WATER RESOURCES REPORT

FOR

APPALOOSA HWY 24 SUBDIVISION
FILING NO. 2, LOTS 1, 2 & 3
EL PASO COUNTY, COLORADO

Prepared For:
Platte Valley, LLC
1378 Promontory Bluff View
Colorado Springs, CO 80921
(719) 491-0801
Contact: Mr. Ron Waldthausen

Prepared By:
Associated Design Professionals, Inc.
3520 Austin Bluffs Parkway Suite 102
Colorado Springs, CO 80918
719.266-5212
Contact: Mike Bartusek

ADP Project No. 160504
May 30, 2018

ADP CIVIL
ENGINEERING FOR THE FUTURE

ADPCIVIL
ENGINEERING FOR THE FUTURE

TABLE OF CONTENTS

APPENDIXES

WATER RESOURCES REPORT
APPALOOSA HWY 24 SUBDIVISION
FILING NO. 2, LOTS 1, 2 & 3
EL PASO COUNTY, COLORADO

1.0 Purpose

This document is intended to serve as the Water Resources Report for Appaloosa Hwy 24 Subdivision Filing No. 2, Lots 1, 2 and 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 three light industrial lots. The specific use of the lots has not yet been determined. See Vicinity Map in Appendix A for a general location of the proposed development. However, initial indications are for a landscape storage yard and other similar uses.

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.

The project requires 700 gpd capacity for sewer service. The District states in their commitment letter that they have enough capacity to serve the three (3) lots.

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 lots will be pulled from this main line. The layout of the proposed service and existing mains can be found in the Appendix.

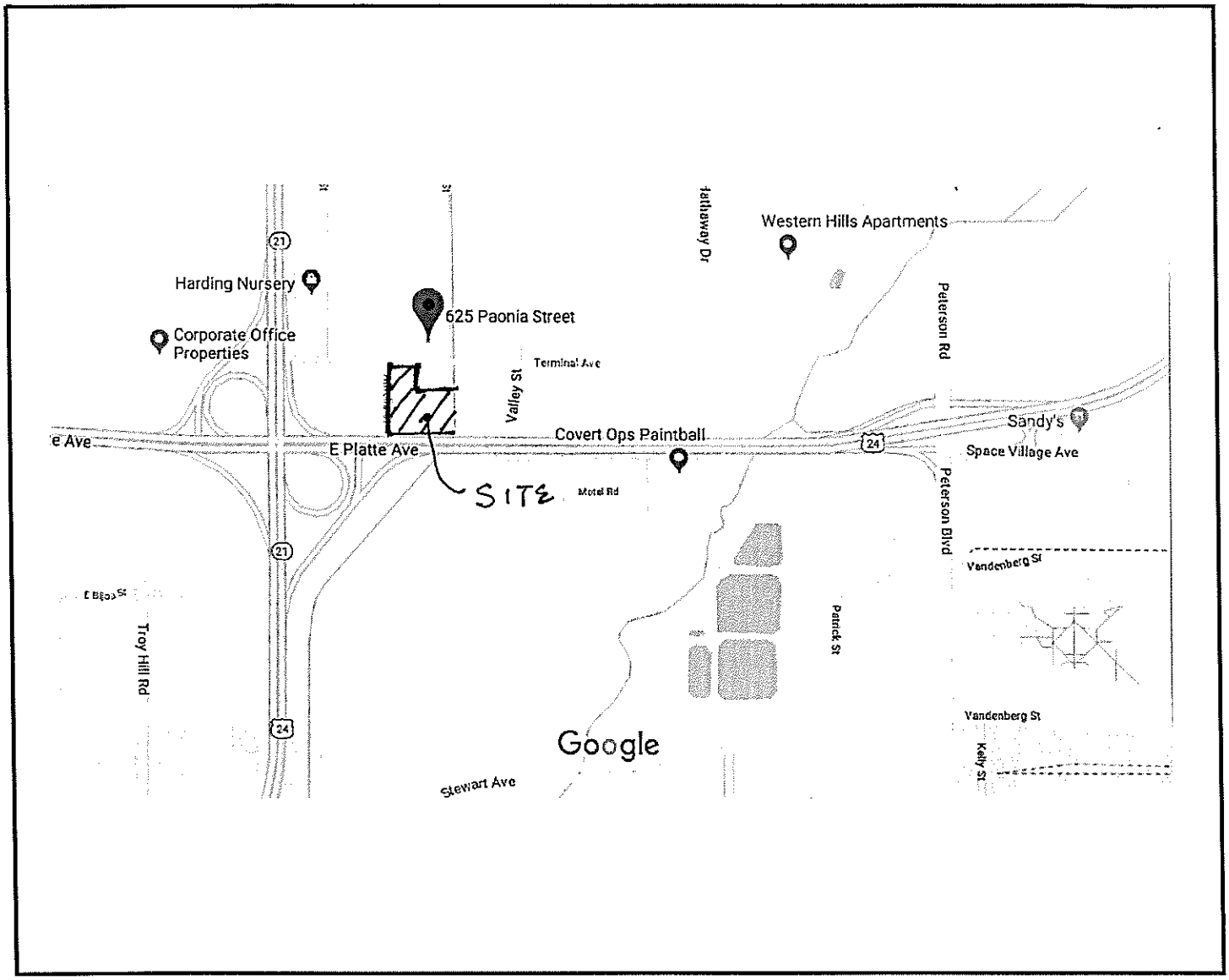
Cherokee Metropolitan District has issued a commitment letter to serve the lots. The facilities that are maintained by the District are more than adequate to serve the lots. Attached in the appendices is the Cherokee Metro Districts 2018 Drinking Water Quality Report. This report details the contaminants 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.

