

# **KUM & GO STORE # 692 WATER RESOURCES REPORT**

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**LOTS 1 & 2, SPACE VILLAGE FILING NO. 3**

**6809 SPACE VILLAGE AVENUE**

**EL PASO COUNTY, COLORADO**

Where is lot 3

**PREPARED FOR:**

**Kum & Go, L.C.  
6400 Westown Parkway  
West Des Moines, IA 50266  
(515) 457-6232  
Contact: Ryan Halder**

**PREPARED BY:**

**Olsson Associates  
1800 Fall River Drive, Suite 200  
Loveland, CO 80538  
(970)461-7733  
Contact: Josh Erramouspe**

**September 19, 2017**

**Olsson Associates Project No. 017-1754**



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## 1.0 PURPOSE

This document is intended to serve as the Water Resources Report for Space Village Filing No. 3. The purpose of this document is to satisfy the requirements of section 8.4.7.B.1.b of the El Paso County Land Development Code.

## 2.0 SUMMARY OF PROPOSED SUBDIVISION

The proposed subdivision will consist of two commercial lots. Lot 1 will be an approximately 5,600 SF Kum & Go Convenience Store with associated fueling operations. The use of Lot 2 has not yet been determined. See Vicinity Map below for a general location of the proposed development.

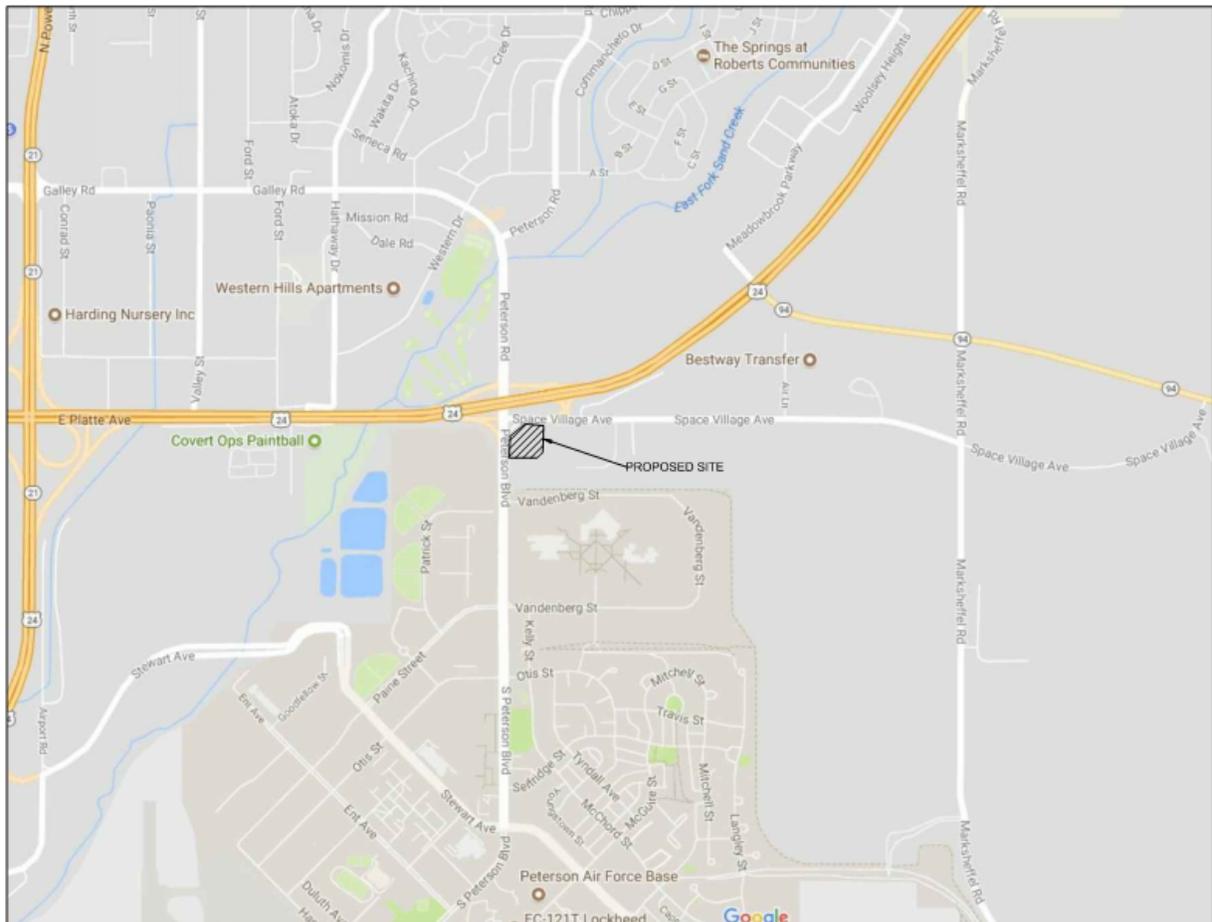


Figure 1. Vicinity Map

## 3.0 SUFFICIENT QUANTITY, QUALITY & DEPENDABILITY OF WATER

### 3.1 Calculation of Water and Sewer Demand

Water Demand was calculated using the El Paso County Development Code Chapter 8.4.7.B.7.d. See Appendix for detailed calculations. The demands that are required by the County are less than what is provided in the commitment letter from Cherokee Metropolitan District, therefore the District has more than enough supply to serve the site.

Kum & Go requires 700 gpd capacity for sewer service. The District states in their commitment letter that they have enough capacity to serve the Kum & Go site.

### **3.2 Water Supply, Resources and Quality**

The proposed development will be served by Cherokee Metropolitan District. The District owns and maintains an 8" water main that runs through the development. Service for the Kum & Go Convenience Store will be pulled from this main line. The layout of the proposed service and existing mains can be found in the Appendix.

