATER SERVICE |

| EXISTING SYMBOLS | PROPOSED SYMBOLS | |
|---|---|---|
| | | CONIFEROUS TREE |
| | | DECIDUOUS TREE |
| | | WATER MANHOLE |
| | | FIRE HYDRANT |

N

GRAPHIC SCALE
100 0 100
(IN FEET)
1 INCH = 100 FT

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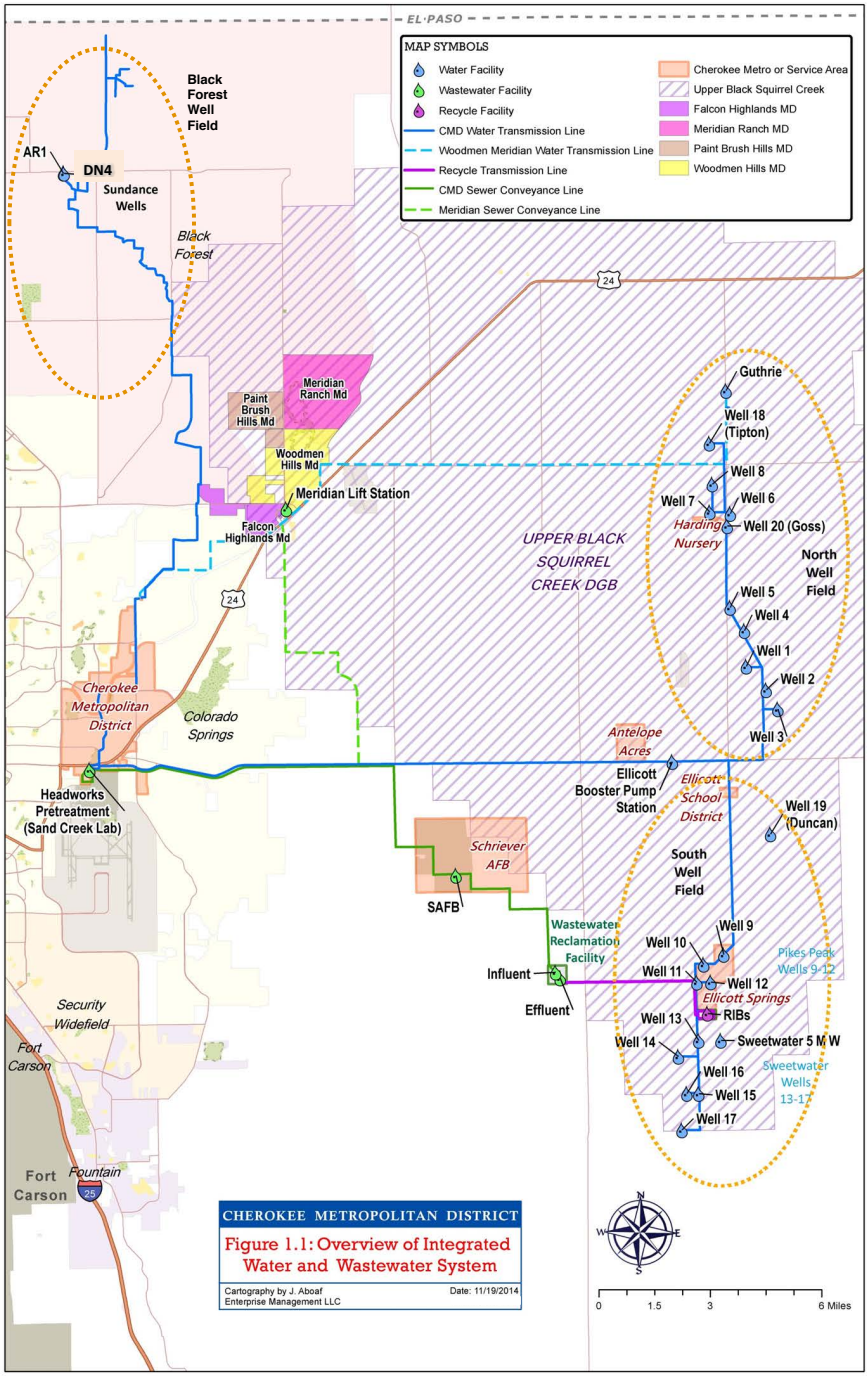
# Appendix C

