WATER REPORT

FOR

CROSSROADS MIXED USE

EL PASO COUNTY, COLORADO

DECEMBER 2020

Prepared for:

Crossroads Metro. District No. 2

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Project #18-003

EPC PROJECT
#18-XXX

WATER REPORT FOR
CROSSROADS MIXED USE

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WATER REPORT FOR
CROSSROADS MIXED USE

1.0 INTRODUCTION AND CONCLUSION

The purpose of this report is to provide a Water Resource Supply Report to address the specific needs of Crossroads Mixed Use in a portion of the south half of Section 8 and the northeast quarter of Section 8, Township 14 South, Range 65 West of the 6th Principal Meridian, in El Paso County, Colorado. The currently undeveloped site is bound to the west by undeveloped Softball West Subdivision Filing No.2, to the north by Meadowbrook Parkway, to the south by Hwy 24 (South Bound), and to the east by Newt Drive. Land use for Crossroads Mixed Use is currently listed as vacant commercial lots. Improvements proposed for the site include subdividing the existing parcel into 11 lots and 1 tract. 174,581 square feet of commercial space is designated to the eastern 16 acres of the site. Ten, three-story structures that will each host 36 dwelling units, totaling 360 dwelling units, will utilize the remaining 13.035 acres of the site for multi-family residential use. 8.0 acres are estimated for the irrigated acreage use for the Crossroads Mixed Use project.

The site is within the Cherokee Metropolitan District (CMD) Service Area. CMD is a Title 32 Special District which provides water and wastewater to an 800-acre enclave of unincorporated El Paso County surrounded by the City of Colorado Springs. Currently, CMD serves approximately 7,000 residential taps and 500 commercial taps in addition to bulk users in eastern El Paso County including Schriever Air Force Base and several small developments located along State Highway 94. A map of the CMD Water and Wastewater Service Boundary is included in the Appendix.

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County, "Adequate evidence of a water supply that is sufficient in terms of quantity, quality, and dependability will be available to ensure an adequate supply of water. The purpose of this report is to meet the requirements of this section. The State Engineers Office (SEO) water supply information summary sheet is included in the Appendix.

Water and wastewater services will be provided by Cherokee Metropolitan District. The Intent to Serve Letter is included in the Appendix, and reflects the most updated irrigation square footages and consumption estimates for the residential and commercial uses involved in the project.

CONCLUSION: This report and project is preliminary, and is being submitted for commercial and multi-family residential rezone. Therefore, the actual amount of building square footage is unknown. The estimates provided in this report are intended to serve as conservative maximums for the District and Colorado Springs Equities, LLC. This report will be updated at a later date once more information concerning actual development is known.

2.0 PROJECTED LAND USES

2.1 Projected Land Uses

Land within the subject development area has been planned as a multi-family residential and commercial development. This report and any associated commitments pertain to the Preliminary Utility Plan for Crossroads Mixed Use.

3.0 WATER NEEDS AND SUPPLY

3.1 Projected Water Demand

The proposed development includes subdividing the existing parcel into 11 lots. 174,581 square feet of commercial space is designated to the eastern 16 acres of the site. Ten, three-story structures that will each host 36 dwelling units, totaling 360 dwelling units, will utilize the remaining 13.035 acres of the site for multi-family residential use.

At this point, there is not enough information on the physical developments at Crossroads Mixed Use to quantify the water demand, so presumptive values from El Paso County and Cherokee Metropolitan District have been used to construct Table 1 below. The typical water use for the various land uses pertaining to this project are as follows:

- Multi-family residential units is 0.17 acre feet per year per unit occupancy (151.8 Gal/Day)
- Residential irrigation is 0.0000335 acre feet per square foot per year (0.030 Gal/Day)
- Commercial use is 0.0000355 acre feet per square foot per year (0.032 Gal/Day)
- Commercial irrigation is 0.000333 acre feet per year per square foot of developed space (0.030 Gal/Day)

These rates of use were taken and multiplied by the number of units, acreage, or square footage of the use pertaining to each respective rate. Following this analysis, it is expected that Crossroads Mixed Use will have the following water demands:

Table 1

Summary of Expected Water Demands

# of Units	$Area\ (ft^2)$	Use	Rate	Annual Demand (AF/Year)	Avg. Daily Flow (ADF) (GPD)	Peak Daily Flow (2.45xADF) (GPD)
360	N/A	Residential	$0.17\frac{ac*ft}{yr*unit}$	61.2	54,636	133,858
N/A	174,581	Commercial	$0.000355\frac{ac*ft}{yr*ft^2}$	6.2	5,535	13,561
N/A	348,752	Residential Irrigation	$0.0000335\ \frac{ac*ft}{yr*ft^2}$	11.7	10,445	25,590
N/A	147,183	Commercial Irrigation	$0.0000333\frac{ac*ft}{yr*ft^2}$	4.9	4,374	10,716
Totals:				**84.0**	**74,990**	**183,726**

3.2 District Water Supply

CMD water is sourced entirely from groundwater, both renewable and Denver Basin non-renewable sources, 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 list 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. The total annual volume available to CMD from these exportable supplies is 3,985 annual acre-feet. A summary of the water supply for exportable wells is provide in Table 2. Below is a narrative description of the nature of those supplies.