Cherokee Metropolitan District has issued a commitment letter to serve the Kum & Go Parcel. The facilities that are maintained by the district are more than adequate to serve Kum & Go, as well as the future lot that is also being platted with Space Village Filing No. 3. Attached in the appendices is the Cherokee Metro Districts 2017 Drinking Water Quality Report. This report details the contaminants that can be found in the water, and the sources of the District's water.

### **4.0 CONCLUSIONS**

Cherokee Metropolitan District has adequate service to the proposed subdivision as can be seen when comparing the commitment letter to the required demand as specified by El Paso County. The proposed development will not have any adverse effects on the water and sewer supply facilities in the area.



# APPENDICES

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## Water Demand calculations for KG Store #692

Commercial & industrial use = 0.1 gpd/square foot of developed space

KG store = 5,605 sf =>

$$0.1 \text{ gpd} \cdot (5,605 \text{ sf}) = 560.5 \text{ gpd} = 0.628 \text{ ac-ft/yr}$$

Residential & commercial landscaping = 0.0566 acre feet per 1000 sf of landscaping

$$18,950 \text{ sf landscaping} \left( \frac{0.0566 \text{ acre feet}}{1000 \text{ sf landscaping}} \right) =$$

$$= 1.07 \text{ ac-ft/yr}$$

$$\text{Total Water Demand} = \boxed{1.698 \text{ ac-ft/yr}}$$

## Sewer Demand for KG Store #692

Kum & Go has an average daily demand of 700 gpd for their stores

Using a peaking factor of 4 the peak hour demand is 2800 gpd.

$$2800 \text{ gpd} = 1.94 \text{ gpm}$$

The sewer main leaving the KG property must be able to carry 1.94 gpm of peak hour flow

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## 8 in PVC at 0.5%

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### Project Description

Friction Method	Manning Formula
Solve For	Discharge

### Input Data

Roughness Coefficient	0.013	
Channel Slope	0.50000	%
Normal Depth	4.00	in
Diameter	8.00	in