## Water & Wastewater System Map


EL PASO
MAP SYMBOLS
Water Facility
Wastewater Facility
Recycle Facility
CMD Water Transmission Line
Woodmen Meridian Water Transmission Line
Recycle Transmission Line
CMD Sewer Conveyance Line
Meridian Sewer Conveyance Line
Cherokee Metro or Service Area
Upper Black Squirrel Creek
Falcon Highlands MD
Meridian Ranch MD
Paint Brush Hills MD
Woodmen Hills MD
Black Forest Well Field
AR1
DN4
Sundance Wells
Black Forest
24
Meridian Ranch Md
Paint Brush Hills Md
Woodmen Hills Md
Meridian Lift Station
Falcon Highlands Md
UPPER BLACK SQUIRREL CREEK DGB
Guthrie
Well 18 (Tipton)
Well 8
Well 7
Well 6
Harding Nursery
Well 20 (Goss)
North Well Field
Well 5
Well 4
Well 1
Well 2
Well 3
Cherokee Metropolitan District
Colorado Springs
Antelope Acres
Ellicott Booster Pump Station
Ellicott School District
Well 19 (Duncan)
Headworks Pretreatment (Sand Creek Lab)
Schriever AFB
SAFB
South Well Field
Wastewater Reclamation Facility
Well 9
Well 10
Well 11
Well 12
Pikes Peak Wells 9-12
Influent
Effluent
Ellicott Springs
RIBs
Security Widefield
Fort Carson
Well 13
Well 14
Sweetwater 5 M W
Well 16
Well 15
Well 17
Sweetwater Wells 13-17
Fort Carson
Fountain
25
CHEROKEE METROPOLITAN DISTRICT
Figure 1.1: Overview of Integrated Water and Wastewater System
Cartography by J. Aboaf
Enterprise Management LLC
Date: 11/19/2014
N
W
E
S
0
1.5
3
6 Miles

# Appendix D

## Water Commitment Letter

# CHEROKEE METROPOLITAN DISTRICT

**6250 Palmer Park Blvd., Colorado Springs, CO 80915-2842**
**Telephone: (719) 597-5080 Fax: (719) 597-5145**


**September 6, 2023**
**Seder Investment LLC**
**Attn: Steve & Karen Seder**
**2725 Akers Drive**
**Colorado Springs, CO 80922**

*Sent via email*: steven.baggs@baselinecorp.com

Re: Water and Sewer Service to **2725 Akers Drive**
Commitment Letter No. **2023-05**

Dear Seder Investment LLC,

As requested, this document will serve is as a formal Letter of Commitment from the Cherokee Metropolitan District to provide municipal water and sewer services for 2725 Akers Drive. The proposed location for this development is located within the District's established boundaries and therefore is eligible for service connections from the District.

Cherokee Metropolitan District staff, along with the developer, have determined that the following will be the total water demand required by this development:

| **Type of Use** | **Demand (AF/yr)** |
|---|---|
| Domestic | 0.15 |
| Irrigation | 1.15 |
| **Total** | **1.30** |

Based on a conservatively low 0% consumptive use of domestic water, the development is expected to produce 134 gallons of wastewater per day, representing 0.05% of CMD's wastewater capacity. This usage is in line with anticipated wastewater demand for this area of the District. This 0% consumptive use is calculated for the purposes of ensuring CMD wastewater collection and treatment infrastructure is capable of treating the maximum possible volume of wastewater generated from this development. This is not intended in any way to limit consumptive uses of potable water on the subject property.

This water commitment is hereby made exclusively for this specific development project at this site within the District. To confirm this commitment you must provide the District with a copy of the final plat approval from El Paso County Development Services within 12 months of the date of this letter.