CMD is within a Designated Groundwater Basin known as the Upper Black Squirrel Groundwater Management District. Rules regarding use, access, and other management issues are governed by the UBS and the State Groundwater Commission. These rules vary from other areas in the state. Alluvial water in the UBS are "over-appropriated" which means no additional alluvial water rights are available. Acquisition of an alluvial right therefore is limited to purchase of someone else's existing alluvial rights. Alluvial rights are renewable.

CMD has eight wells that are restricted to serving a maximum of 653 annual acre feet 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 exported for use outside the UBS basin. The direct alluvial right is for 3,793 annual acre-feet and as a renewable right, it does not need to be counted on a 300-year basis. It is currently fully physically available and

used at about an average of 58% of its full capacity. Since 2011, actual demand from CMD customers has fallen 30-35% below commitments, partially due to some committed developments being incomplete but largely due to water saving measures taken by CMD customers.

The second type of groundwater supplying CMD is Denver Basin water. The Denver Basin is a vast deep-rock aquifer that stretches from south of Falcon northerly to beyond Denver. Rights that are granted in the Denver basin are based on the ownership of the surface property. The larger the parcel, the larger the allocation. Denver Basin water is considered finite and therefore nonrenewable water. There are four main formations that make up the Denver Basin, the Dawson, the Denver, the Arapahoe, and the Laramie-Fox-Hills, described from top to bottom. The District has two wells in the Black Forest area and located within the Denver aquifer and Arapahoe Aquifer.

Table 2
Summary of Water Supply for Exportable Wells

Well Number	Water Right (AF/YR)	2019 Use (AF/YR)	Permit Number	Aquifer	Aquifer Status
Well 9	176	132	14145-FP-R	UBS Alluvium	Tributary
Well 10	176	108	14145-FP-R	UBS Alluvium	Tributary
Well 11	244	161	6821-FP-R	UBS Alluvium	Tributary
Well 12	244	149	11198-FP	UBS Alluvium	Tributary
Well 13	1268	975	49988-F	UBS Alluvium	Tributary
Well 14[c]	0	0	52429-F	UBS Alluvium	Tributary
Well 15[d]	281	145	54070-F	UBS Alluvium	Tributary
Well 16[d]	219	123	54069-F	UBS Alluvium	Tributary
Well 17[d]	175	151	63094-F	UBS Alluvium	Tributary
Well 18	225	138	16253-RFP-R	UBS Alluvium	Tributary
Well 19	95	79	20567-RFP-R	UBS Alluvium	Tributary
Well 20	400	38	4332-FRP	UBS Alluvium	Tributary
Well 21	290	0	81782-F	UBS Alluvium	Tributary
DN-14[a]	110	110	78315-F	Denver Aquifer	Non-Tributary
AR-1[b]	147.7	155	75881-F	Arapahoe Aquifer	Non-Tributary
Total	**3984.7**	**2464**			

[a] 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 annual acre-feet.

[b] As of December 2019, AR-1 has 2040 AF of banked water which allows actual pumping to exceed allocation on a limited basis.

[c] Well 14 has been permanently abandoned.

[d] Wells 15-17 only produce a combined maximum of 609 AF/Year whereas their overall allocation totals to 675 AF/Year

Development of Physical Supply: CMD is developing owned water supplies to increase available water and improve flexibility in provision of summer flows. By the end of 2020, these new wells will contribute 458.3 annual acre-feet of capacity to the CMD system for a total of 4,443.0 annual acre-feet of exportable water supplies sourced from alluvial and deep bedrock aquifers. A summary of the new water supplies slated for completion in 2020 are provided in Table 3.

Well Number	Water Right (AF/YR)	Permit Number	Aquifer	Aquifer Status
Albrecht Well	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
AR-1 Expansion	200	75881-F	Arapahoe	Non-Tributary
Total	**458.3**			

CMD has not acquired any new water rights since 2015 but has been developing owned water rights into productive wells. 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. Further development in the Denver Basin is not planned at this time.

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.

4.0 WATER SYSTEM FACILITIES AND PHYSICAL SUPPLY

4.1 SOURCES OF WATER SUPPLY:

CMD will provide treatment and delivery of the water to the development. The proposed water system will connect to the existing water system in directly adjacent, recently constructed subdivisions. A map of the Preliminary Utility Plan is included in the Appendix. The plan is subject to change based on review by CMD.

The District owns and operates 20 alluvial wells which pump renewable water from the UBS Designated Groundwater Basin. Also, the District operates 2 Denver Basin wells at the Sundance Ranch property in Black Forest area. Denver Basin wells are in the Denver and Arapahoe formations.

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. In the next 6 months it is expected that the “Albrecht Well” (27554-FP) will be brought online

providing an additional 153.5 annual acre-feet of water. CMD is currently preparing to increase pump capacity in well AR-1 (75881-F), its only well in the Arapahoe aquifer, and to install pumps in two existing wells in the Dawson Aquifer (83603-F & 83604-F).