### Results

Discharge	191.75	gpm
Flow Area	0.17	ft <sup>2</sup>
Wetted Perimeter	1.05	ft
Hydraulic Radius	2.00	in
Top Width	0.67	ft
Critical Depth	0.30	ft
Percent Full	50.0	%
Critical Slope	0.00680	ft/ft
Velocity	2.45	ft/s
Velocity Head	0.09	ft
Specific Energy	0.43	ft
Froude Number	0.84	
Maximum Discharge	0.92	ft <sup>3</sup> /s
Discharge Full	0.85	ft <sup>3</sup> /s
Slope Full	0.00125	ft/ft
Flow Type	SubCritical	

### GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

### GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	50.00	%
Downstream Velocity	Infinity	ft/s

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## 8 in PVC at 0.5%

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### GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.00	in
Critical Depth	0.30	ft
Channel Slope	0.50000	%
Critical Slope	0.00680	ft/ft

## CHEROKEE MD 2017 Drinking Water Quality Report For Calendar Year 2016

*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 KURT SCHLEGEL at 719-597-5080 with any questions or for public participation opportunities that may affect water quality.

### 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 <http://water.epa.gov/drink/contaminants>.

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 stormwater 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 stormwater 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 <http://www.epa.gov/safewater/lead>.

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

The Colorado Department of Public Health and Environment has 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 <http://wqcdcompliance.com/ccr>. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select EL PASO County and find 121125; CHEROKEE MD or by contacting KURT SCHLEGEL 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**

In 2016 Cherokee MD received its water supply from three distinct sources: Groundwater from deep aquifers in the Arapaho and Denver Basins (non-renewable water) north of Black Forest, and alluvial groundwater from the Upper Black Squirrel Basin (renewable water). In 2016, the supplies from the Arapaho and Denver Basin wells supplied approximately 9% of the districts water supply. The Upper Black Squirrel alluvial aquifer supplies groundwater from 19 municipal wells spanning an area nine miles north to ten miles south of the town of Ellicott. These municipal wells are drilled approximately 180 feet deep.

## 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 90<sup>th</sup> 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, 2016 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.

<b>Disinfectants Sampled in the Distribution System</b>						
<b>TT Requirement:</b> At least 95% of samples per period (month or quarter) must be at least 0.2 ppm <b><u>OR</u></b>						
If sample size is less than 40 no more than 1 sample is below 0.2 ppm						
<b>Typical Sources:</b> Water additive used to control microbes						
Contaminant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chlorine	December, 2016	<u>Lowest period</u> percentage of samples meeting TT requirement: 100%	0	20	No	4.0 ppm

<b>Lead and Copper Sampled in the Distribution System</b>								
Contaminant Name	Time Period	90 <sup>th</sup> Percentile	Sample Size	Unit of Measure	90 <sup>th</sup> Percentile AL	Sample Sites Above AL	90 <sup>th</sup> Percentile AL Exceedance	Typical Sources
Copper	07/15/2014 to 07/23/2014	0.45	30	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	07/15/2014 to 07/23/2014	4.6	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	Highest Compliance Value	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2016	6.66	3.4 to 11.4	16	ppb	60	N/A	11.4	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2016	16.4	10.1 to 32.2	16	ppb	80	N/A	32.2	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	2016	1.35	0.2 to 3.1	4	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2016	1.12	0.7 to 1.4	5	pCi/L	5	0	No	Erosion of natural deposits
Gross Beta Particle Activity	2016	0.1	0.1 to 0.1	1	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
Barium	2016	0.05	0.02 to 0.12	8	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cadmium	2016	0.19	0 to 1.4	8	ppb	5	5	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Fluoride	2016	1.6	1.5 to 1.7	4	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2016	4.58	0 to 8	12	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2016	3.52	0 to 13	8	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.