Otherwise, the District may use this allocation for other developments requesting a water commitment. If the subject project is re-platted, you must submit a new commitment request prior to submitting the re-plat to El Paso County, which may result in a recalculation of the water demand for the project.

If I may be of further assistance please contact me at your convenience.

Sincerely,

Amy Lathen
General Manager

Cc: Peter Johnson; Water Counsel w/ encl: sent via email
Steve Hasbrouck; Board President w/ encl: sent via email
Jeff Munger; Water Resource Engineer: sent via email
Kevin Brown; Jr. Engineer: sent via email

# Appendix E

## Water Providers Supplemental Report

# CHEROKEE METROPOLITAN DISTRICT

**6250 Palmer Park Blvd., Colorado Springs, CO 80915-2842**
**Telephone: (719) 597-5080 Fax: (719) 597-5145**


## Water Provider's Supplement to the Water Resources Report for 2725 Akers Drive

## Commitment Number 2023-05

October 13, 2023

This document was prepared to satisfy the requirements of El Paso County for a Water Provider's Report in support of a development at 2725 Akers Drive.

## 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 8000 residential customers and 600 commercial customers 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 withdrawn 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

Expected water demand for the proposed development was based on information provided by the developer, who seeks to use the property as a storage facility. The average annual indoor water use for three other storage facilities in the CMD service area is 0.14 AFY. The developer is also expecting to install an acre of xeric landscaping which based on past CMD commitments is expected to need 1.15 AFY. Together this yields a total expected water demand of 1.3 AFY.

## Water Supplies

Of Cherokee's 23 wells, eight wells 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 and Denver Basin wells are available for export outside the UBS basin. The total annual volume available to CMD from these exportable supplies is 3,953.5 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) | 2022 Use (AFY) | Permit Number | Aquifer | Aquifer Status |
|---|---|---|---|---|---|
| Well 9 | 176 | 153.5 | 14145-FP-R | UBS Alluvium | Tributary |
| Well 10 | 176 | 163.6 | 14146-FP-R | UBS Alluvium | Tributary |
| Well 11 | 244 | 165.3 | 6821-FP-R | UBS Alluvium | Tributary |
| Well 12 | 244 | 127.4 | 11198-FP | UBS Alluvium | Tributary |
| Well 13 | 1268 | 1174.9 | 49988-F | UBS Alluvium | Tributary |
| Well 14 | 0 | 0 | 52429-F | UBS Alluvium | Tributary |
| Well 15* | 281 | 105.4 | 54070-F | UBS Alluvium | Tributary |
| Well 16* | 219 | 75.6 | 54069-F | UBS Alluvium | Tributary |
| Well 17* | 175 | 16.3 | 63094-F | UBS Alluvium | Tributary |
| Well 18 | 225 | 39.7 | 16253-RFP-R | UBS Alluvium | Tributary |
| Well 19 | 95 | 44 | 20567-RFP-R | UBS Alluvium | Tributary |
| Well 20 | 400 | 133.2 | 4332-RFP | UBS Alluvium | Tributary |
| Well 21 | 258.5 | 74.8 | 81782-F | UBS Alluvium | Tributary |
| Well 22 | 153.5 | 0 | 27571-F, 27572-F | UBS Alluvium | Tributary |
| DN-4** | 105 | 74.8 | 78315-F | Denver Aquifer | Non-Tributary |
| AR-1** | 306 | 217.1 | 75881-F | Arapahoe Aquifer | Non-Tributary |
| DA-1 | 40.3 | 0 | 83604-F | Dawson Aquifer | Not-Non-Tributary |
| DA-4 | 64.5 | 0 | 83603-F | Dawson Aquifer | Not-Non-Tributary |
| **Total** | **4364.8** | **2547.0** | | | |

*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 and well sites in the Dawson, Denver, and Arapahoe Aquifers associated with the Sundance Ranch property. The volume presented is the reliable annual yield of each well.

CMD has 4364.8 AFY of exportable water supply available in its portfolio 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 4152.1 AFY before the addition of the proposed development (Table 3).