Beyond these projects, additional well construction in the Denver Basin is not anticipated at this time, although CMD has a substantial amount of undeveloped water rights in the Denver Basin Aquifers.

4.2 Sufficient Dependability of Water Supply

Crossroads Mixed Use is to be served by the CMD water system. The proposed water system will connect to the existing water systems in directly adjacent, recently constructed subdivisions. An Intent to Serve letter from CMD to serve the development is included in the Appendix. There are no groundwater sources on this site proposed to be utilized by this development. Short term water supplies will be provided by CMD.

4.3 Sufficient Quantity of Water Supply

Per the Water/Wastewater Report For Crossroads North, dated October 2020, CMD's commitments stood at 4119.74 acre-feet after the addition of the development. These commitments are broken down in Table 4. 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 4
Summary of Existing Commitments

Commitments	(AF/YR)
In-District	2779.4
Committed Since 2015	328.3
Schriever Air Force Base	537
Kane	200
Tipton	225
Construction	25
Parks	25
Total	**4119.74**

With 4,443.0 annual acre-feet of exportable supply and 4,119.74 annual acre-feet of commitments, CMD has a water balance of 323.3 annual acre-feet before the subject development. After commitment of 84.0 annual acre-feet to this development, the District will have 239.3 annual acre-feet remaining for additional commitments.

4.4 Sufficient Quality and Potability of Water

Water delivery will be provided by CMD. Crossroads Metropolitan District No. 2 understands that the quality and potability of the CMD water supply is already approved. CMD groundwater from the UBS Basin is monitored for primary and secondary drinking water contaminants and has always fallen below maximum contaminant limits (MCL). Calcium Hypochlorite is applied at the Ellicott pump station for disinfection at a maximum hour flow of 9.2 MGD on all flows bound for the District. This residual is boosted again by Chlorine gas or Calcium Hypochlorite systems just before all points of delivery including the main District, Schriever Air Force Base, and a handful of small residential subdivisions in Eastern El Paso County. Water from the northern Sundance Denver Basin groundwater is treated at the Sundance property with Calcium Hypochlorite and maintains adequate residual at its point of entry into the main District distribution system without additional chlorine application. The District's water supply meets and or exceeds all CDPHE Drinking Water Standards. The Appendix provides a copy of the 2019 CMD Consumer Confidence Report which outlines water quality as delivered to District customers.

4.5 Water Storage

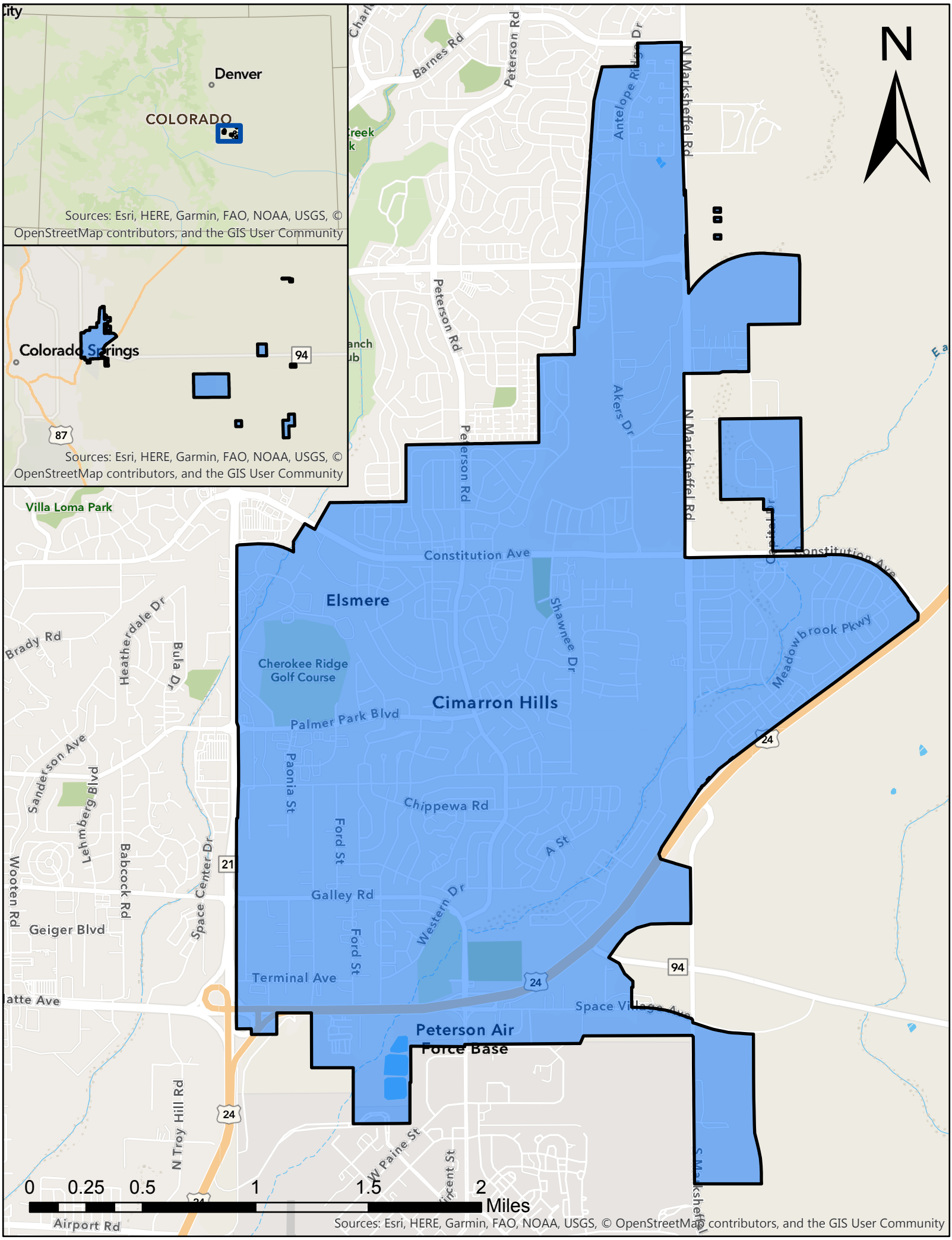
The District currently owns and operates seven (7) water storage facilities with a combined storage capacity of 16.5 Million Gallons. Three (3) of these tanks provide static pressure to the distribution system while the other four (4) tanks are used for buffering and storage of water produced in the northern Sundance wellfield and the eastern wellfield.