**Violations, Significant Deficiencies, Backflow/Cross-Connection, and Formal Enforcement Actions**

Violations					
Name	Category	Time Period	Health Effects	Compliance Value	TT Level or MCL
HEXACHLOROCYCLOPENTADIENE	MONITORING, ROUTINE MAJOR - NON-HEALTH-BASED	01/01/2016 - 03/31/2016	N/A	N/A	N/A
ARSENIC	MONITORING, ROUTINE MAJOR - NON-HEALTH-BASED	04/01/2016 - 06/30/2016	N/A	N/A	N/A
BACKFLOW – CROSS CONNECTION	MONITORING, ROUTINE MAJOR – NON-HEALTH BASED	01/01/2016 – 12/31/2016	N/A	N/A	N/A
Additional Violation Information					
<p>*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*</p> <p>Explanation of the violation(s), the steps taken to resolve them, and the anticipated resolved date:</p>					
<p>Hexachlorocyclopentadiene – Failed to collect the required samples for analysis, so the presence of hexachlorocyclopentadiene in 2016 is unknown. However, 2 samples were collected in 2015, results were 0.10 ug/L and none detected, and 2 samples were collected in 2017, results of both were below detection limit. The MCL for these samples is 50 ug/L.</p>					
<p>Arsenic – CMD collected and submitted the required sample to the lab for analysis, but the lab either failed to run the analysis and/or submit the results to CDPHE. It is the responsibility of Cherokee Metropolitan District to ensure that the samples are collected, analyzed, and results submitted to CDPHE as required.</p>					
<p>Backflow – Cross Connection – During 2016, 0.50 or greater ratio of identified backflow prevention devices were to be tested. The Backflow Prevention and Cross Connection Program for 2016 received 0.42 of the needed 0.50 or greater. As a result, we failed to complete the testing requirements for backflow prevention devices during 2016. Uncontrolled cross connections can lead to inadvertent contamination of the drinking water. At the beginning of 2017 the program was reassessed and improved to ensure compliance ratios will be satisfied. As of June 1, 2017 the compliance ratio for testing is at 0.57, surpassing the 2016 shortfall and closing in on the 0.60 or greater ratio needed for 2017. Although this is not an emergency, as our customers you have a right to know what happened and what we are doing to correct this situation.</p>					



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

September 8, 2017

Olson Associates  
1880 Fall River Drive  
Suite 200  
Loveland, CO 80538

Attention: Mr. Josh Erramouspe

Sent via email to: [jerramouspe@olssonassociates.com](mailto:jerramouspe@olssonassociates.com) and [jgoetsch@olssonassociates.com](mailto:jgoetsch@olssonassociates.com)

This document will serve as a formal Letter of Commitment from the Cherokee Metropolitan District to provide municipal water and sewer services for the Kum & Go Store #692, located at 6809 Space Village Avenue Colorado Springs, CO 80915. The proposed location for this commercial occupancy 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 potable and irrigation water demand required by this occupancy:

Domestic Potable Water	=	0.784 Acre Feet/Year
<u>Irrigation</u>	=	<u>1.288 Acre Feet/Year</u>
<b>TOTAL</b>	=	<b>2.072 Acre Feet/Year</b>

Based on the estimated demand the Cherokee Metropolitan District has sufficient water and wastewater resources to meet the needs of this operation.

A Water Quality Report and Water Resource Report are not required for this type of occupancy within the District.

This water commitment is hereby made exclusively for this specific development project at this site, within the District, and must achieve appropriate zoning and a final plat from El Paso County Development Services within 12 months of the date of this letter.