**Table 3:** CMD Commitments before addition of new development

| Commitment Category | Volume (AFY) |
|---|---|
| In-District pre 2015 | 2693 |
| In-District post 2015 | 790.1 |
| Schriever Space Force Base | 537 |
| Mayberry Communities | 82 |
| Construction | 25 |
| Parks | 25 |
| **Total Commitments** | **4152.1** |

# Water Balance

With 4,364.8 AFY of exportable supply and 4152.1 AFY of commitments, CMD has a water balance of 212.7 AFY before the subject development. After commitment of 0.28 AFY to this development, the District will have 219.7 AFY remaining for additional commitments.

**Table 4:** Water balance with new development

| | |
|---|---|
| Water Balance Before New Commitment | 212.7 AFY |
| 2725 Akers Drive | 1.3 AFY |
| **Water Balance Remaining** | **211.4 AFY** |

# Other Relevant 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 2020 CMD brought its well 21 (81782-F) online after a year of

planning and construction. The District completed drilling of the Albrecht Well (Well 22) in fall 2022 and expect to connect to the system in 2024.

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.

# Appendix F

## 2022 Water Quality Report

# Cherokee Metropolitan District

Calendar Year 2022 Water Quality Report
Public Water System ID: CO0121125

**Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.**

*We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact TYLER DUNICH at 719-597-5080 with any questions or for public participation opportunities that may affect water quality. Please see the water quality data from our wholesale system(s) (either attached or included in this report) for additional information about your drinking water.*

**Drinking Water and Health**

The Colorado Department of Public Health and Environment establishes laws restricting the quantity of specific contaminants in water supplied by public water systems in order to ensure that tap water is safe to consume. Limits for pollutants in bottled water are set by Food and Drug Administration standards, and they must offer the same level of public health protection.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting epa.gov/ground-water-and-drinking-water.

**Special Health Concerns**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

**Lead in Drinking Water**

Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing, prior to 1986. We are responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact TYLER DUNICH at 719-597-5080. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

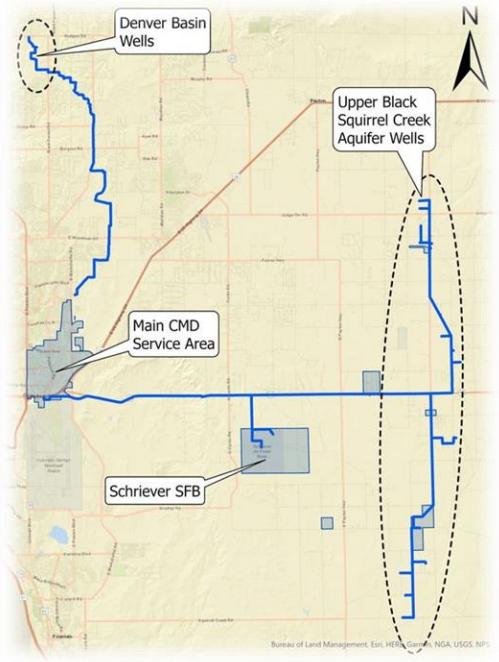
**Source Water Assessment and Protection (SWAP)**

The Colorado Department of Public Health and Environment provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit wqcdcompliance.com/ccr. The report is located under "Guidance: Source Water Assessment Reports." Search the table using our system name or ID, or by contacting TYLER DUNICH at 719-597-5080. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that ***could*** occur. It ***does not*** mean that the contamination ***has or will*** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Quality Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day

**Cherokee Metro Source Water**

Cherokee's water supply is entirely sourced from 22 wells drilled to two groundwater sources. The first is the Upper Black Squirrel Creek Aquifer in east central El Paso County where Cherokee has 20 wells and supplies 90% of the District's water demand. This water is only about 50-100 feet below the ground and is recharged by rain and snowmelt across the plains and southeastern Black Forest and while high in hardness, has consistently good water quality. The second water source is the District's Denver Basin wellfield located in northern El Paso County near the intersection of Black Forest Road and Hodgen Road. The water here is between 1300 and 2000 feet below the surface and high extraction costs mean the District only uses this resource to meet 10% of demand.