4.6 Distribution, Pumping and Transmission Lines

Overall, the District operates two major delivery lines, one from the northern Denver Basin wells and one from the eastern UBS Aquifer wells. Each of these lines has one pump station to boost pressure.

Appendices

Cherokee Metropolitan District Water and Wastewater Service Boundary Map


Denver
COLORADO
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
Colorado Springs
94
87
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
N
Villa Loma Park
Barnes Rd
Peterson Rd
Antelope Ridge Dr
N Marksheffel Rd
Akers Dr
Constitution Ave
Elsmere
Shawnee Dr
Meadowbrook Pkwy
Cherokee Ridge Golf Course
Cimarron Hills
Palmer Park Blvd
Paonia St
Chippewa Rd
Ford St
A St
Galley Rd
Western Dr
Terminal Ave
Space Village Ave
Peterson Air Force Base
Brady Rd
Heatherdale Dr
Bula Dr
Sanderson Ave
Lehmberg Blvd
Babcock Rd
Wooten Rd
Geiger Blvd
Space Center Dr
21
24
94
N Troy Hill Rd
W Paine St
Airport Rd
0 0.25 0.5 1 1.5 2 Miles
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Water Supply Information Summary

WATER SUPPLY INFORMATION SUMMARY

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County,"Adequate evidence that a water supply that is sufficient in terms of quantity, quality and dependability will be available to ensure an adequate supply of water.

1. NAME OF DEVELOPMENT AS PROPOSED

Crossroads Mixed Use

2. LAND USE ACTION Commercial and Multi-Family Residential Development

3. NAME OF EXISTING PARCEL AS RECORDED TR: B 24/94 BUSINESS PARK FIL NO 1

SUBDIVISION N/A FILING N/A BLOCK N/A LOT N/A

4. TOTAL ACREAGE 29.035 | 5. NUMBER OF LOTS PROPOSED 11 PLAT MAP ENCLOSED ☑ YES

6. PARCEL HISTORY - Please attach copies of deeds, plats or other evidence or documentation.

A. Was parcel recorded with county prior to June 1, 1972? ☑ YES ☐ NO

B. Has the parcel ever been part of a division of land action since June 1, 1972? ☑ YES ☐ NO

If yes, describe the previous action Plat

7. LOCATION OF PARCEL - Include a map deliniating the project area and tie to a section corner.

SW 1/4 OF _____ 1/4 SECTION 8 TOWNSHIP 14 ☐ N ☑ S RANGE 65 ☐ E ☑ W

PRINCIPAL MERIDIAN: ☑ 6TH ☐ N.M. ☐ UTE ☐ COSTILLA

8. PLAT - Location of all wells on property must be plotted and permit numbers provided.

Surveyors plat ☐ Yes ☐ No If not, scaled hand drawn sketch ☐ Yes ☐ No NO WELLS

9. ESTIMATED WATER REQUIREMENTS - Gallons per Day or Acre Feet per Year

		GPD	AF
HOUSEHOLD USE #	360 of units		61.2
COMMERCIAL USE #	174,581 of S.F.		6.2
IRRIGATION #	11.4 of acres		16.6
STOCK WATERING #	of head		
OTHER			
TOTAL			84.0

10. WATER SUPPLY SOURCE

☐ EXISTING WELLS ☐ DEVELOPED SPRING

WELL PERMIT NUMBERS

☐ NEW WELLS -

PROPOSED AQUIFERS - (CHECK ONE)

☐ ALLUVIAL ☐ UPPER ARAPAHOE
☐ UPPER DAWSON ☐ LOWER ARAPAHOE
☐ LOWER DAWSON ☐ LARAMIE FOX HILLS
☐ DENVER ☐ DAKOTA
☐ OTHER

☒ MUNICIPAL
☐ ASSOCIATION
☐ COMPANY
☐ DISTRICT

NAME Cherokee MD

LETTER OF COMMITMENT FOR SERVICE ☐ YES ☒ NO

WATER COURT DECREE CASE NO.'S

11. ENGINEER'S WATER SUPPLY REPORT ☑ YES ☐ NO IF YES, PLEASE FORWARD WITH THIS FORM. (This may be required before our review is completed.)