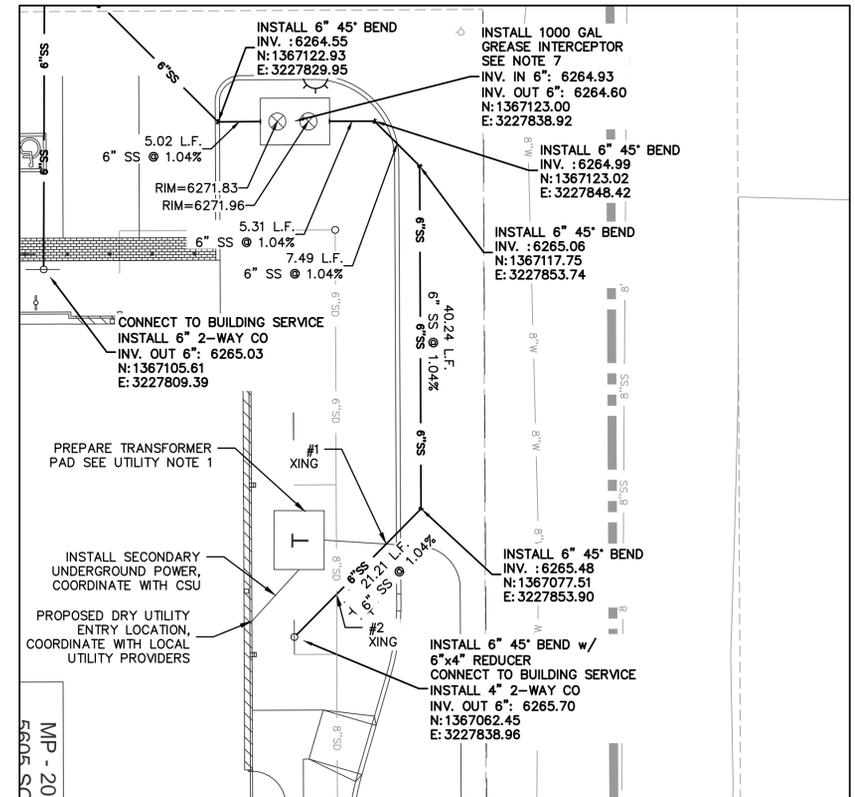
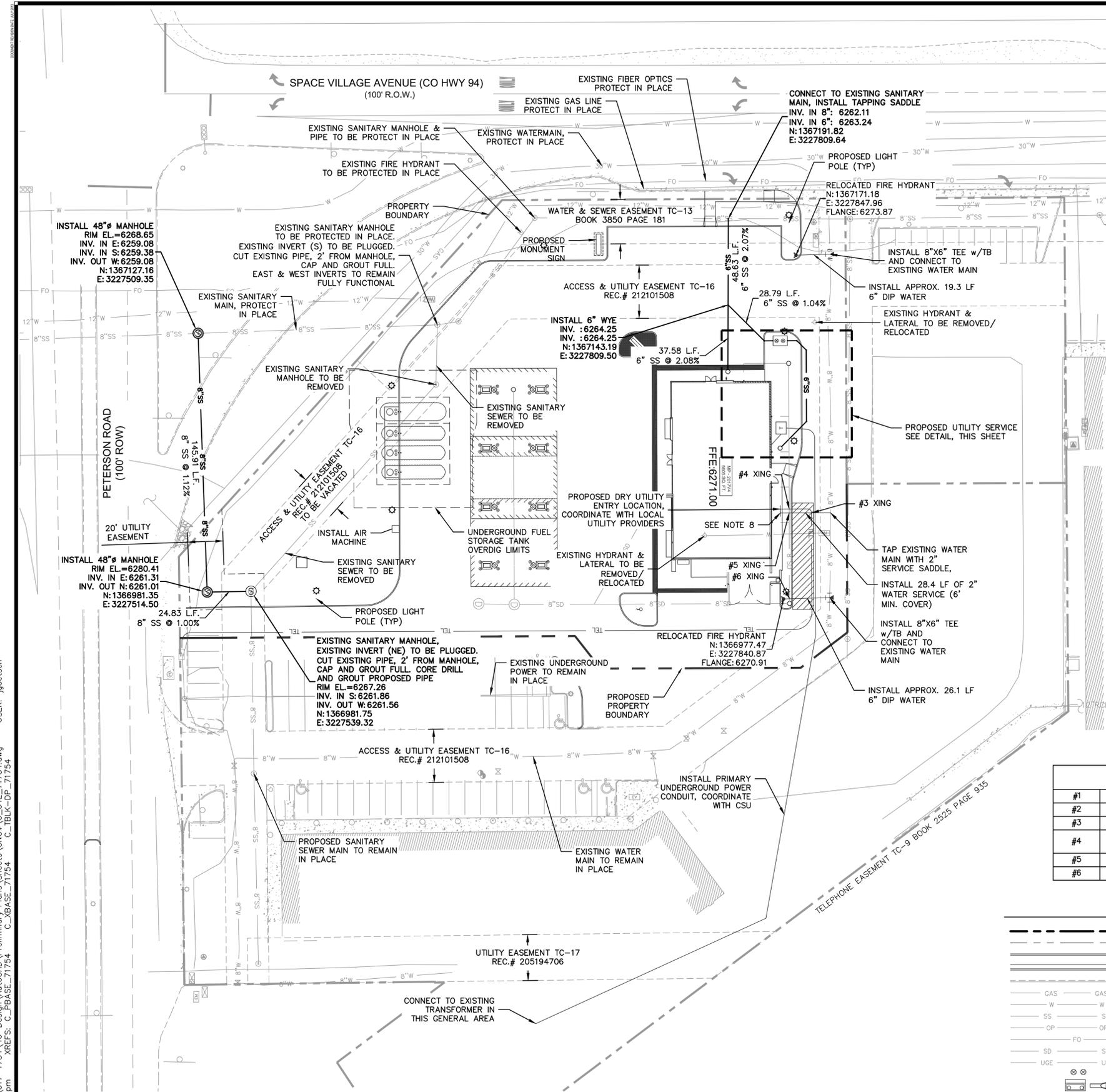
If I may be of further assistance please contact me at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kurt C. Schlegel". The signature is fluid and cursive, with the first name "Kurt" being the most prominent.