**Drinking Water Contaminant Sources**

Drinking water contamination can be caused by human activity or by occurrences in nature. Contaminants can enter the water during treatment, be introduced during the process, or form once the water has left the treatment facility.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

•**Microbial contaminants:** viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

•**Inorganic contaminants:** salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

•**Pesticides and herbicides:** may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.

•**Radioactive contaminants:** can be naturally occurring or be the result of oil and gas production and mining activities.

•**Organic chemical contaminants:** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

**Drinking Water Treatment Process**

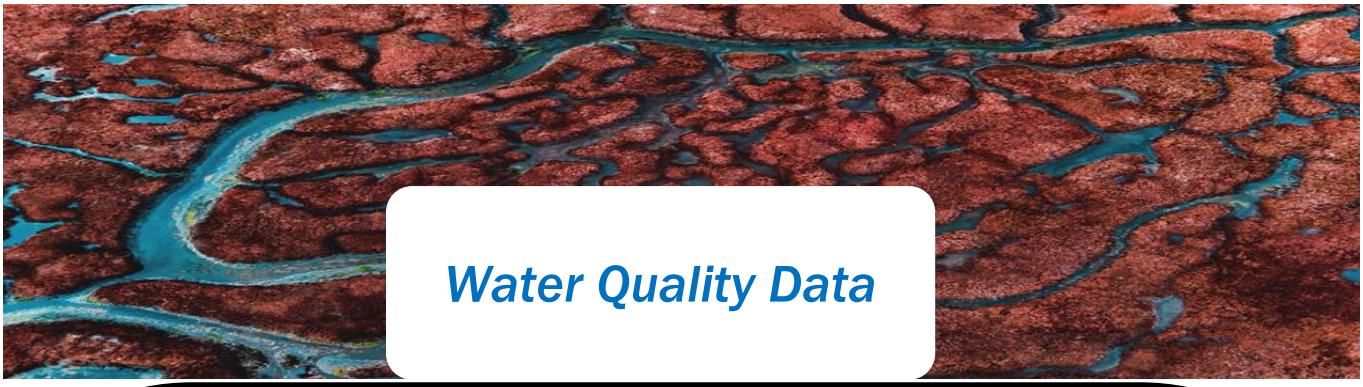
2022 saw the production of 3,093 acre-feet or 983,458,540 gallons by Cherokee Metro. During this process, Denver Basin water (~10% of all produced) is treated with SeaQuest®, which sequesters minerals like iron. All water is treated with chlorine, which kills bacteria, viruses, and other microbes, which also stops harmful organisms from forming in the distribution system. Certified Water Treatment Operators are responsible for continuously monitoring the treatment process to ensure that the water is of a safe and consistent quality.

**Water Conservation**

We can all make a bigger effort to use water more wisely in addition to protecting our source water. Cherokee Metro is urging its customers to strictly abide by the water conservation advice in order to reduce overall usage and save money while protecting this finite resource. On the Cherokee Metro website at https://cherokeemetro.org/, the guidelines can be found under the Go Green section. These recommendations present a practical method for using water as effectively as possible. If water storage reservoir levels drop, efforts to use water efficiently now may delay or even eliminate the need for watering restrictions.

**The Bottom Line**

Your tap water met or exceeded all EPA and Colorado health criteria for drinking water last year, as it has in years past. To our delight, our system has not exceeded any Maximum Contaminant Level. Even though certain regulated contaminants were found, the amounts were below the EPA's set health protection thresholds.