12. TYPE OF SEWAGE DISPOSAL SYSTEM

☐ SEPTIC TANK/LEACH FIELD

☑ CENTRAL SYSTEM - DISTRICT NAME Cherokee MD

☐ LAGOON

☐ VAULT - LOCATION SEWAGE HAULED TO

☐ ENGINEERED SYSTEM (Attach a copy of engineering design)

☐ OTHER

Intent to Serve Letter

CHEROKEE METROPOLITAN DISTRICT

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

December 8th, 2020
Colorado Springs Equities, LLC
90 S. Cascade Avenue, Suite 1500
Colorado Springs, CO 80903

Sent via email: **chris@mscivil.com**
Original to follow by US Mail

Re: Water and Sewer Service to **Crossroads Mixed Use Development**
Commitment Letter No. **2020-15 (Revision of 2020-14)**

Dear Colorado Springs Equities,

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 the development currently known as "Crossroads Mixed Use" located on the west corner of State Highway 94 and U. S. Highway 24. 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/year)**
Residential	
Domestic	61.2
Irrigation	11.7
Commercial	
Domestic	6.2
Irrigation	4.9
Development Total	84.0

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.

This letter also affirms that Cherokee Metropolitan District has sufficient wastewater treatment capacity to service this development.

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
Kevin Brown; Jr. Engineer

2020 CMD Consumer Confidence Report

CHEROKEE MD 2020 Drinking Water Quality Report
Covering Data For Calendar Year 2019

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 SARA HOWARD 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.**

General Information

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.

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).

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.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at epa.gov/safewater/lead.

Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment may have 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 121125, CHEROKEE MD, or by contacting SARA HOWARD 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.

Our Water Sources

Sources (Water Type - Source Type)	Potential Source(s) of Contamination
WELL 20 GOSS WELL (Groundwater-Well) WELL NO 2 (Groundwater-Well) WELL NO 17 (Groundwater-Well) WELL 19 DUNCAN WELL (Groundwater-Well) WELL 21 AR-1 (Groundwater-Well) PURCHASED FROM CO0121150 (Surface Water-Consecutive Connection) WELL 22 DN-4 (Groundwater-Well) WELL NO 18 TIPTON (Groundwater-Well) WELL NO 9 (Groundwater-Well) WELL NO 10 (Groundwater-Well) WELL NO 11 (Groundwater-Well) WELL NO 12 (Groundwater-Well) WELL NO 13 (Groundwater-Well) WELL NO 15 (Groundwater-Well) WELL NO 1 (Groundwater-Well) WELL NO 16 (Groundwater-Well) WELL NO 3 (Groundwater-Well) WELL NO 4 (Groundwater-Well) WELL NO 5 (Groundwater-Well) WELL NO 6 (Groundwater-Well) WELL NO 7 (Groundwater-Well) WELL NO 8 (Groundwater-Well)	Row Crops, Fallow, Small Grains, Pasture / Hay, Septic Systems, Road Miles

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.

Detected Contaminants

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, 2019 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.

Disinfectants Sampled in the Distribution System

TT Requirement: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm ***OR***

If sample size is less than 40 no more than 1 sample is below 0.2 ppm

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, 2019	Lowest period percentage of samples meeting TT requirement: 100%	0	31	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	07/15/2019 to 07/19/2019	0.47	30	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	07/15/2019 to 07/19/2019	3	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)	2019	7.58	2.3 to 13.5	16	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes(TTHM)	2019	24.03	8.4 to 46.4	16	ppb	80	N/A	No	Byproduct of drinking water disinfection

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	2019	7.3	2.6 to 12.0	2	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2019	4.7	3.4 to 6	2	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2019	2.5	0 to 5	2	ppb	30	0	No	Erosion of natural deposits
Gross Beta Particle Activity	2019	6.05	4.1 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	2019	0.7	0 to 2	6	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2019	0.06	0.05 to 0.08	6	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	2019	3.2	0 to 8	6	ppb	100	100	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	2019	0.32	0.29 to 0.35	2	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2019	5.49	0 to 7.5	10	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate-Nitrite	2019	0	0 to 0	2	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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**
Selenium	2019	7.2	4 to 13	6	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.									