Kurt C. Schlegel  
General Manager

cc: Mr. Jonathon Smith; Cherokee Metropolitan District



UTILITY SERVICE DETAIL  
SCALE 1"=10'

CROSSING TABLE			
#1	PR. ELEC=6268.40 BOP	PR. SANITARY=6266.06 TOP	CLEARANCE=2'-4"
#2	PR. STORM=6267.77 BOP	PR. SANITARY=6266.15 TOP	CLEARANCE=1'-7.5"
#3	PR. TEL=6268.25 BOP	PR. 2" WAT=6264.92 TOP	CLEARANCE=3'-4"
#4	PR. STORM=6267.21 BOP	PR. TEL=6265.71 TOP (BURY DEPTH 4.5')	CLEARANCE=1'-6"
#5	PR. STORM=6267.18 BOP	PR. 2" WAT=6264.64 TOP	CLEARANCE=2'-6.5"
#6	PR. STORM=6266.37 BOP	PR. 6" WAT=6263.91 TOP	CLEARANCE=2'-5.5"

LEGEND	
--- (dashed)	PROPOSED BOUNDARY
--- (dash-dot)	PROPERTY LINE
--- (solid)	PROPOSED INTEGRAL CURB
--- (solid)	PROPOSED CURB AND GUTTER
--- (solid)	EXISTING CURB AND GUTTER
--- (solid)	EXISTING GAS LINE
--- (solid)	EXISTING WATER LINE
--- (solid)	EXISTING SANITARY SEWER
--- (solid)	EXISTING OVERHEAD POWER
--- (solid)	EXISTING FIBER OPTIC LINE
--- (solid)	EXISTING STORM SEWER
--- (solid)	EXISTING UNDERGROUND POWER
--- (solid)	GREASE INTERCEPTOR LID
--- (solid)	STORM SEWER STRUCTURE
○ (with cross)	FIRE HYDRANT
○ (with dot)	LIGHT POLE
○ (with horizontal line)	GUY WIRE
○ (with vertical line)	POWER POLE
○ (with circle)	WATER VALVE
○ (with triangle)	VEGETATION
○ (with square)	PROPOSED BOLLARD
○ (with diamond)	CONTROL POINT
○ (with circle)	GAS METER
○ (with square)	TRAFFIC SIGNAL ARM
○ (with circle)	FIBER OPTIC MANHOLE
○ (with circle)	SANITARY SEWER STRUCTURE
□ (with cross)	SIGN
□ (with dot)	PROPOSED TRANSFORMER
□ (with circle)	COLORADO SPRINGS UTILITIES