# Water Quality Data

## Terms and Abbreviations

•**Maximum Contaminant Level (MCL)** − The highest level of a contaminant allowed in drinking water.
•**Treatment Technique (TT)** − A required process intended to reduce the level of a contaminant in drinking water.
•**Health-Based** − A violation of either a MCL or TT.
•**Non-Health-Based** − A violation that is not a MCL or TT.
•**Action Level (AL)** − The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.
•**Maximum Residual Disinfectant Level (MRDL)** − The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
•**Maximum Contaminant Level Goal (MCLG)** − The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
•**Maximum Residual Disinfectant Level Goal (MRDLG)** − The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
•**Violation (No Abbreviation)** − Failure to meet a Colorado Primary Drinking Water Regulation.
•**Formal Enforcement Action (No Abbreviation)** − Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.
•**Variance and Exemptions (V/E)** − Department permission not to meet a MCL or treatment technique under certain conditions.
•**Gross Alpha (No Abbreviation)** − Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.
•**Picocuries per liter (pCi/L)** − Measure of the radioactivity in water.
•**Nephelometric Turbidity Unit (NTU)** − Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
•**Compliance Value (No Abbreviation)** – Single or calculated value used to determine if regulatory contaminant level (e.g., MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).
•**Average (x-bar)** − Typical value.
•**Range (R)** − Lowest value to the highest value.
•**Sample Size (n)** − Number or count of values (i.e., number of water samples collected).
•**Parts per million = Milligrams per liter (ppm = mg/L)** − One part per million corresponds to one minute in two years or a single penny in $10,000.
•**Parts per billion = Micrograms per liter (ppb = ug/L)** − One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
•**Not Applicable (N/A)** – Does not apply or not available.
•**Level 1 Assessment** – A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
•**Level 2 Assessment** – A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

# Cherokee Metro's Water Sources

| Sources (Water Type – Source Type) | Potential Source(s) of Contamination |
|---|---|
| Well NO 1 (Groundwater-Well)<br>Well NO 2 (Groundwater-Well)<br>Well NO 3 (Groundwater-Well)<br>Well NO 4 (Groundwater-Well)<br>Well NO 5 (Groundwater-Well)<br>Well NO 6 (Groundwater-Well)<br>Well NO 7 (Groundwater-Well)<br>Well NO 8 (Groundwater-Well)<br>Well NO 9 (Groundwater-Well)<br>Well NO 10 (Groundwater-Well)<br>Well NO 11 (Groundwater-Well)<br>Well NO 12 (Groundwater-Well)<br>Well NO 13 (Groundwater-Well)<br>Well NO 15 (Groundwater-Well)<br>Well NO 16 (Groundwater-Well)<br>Well NO 17 (Groundwater-Well)<br>Well NO 18/ Tipton Well (Groundwater-Well)<br>Well NO 19/ Duncan Well (Groundwater-Well)<br>Well NO 20/ Goss Well (Groundwater-Well)<br>Well NO 21/ Sweetwater 5 (Groundwater-Well)<br>Well AR-1 (Groundwater-Well)<br>Well DN-4 (Groundwater-Well) | Row Crops, Fallow, Small Grains, Pasture / Hay, Septic Systems, Road Miles |

## Detected Contaminants: What is in Cherokee Metro's Water?

CHEROKEE MD routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2022, unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one-year-old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

**Note:** Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section, then no contaminants were detected in the last round of monitoring.

**Other Questions**

The tables below summarize our monitoring findings for 2022 for additional water quality traits that may be of interest. These could alter the flavor, odor, or appearance of water. Call TYLER DUNICH at 719-597-5080 if you would like more information about the issues surrounding water quality or this report.

| Disinfectants Sampled in the Distribution System<br>**TT Requirement**: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm ***OR***<br>If sample size is less than 40 no more than 1 sample is below 0.2 ppm<br>**Typical Sources:** Water additive used to control microbes | | | | | | |
|---|---|---|---|---|---|---|
| **Disinfectant Name** | **Time Period** | **Results** | **Number of Samples Below Level** | **Sample Size** | **TT Violation** | **MRDL** |
| Chlorine | December, 2022 | Lowest period percentage of samples meeting TT requirement: 100% | 0 | 25 | No | 4.0 ppm |

| Lead and Copper Sampled in the Distribution System | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Contaminant Name** | **Time Period** | **90th Percentile** | **Sample Size** | **Unit of Measure** | **90th Percentile AL** | **Sample Sites Above AL** | **90th Percentile AL Exceedance** | **Typical Sources** |
| Copper | 06/21/2021 to 07/28/2021 | 0.49 | 30 | ppm | 1.3 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead | 06/21/2021 to 07/28/2021 | 2.0 | 30 | ppb | 15 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