Synthetic Organic 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**
Di(2-ethylhexyl) phthalate	2019	0	0 to 0	1	ppb	6	0	No	Discharge from rubber and chemical factories

Secondary Contaminants** **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	2019	47	11.1 to 71.8	6	ppm	N/A
Total Dissolved Solids	2016	131.2	62 to 180	5	ppm	500

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
Quinoline	2018	0.0237	<0.02 – 0.0423	6	Ppb
Germanium	2018	0.3287	<0.3 – 0.472	6	Ppb
Bromochloroacetic Acid	2018	2.548	0.847 – 3.89	8	Ppb
Bromodichloroacetic Acid	2018	1.0348	<0.5 – 1.53	8	Ppb
Chlorodibromoacetic Acid	2018	1.8965	0.332 – 3.0	8	Ppb
Dibromoacetic Acid	2018	4.252	0.517 – 6.48	8	Ppb
Dichloroacetic Acid	2018	1.092	0.636 – 2.11	8	Ppb
Monobromoacetic Acid	2018	0.7165	<0.3 – 1.11	8	Ppb
Tribromoacetic Acid	2018	3.077	<2.0 – 4.39	8	Ppb
Trichloroacetic Acid	2018	0.516	<0.5 – 0.631	8	Ppb

***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.

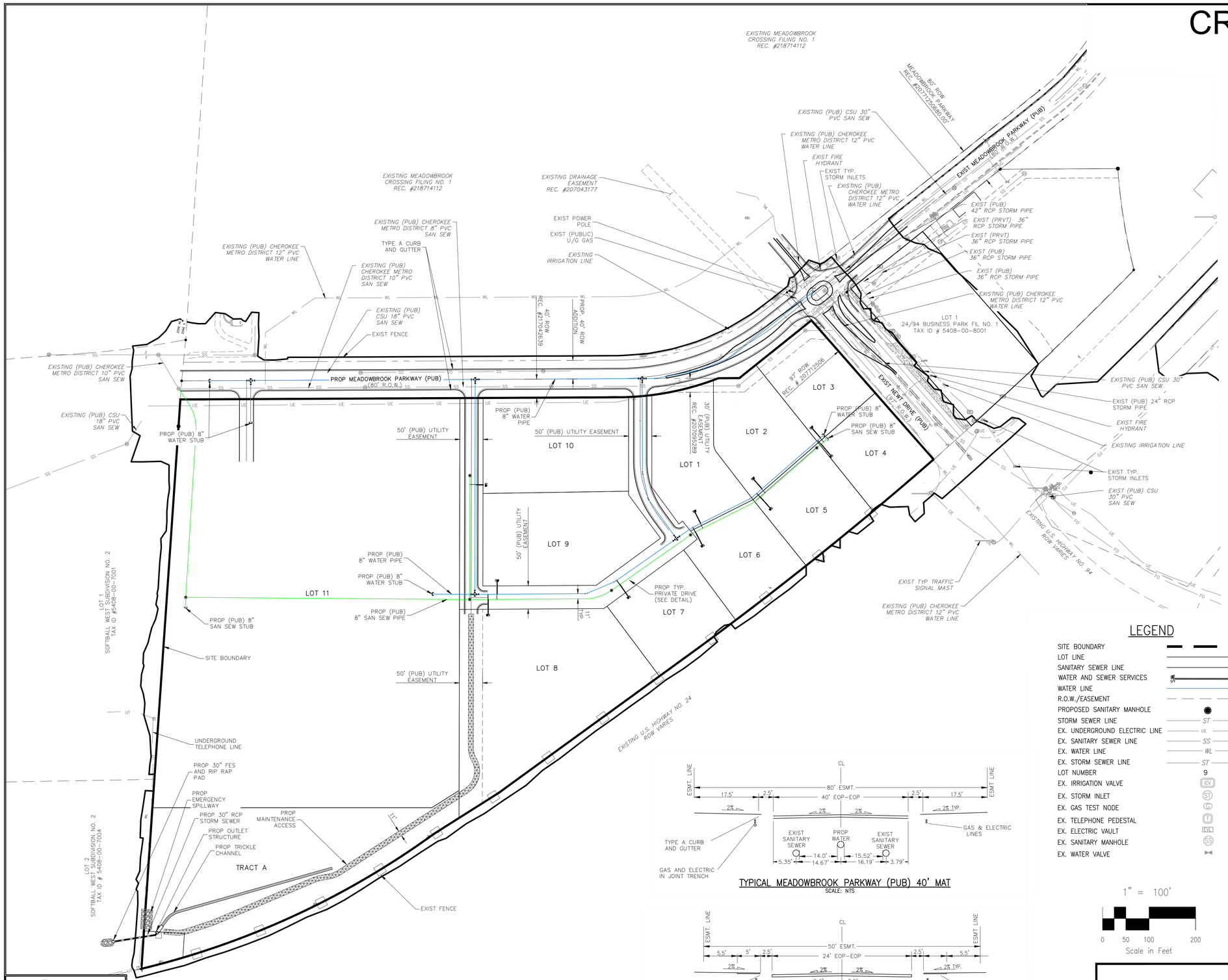
Violations, Significant Deficiencies, and Formal Enforcement Actions