APPENDIX A

VICINITY MAP



VICINITY MAP

N.T.S.

ADPCIVIL
ENGINEERING FOR THE FUTURE

3520 Austin Bluffs Pkwy, Suite 102
Colorado Springs, CO 80918
(719) 266-5212
fax: (719) 266-5341

APPENDIX B

WATER DEMAND CALCULATIONS

APPALOOSA HWY 24 SUBDIVISION FIL. NO. 2

Water Demand Calculations

Commercial & Industrial Use = 0.1 gpd/square foot of developed space

Estimated Building Sq Ft = 2000 sf/lot = 6000 sf
0.1 gpd x 6000 sf = 600 gpd = 0.672 ac-ft/yr

Irrigation Demand
Landscaping Requirement = 5% of total area

Lot 1
5% x 0.98 ac x 43560 sf/ac = 2,134 sf
Water usage = 0.0566 acre feet per 1000 sf of landscaping
Water usage = 2,134 x 0.0566/1000 = 0.121 acre feet

Lot 2
5% x 0.984 ac x 43560 sf/ac = 2,143 sf
Water usage = 0.0566 acre feet per 1000 sf of landscaping
Water usage = 2,143 x 0.0566/1000 = 0.121 acre feet

Lot 3
5% x 2.701 ac x 43560 sf/ac = 5,883 sf
Water usage = 0.0566 acre feet per 1000 sf of landscaping
Water usage = 5,883 x 0.0566/1000 = 0.333 acre feet

Toatal Irrigation Usage = 0.121+0.121+0.333 = 0.575 acre feet

Total Water Demand = 0.672 + 0.575 = 1.247 acre feet/year

Sewer Demand Calculations

Assuming 10 employees per lot and 3.6 gal per flush
The average daily demand = 10 x 3 x 3.6 = 432 gpd
Using peaking factor of 4 the peak hour demand = 1728 gpd = 1.26 gpm
Capacity of proposed 8" pvc sewer at 0.5% = 0.87 cfs = 390.5 gpm

APPENDIX C

CHEROKEE METROPOLITAN DISTRICT

2018 DRINKING WATER QUALITY REPORT

CHEROKEE MD 2018 Drinking Water Quality Report
For Calendar Year 2017

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 JONATHON SMITH 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 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 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 www.colorado.gov/cdphe/ccr. The report is located under "Guidance: Source Water Assessment Reports". Search the table using 121125, CHEROKEE MD, or by contacting JONATHON SMITH 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

Source	Source Type	Water Type	Potential Source(s) of Contamination
WELLS 1 THROUGH 13	Well	Groundwater	Row crops, fallow, small grains, pasture/hay, septic systems, road miles
WELLS 15 THROUGH 20	Well	Groundwater	
WELL 21 AR-1	Well	Groundwater	
WELL 22 DN-4	Well	Groundwater	

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, 2017 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	01/01/2017 to 12/31/2017	Lowest period percentage of samples meeting TT requirement: 96%	0	255	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	06/13/2017 to 06/15/2017	0.42	30	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	06/13/2017 to 06/15/2017	4	30	ppb	15	2	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)	2017	4.46	0 to 8.5	16	ppb	60	N/A	8.5	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2017	19.03	5.6 to 34.5	16	ppb	80	N/A	34.5	No	Byproduct of drinking water disinfection

Radionuclides Sampled at the Entry Point to the Distribution System									
Typical Sources	**Year**	**Average**	**Range Low – High**	**Sample Size**	**Unit of Measure**	**MCL**	**MCLG**	**MCL Violation**	
Gross Alpha	2017	1.1	1.1 to 1.1	1	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2017	3.4	3.4 to 3.4	1	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**
Arsenic	2017	0.33	0 to 2	6	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2017	0.06	0.04 to 0.07	6	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2017	0.74	0.31 to 1.6	3	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2017	6.94	0 to 9.3	9	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2017	4.33	0 to 8	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.