| Disinfection Byproducts Sampled in the Distribution System | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Name** | **Year** | **Average** | **Range Low–High** | **Sample Size** | **Unit of Measure** | **MCL** | **MCLG** | **MCL Violation** | **Typical Sources** |
| Total Haloacetic Acids (HAA5) | 2022 | 9.0 | 8.7 to 9.3 | 2 | ppb | 60 | N/A | No | Byproduct of drinking water disinfection |
| Total Trihalomethanes (TTHM) | 2022 | 23.95 | 23.8 to 24.1 | 2 | ppb | 80 | N/A | No | Byproduct of drinking water disinfection |

| Secondary Contaminants**<br>**Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. | | | | | | |
|---|---|---|---|---|---|---|
| **Contaminant Name** | **Year** | **Average** | **Range Low – High** | **Sample Size** | **Unit of Measure** | **Secondary Standard** |
| Sodium | 2022 | 89.55 | 85.3 to 93.8 | 2 | ppm | N/A |

| Radionuclides Sampled at the Entry Point to the Distribution System | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Contaminant Name** | **Year** | **Average** | **Range Low – High** | **Sample Size** | **Unit of Measure** | **MCL** | **MCLG** | **MCL Violation** | **Typical Sources** |
| Gross Alpha | 2022 | 6.97 | 6.31 to 7.64 | 2 | pCi/L | 15 | 0 | No | Erosion of natural deposits |
| Combined Radium | 2022 | 2.25 | 2.1 to 2.4 | 2 | pCi/L | 5 | 0 | No | Erosion of natural deposits |
| Combined Uranium | 2022 | 7.5 | 7 to 8 | 2 | ppb | 30 | 0 | No | Erosion of natural deposits |
| Gross Beta Particle Activity | 2019 | 4.0 | 0 to 8 | 2 | pCi/L* | 50 | 0 | No | Decay of natural and man-made deposits |
| *The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern for Gross Beta Particle Activity. | | | | | | | | | |

| Inorganic Contaminants Sampled at the Entry Point to the Distribution System | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Contaminant Name** | **Year** | **Average** | **Range Low – High** | **Sample Size** | **Unit of Measure** | **MCL** | **MCLG** | **MCL Violation** | **Typical Sources** |
| Arsenic | 2022 | 2 | 2 to 2 | 2 | ppb | 10 | 0 | No | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Barium | 2022 | 0.07 | 0.07 to 0.08 | 2 | ppm | 2 | 2 | No | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Chromium | 2022 | 4 | 4 to 4 | 2 | ppb | 100 | 100 | No | Discharge from steel and pulp mills; erosion of natural deposits |
| Fluoride | 2022 | 0.36 | 0.35 to 0.36 | 2 | ppm | 4 | 4 | No | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Nitrate | 2022 | 4.76 | 0 to 6.2 | 9 | ppm | 10 | 10 | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Nitrate-Nitrite | 2022 | 5.1 | 5 to 5.2 | 2 | ppm | 10 | 10 | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Selenium | 2022 | 5 | 5 to 5 | 2 | ppb | 50 | 50 | No | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines |

**Nitrate**: *Nitrate in drinking water at levels above 10 ppm* is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

**Unregulated Contaminants*****

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Unregulated Contaminant Monitoring Rule (UCMR). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (epa.gov/dwucmr/national-contaminant-occurrence-database-ncod) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR sampling and the corresponding analytical results are provided below.

| Contaminant Name | Year | Average | Range: Low – High | Sample Size | Unit of Measure |
|---|---|---|---|---|---|
| | | | | | |

***More information about the contaminants that were included in UCMR monitoring can be found at: drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR. Learn more about the EPA UCMR at: epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/ground-water-and-drinking-water.

## Violations, Significant Deficiencies, and Formal Enforcement Actions

**No Violations or Formal Enforcement Actions**