No Violations or Formal Enforcement Actions

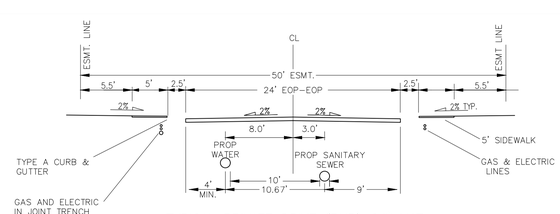
Preliminary Site Plan

CROSSROADS MIXED USE

PRELIMINARY UTILITIES
DECEMBER 2020



TYPICAL MEADOWBROOK PARKWAY (PUB) 40' MAT
SCALE: NTS



TYPICAL PRIVATE DRIVE (PUB) 24' MAT
SCALE: NTS

LEGEND

SITE BOUNDARY	
LOT LINE	
SANITARY SEWER LINE	
WATER AND SEWER SERVICES	SS
WATER LINE	
R.O.W./EASEMENT	
PROPOSED SANITARY MANHOLE	
STORM SEWER LINE	ST
EX. UNDERGROUND ELECTRIC LINE	UE
EX. SANITARY SEWER LINE	SS
EX. WATER LINE	WL
EX. STORM SEWER LINE	ST
LOT NUMBER	9
EX. IRRIGATION VALVE	ICV
EX. STORM INLET	ST
EX. GAS TEST NODE	G
EX. TELEPHONE PEDESTAL	T
EX. ELECTRIC VAULT	EVR
EX. SANITARY MANHOLE	SS
EX. WATER VALVE	

1" = 100'

0 50 100 200
Scale in Feet

GENERAL NOTES FOR ALL PRELIMINARY UTILITY PLANS

PROPERTY OWNER(S) ACKNOWLEDGE AND AGREE TO THE FOLLOWING UPON APPROVAL OF PRELIMINARY UTILITY PLAN:

1. THIS DRAWING IS A PRELIMINARY UTILITY PLAN AND THEREFORE, CHEROKEE METRO DISTRICT (CMD) SHALL MAKE THE FINAL DETERMINATION OF THE LOCATION OF ALL WATER, WASTEWATER, ELECTRIC, AND GAS FACILITIES, WHICH MAY NOT BE THE SAME LOCATION AS SHOWN ON THIS PRELIMINARY UTILITY PLAN.

2. PROPERTY OWNER(S) ("OWNER") ACKNOWLEDGE THAT THE CONNECTION AND/OR EXTENSION OF UTILITY SERVICES TO THE PROPERTY IDENTIFIED IN THIS PRELIMINARY UTILITY PLAN ("PROPERTY") SHALL BE IN ACCORD WITH ALL APPLICABLE CODES AND REGULATIONS, SPRINGS UTILITIES' LINE EXTENSION AND SERVICE STANDARDS ("STANDARDS"), TARIFFS, RULES, REGULATIONS, AND POLICIES, CITY ORDINANCES, RESOLUTIONS, AND POLICIES, AND PIKES PEAK REGIONAL BUILDING DEPARTMENT CODES, IN EFFECT AT THE TIME OF UTILITY SERVICE CONNECTION AND/OR EXTENSION.

3. OWNER ACKNOWLEDGES RESPONSIBILITY FOR THE COSTS OF EXTENSIONS OR UTILITY SYSTEM IMPROVEMENTS THAT SPRINGS UTILITIES DETERMINES NECESSARY TO PROVIDE UTILITY SERVICES TO THE PROPERTY OR TO ENSURE TIMELY DEVELOPMENT OF INTEGRATED UTILITY SYSTEMS SERVING THE PROPERTY AND AREAS OUTSIDE THE PROPERTY (INCLUDING THE COSTS TO DESIGN AND INSTALL ALL POTABLE AND NON-POTABLE WATER SYSTEM FACILITIES AND APPURTENANCES, AND ALL WASTEWATER COLLECTION SYSTEM FACILITIES AND APPURTENANCES, AND ANY WATER OR WASTEWATER SERVICE LINES TO AND WITHIN THE PROPERTY). OWNER MAY BE ELIGIBLE FOR A COST RECOVERY AGREEMENT AS PROVIDED IN UTILITIES' RULES AND REGULATIONS.

4. SPRINGS UTILITIES' UTILITY SERVICES ARE AVAILABLE ON A "FIRST-COME, FIRST-SERVED" BASIS, AND THEREFORE NO SPECIFIC ALLOCATIONS OR AMOUNTS OF UTILITY SERVICES, FACILITIES, CAPACITIES OR SUPPLIES ARE RESERVED FOR THE OWNER, AND SPRINGS UTILITIES MAKES NO COMMITMENT AS TO THE AVAILABILITY OF ANY UTILITY SERVICE UNTIL SUCH TIME AS PERMANENT SERVICE IS INITIATED.