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	2017	49.82	21.1 to 73.2	6	ppm	N/A
Total Dissolved Solids	2017	337.7	248 - 472	16	ppm	500

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

Violations					
Name	**Category**	**Time Period**	**Health Effects**	**Compliance Value**	**TT Level or MCL**
CROSS CONNECTION RULE	FAILURE TO MEET CROSS CONNECTION/BACKFLOW REQUIREMENTS - HEALTH-BASED	01/01/2017 - 06/12/2017	May pose a risk to public health.	N/A	N/A

Additional Violation Information

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.

Explanation of the violation(s), the steps taken to resolve them, and the anticipated resolved date:

Backflow and Cross-Connection

Cherokee Metropolitan District had an inadequate backflow prevention and cross-connection control program in 2016 and failed to meet the specified percentage of backflow device testing required by the Colorado Department of Public Health and Environment. The District is currently in compliance with the Cross Connection Rule. Uncontrolled cross connections can lead to inadvertent contamination of the drinking water.

APPENDIX D

CHEROKEE METROPOLITAN DISTRICT

COMMITMENT LETTER TO SERVE

CHEROKEE METROPOLITAN DISTRICT

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

June 13, 2018

Mr. Michael Bartusek
c/o Associated Design Professionals, Inc.
3520 Austin Bluffs Parkway, Suite #102
Colorado Springs, CO 80918

Re: Appaloosa Highway 24 Subdivision Filing #2

Mr. Bartusek,

This letter serves as your formal Letter of Commitment from the Cherokee Metropolitan District to provide municipal water and sewer services for the Appaloosa Highway 24 Subdivision Filing #2 Lots #1-#3. The proposed development is located within the District's established boundaries and therefore the District stands ready and willing to provide water and wastewater services for the above-mentioned development. Based on the water demand calculations, provided by the developer, the District is able to supply the required total water demand of 1.247 acre feet per year for this development.

Water Demand Calculations

Commercial & Industrial Use = 0.1 gpd/square foot of developed space

Estimated Building Sq Ft = 2000 sf/lot = 6000 sf
0.1 gpd x 6000 sf = 600 gpd = 0.672 ac-ft/yr

Irrigation Demand
Landscaping Requirement = 5% of total area

Lot 1
5% x 0.98 ac x 43560 sf/ac = 2,134 sf
Water usage = 0.0566 acre feet per 1000 sf of landscaping
Water usage = 2,134 x 0.0566/1000 = 0.121 acre feet

Lot 2
5% x 0.984 ac x 43560 sf/ac = 2,143 sf
Water usage = 0.0566 acre feet per 1000 sf of landscaping
Water usage = 2,143 x 0.0566/1000 = 0.121 acre feet

Lot 3
5% x 2.701 ac x 43560 sf/ac = 5,883 sf
Water usage = 0.0566 acre feet per 1000 sf of landscaping
Water usage = 5,883 x 0.0566/1000 = 0.333 acre feet

Total Irrigation Usage = 0.121+0.121+0.333 = 0.575 acre feet

Total Water Demand = 0.672 + 0.575 = 1.247 acre feet/year

Sewer Demand Calculations

Assuming 10 employees per lot and 3.6 gal per flush
The average daily demand = 10 x 3 x 3.6 = 432 gpd
Using peaking factor of 4 the peak hour demand = 1728 gpd = 1.26 gpm
Capacity of proposed 8" pvc sewer at 0.5% = 0.87 cfs = 390.5 gpm

As of October 2015, the State Engineer's Office has given the District a favorable opinion on the District's quantification of water supplies available for new subdivisions and commercial development. The State Engineer confirmed that the District had a surplus of 520 acre feet per year of water available for new developments. Since October 2015, the District has issued 183.652 acre feet per year of water commitments leaving 336.348 acre feet per year available to meet future demand. The Appaloosa Highway 24 Subdivision Filing #2 development requires 1.247 acre feet per year of water which leaves the District with 335.101 acre feet per year of water for future developments.

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 land use entitlement 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(s) for growth that stands ready to develop.

The District and I trust that you find this letter adequate for your needs and land use applications. If I may be of further assistance please contact me at your convenience.

Sincerely,

Jonathon Smith
Water & Wastewater Collections Manager

cc: Mr. Brian Beaudette; Interim General Manager, Cherokee Metropolitan District; via email