- NOTES:**
- PROPOSED TRANSFORMER PAD AREA TO BE EXCAVATED AND PREPARED BY CONTRACTOR, PAD & TRANSFORMER TO BE INSTALLED BY COLORADO SPRINGS UTILITIES.
  - ALL PROPOSED SITE LIGHTING WILL CONSIST OF FULL CUT-OFF DESIGN, SEE MEP PLANS FOR LIGHTING ELECTRICAL PLAN. DISTANCE FROM CENTER OF POLE TO BACK OF CURB = 4', UNLESS NOTED OTHERWISE.
  - CONTRACTOR SHALL MAINTAIN MINIMUM 18" VERTICAL SEPARATION AT ALL UTILITY CROSSINGS, UNLESS NOTED OTHERWISE.
  - ALL DOMESTIC WATER SERVICE PIPING SHALL TYPE K COPPER UNLESS NOTED OTHERWISE.
  - ALL SANITARY SEWER SERVICE PIPING SHALL PVC SDR35 UNLESS NOTED OTHERWISE.
  - ALL DRY UTILITY CONDUIT PIPING SHALL BE PVC SCH40 UNLESS NOTED OTHERWISE.
  - PROPOSED NON-TRAFFIC RATED 1000 GALLON GREASE INTERCEPTOR WITH SAMPLE PORT, WATERTIGHT LIDS, AND 2-WAY 4" CLEANOUTS AT INLET AND OUTLET OF INTERCEPTOR PER DETAIL.
  - 2" WATER METER AND BACKFLOW PREVENTION TO BE INSTALLED INSIDE BUILDING, SEE MEP PLANS FOR DETAILS AND CONNECTION TO BUILDING.

**NOTE:**  
THIS DOCUMENT HAS BEEN RELEASED BY OLSSON ASSOCIATES FOR REVIEW BY REGULATORY AGENCIES AND OTHER PROFESSIONALS, AND IS SUBJECT TO CHANGE. THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION.

**BENCHMARKS:**  
PROJECT BENCHMARK: PROJECT BENCHMARK: THE PUBLISHED VALUES OF COLORADO SPRINGS UTILITIES FIMS MONUMENT 'F\_81'. EL=6272.26 (NGVD29)  
SITE BENCHMARK: SITE BENCHMARK: A CHISELED 'X' CUT IN SOUTH EDGE OF THE CONCRETE ISLAND NORTH OF THE MALL. CONTROL POINT #100. EL=6268.47 (NGVD29)

**NOTE:**  
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THIS INCLUDES PRIVATE AND PUBLIC UTILITIES.

**OLSSON ASSOCIATES**  
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West Des Moines, Iowa 50266  
P: 515-226-0128  
F: 515-223-9873

**#0692 - EL PASO COUNTY, CO**  
6809 SPACE VILLAGE AVENUE  
**UTILITY PLAN**

REVISION DESCRIPTION	DATE

DATE: 09/08/2017  
SHEET NUMBER: C3.1  
1 OF 1

**811** Know what's below. Call before you dig.  
CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DWG: F:\2017\1501-2000\017-1754\40-Design\AutoCAD\Preliminary Plans\Sheets\GNCVAC\_UTL\_71754.dwg  
 DATE: Sep 07, 2017 6:09pm  
 USER: jgoetsch  
 XREFS: C:\BASE\_71754\_C\_XBASE\_71754