5. ONLY WITH THE PRIOR WRITTEN APPROVAL BY SPRINGS UTILITIES, OWNER MAY CAUSE THE RELOCATION OR ALTERATION OF ANY EXISTING UTILITY FACILITIES WITHIN THE PROPERTY AT THE OWNER'S SOLE COST AND EXPENSE. IF SPRINGS UTILITIES DETERMINES THAT OWNER'S RELOCATION OR ALTERATION REQUIRES NEW OR UPDATED EASEMENTS, OWNER SHALL CONVEY THOSE EASEMENTS PRIOR TO RELOCATING OR ALTERING THE EXISTING UTILITY FACILITIES.

6. OWNER, AT ITS SOLE COST AND EXPENSE, SHALL DEDICATE BY PLAT AND/OR CONVEY BY RECORDED DOCUMENT, ALL PROPERTY AND EASEMENTS THAT SPRINGS UTILITIES DETERMINES ARE REQUIRED FOR ALL UTILITY SYSTEM FACILITIES NECESSARY TO SERVE THE PROPERTY OR TO ENSURE DEVELOPMENT OF AN INTEGRATED UTILITY SYSTEM. ALL EASEMENTS GRANTED BY SEPARATE INSTRUMENT SHALL UTILIZE SPRINGS UTILITIES' THEN-CURRENT PERMANENT EASEMENT AGREEMENT FORM (OR EXECUTIVE AGREEMENT FORM) WITHOUT MODIFICATION UNLESS APPROVED BY SPRINGS UTILITIES.

7. THE WATER DISTRIBUTION SYSTEM FACILITIES MUST MEET SPRINGS UTILITIES' CRITERIA FOR WATER QUALITY, RELIABILITY AND PRESSURE, INCLUDING LOOPING REQUIREMENTS (SEE SECTION 4.08 OF SPRINGS UTILITIES' WATER STANDARDS).

8. OWNER RECOGNIZES THAT THE EXTENSION OF WATER SYSTEM FACILITIES MAY AFFECT THE QUALITY OF WATER IN SPRINGS UTILITIES' WATER SYSTEM. WHEN WATER QUALITY IS AFFECTED, OWNER ACKNOWLEDGE RESPONSIBILITY FOR ANY COSTS THAT SPRINGS UTILITIES DETERMINES NECESSARY TO INCUR IN ORDER TO MAINTAIN WATER QUALITY IN ITS SYSTEM AS A RESULT OF OWNER' WATER SYSTEM EXTENSIONS. (WATER-QUALITY MAINTENANCE COSTS). OWNER SHALL REIMBURSE SPRINGS UTILITIES FOR SUCH WATER-QUALITY MAINTENANCE COSTS WITHIN THIRTY (30) DAYS OF RECEIPT OF AN INVOICE FOR SUCH COSTS.

9. OWNER MUST CONTACT SPRINGS UTILITIES FIELD ENGINEERING TO SECURE APPROVAL OF GAS-SERVICE-LINE PRESSURES IN EXCESS OF SPRINGS UTILITIES' STANDARD GAS-SYSTEM PRESSURE, AND THE LOCATION OF ALL METERS AND TRANSFORMERS. (CONTACT NORTH WORK CENTER 668-4985 OR SOUTH WORK CENTER 668-5564).

10. IT SHALL NOT BE PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY SPRINGS UTILITIES EASEMENT OR RIGHTS OF WAY WITHOUT THE WRITTEN APPROVAL OF SPRINGS UTILITIES (CITY CODE 12.2.540).

11. SPRINGS UTILITIES' APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF SPRINGS UTILITIES TO APPLY ITS STANDARDS; AND IF THERE ARE ANY CONFLICTS BETWEEN ANY APPROVED DRAWINGS AND ANY PROVISION OF STANDARDS OR THE CITY CODE, THEN THE STANDARDS SHALL APPLY. SPRINGS UTILITIES' APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF THE CITY OR THE SPRINGS UTILITIES TO ADOPT DIFFERENT ORDINANCES, RULES, REGULATIONS, RESOLUTIONS, POLICIES OR CODES WHICH CHANGE ANY OF THE PROVISIONS OF THE STANDARDS SO LONG AS THESE APPLY TO THE CITY GENERALLY AND ARE IN ACCORD WITH THE THEN-CURRENT TARIFFS, RATES, RULES, REGULATIONS AND POLICIES OF SPRINGS UTILITIES.

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES

FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

M&S CIVIL CONSULTANTS, INC.
102 E. PIKES PEAK AVE., 5TH FLOOR
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485

CROSSROADS MIXED USE			
PRELIMINARY UTILITIES			
PROJECT NO. 18-003	SCALE: HORIZONTAL: 1"=100' VERTICAL: N/A	DATE: 12/03/20	
DESIGNED BY: VAS DRAWN BY: CVW CHECKED BY: VAS		SHEET 1 OF 1	PU01

File: Q:\18003A-Crossroads Mixed Use\Colorado Springs Equities LLC\dwg\Dev Plan\PRELIM. UTILITIES\18-003-PU01.W02.dwg Plotstamp: 12/3/2020 12:52 PM