

Wastewater Treatment Report

**Waterside
(to be Replatted as Waterside at Lake Woodmoor)**

El Paso County, Colorado

Prepared for:
La Plata Communities, Inc.
9540 Federal Drive, Suite 200
Colorado Springs, Colorado 80921



Kiowa Project No. 22027
September 22, 2022

I. Introduction

All utility design for the proposed development has been performed in accordance with the *Woodmoor Water and Sanitation District No. 1 Rules and Regulations*, *Woodmoor Water and Sanitation District No. 1 System Specifications*, and the *El Paso County Land Development Code*. Supporting design calculations are included in the Appendix A of this report.

II. Project Description

Waterside is a planned residential development located in northern El Paso County, Colorado. The project is planned as a townhome community. The site is located in a portion of the West Half of the Southeast Quarter of Section 11, Township 11 South, Range 67 West of the 6th Principal Meridian. The property is currently platted as the Waterside Condominiums in accordance with the declaration recorded on February 13, 1981, in Book 3403-722 and the condominium map recorded on February 13, 1981 in Plat Book 2-47. The property is currently undeveloped and covers a total of approximately 7.53 acres. The property will be platted/replatted as 'Waterside at Lake Woodmoor'. The streets will be private and 52 townhouse lots will be developed. With the platting of Waterside at Lake Woodmoor, water and wastewater mains and services within the property will be constructed.

III. Sanitary Sewer Collection System

The proposed sanitary sewer collection system for Waterside at Lake Woodmoor will be connected to the existing WWSD sanitary sewer main located southeast of the intersection of Deer Creek Road and Woodmoor Drive with new mains with service connections generally following the private roads of the project. The proposed sanitary sewer collection system will be comprised of existing and new 8-inch PVC public gravity sewer constructed per WWSD Standards and Specifications.

Wastewater flow calculations, which are contained in Appendix A of this report, indicate that the new 8-inch PVC sanitary sewer will be adequate for the Waterside at Lake Woodmoor gravity sewer system. The Utility Plan is included in the Appendix of this report and shows the locations of the existing and proposed sewer lines and associated appurtenances.

IV. Wastewater Collection and Treatment

The sanitary sewer collection system to be constructed as part of the Waterside at Lake Woodmoor development is comprised of 8-inch PVC public gravity sewer. The collection system within Waterside at Lake Woodmoor is anticipated for Woodmoor Water and Sanitation District (WWSD) is summarized in Section 4.0 of the District's Long Range Plan (LRP). The complete LRP has not been included in this report. Contained within Appendix B are letters that address a commitment to serve the subdivision from the District.

Wastewater conveyed by the existing WWSD's collection system outfalls to the Tri-Lakes Wastewater Treatment Plant. A description of the Plant's current operation and future projects is contained within the LRP. The plant has adequate capacity to treat and discharge wastewater flows generated by Waterside at Lake Woodmoor in conformance with current CDPHE standards and regulations.

APPENDIX A
Vicinity Map
Woodmoor District Overview Map
Wastewater Calculations

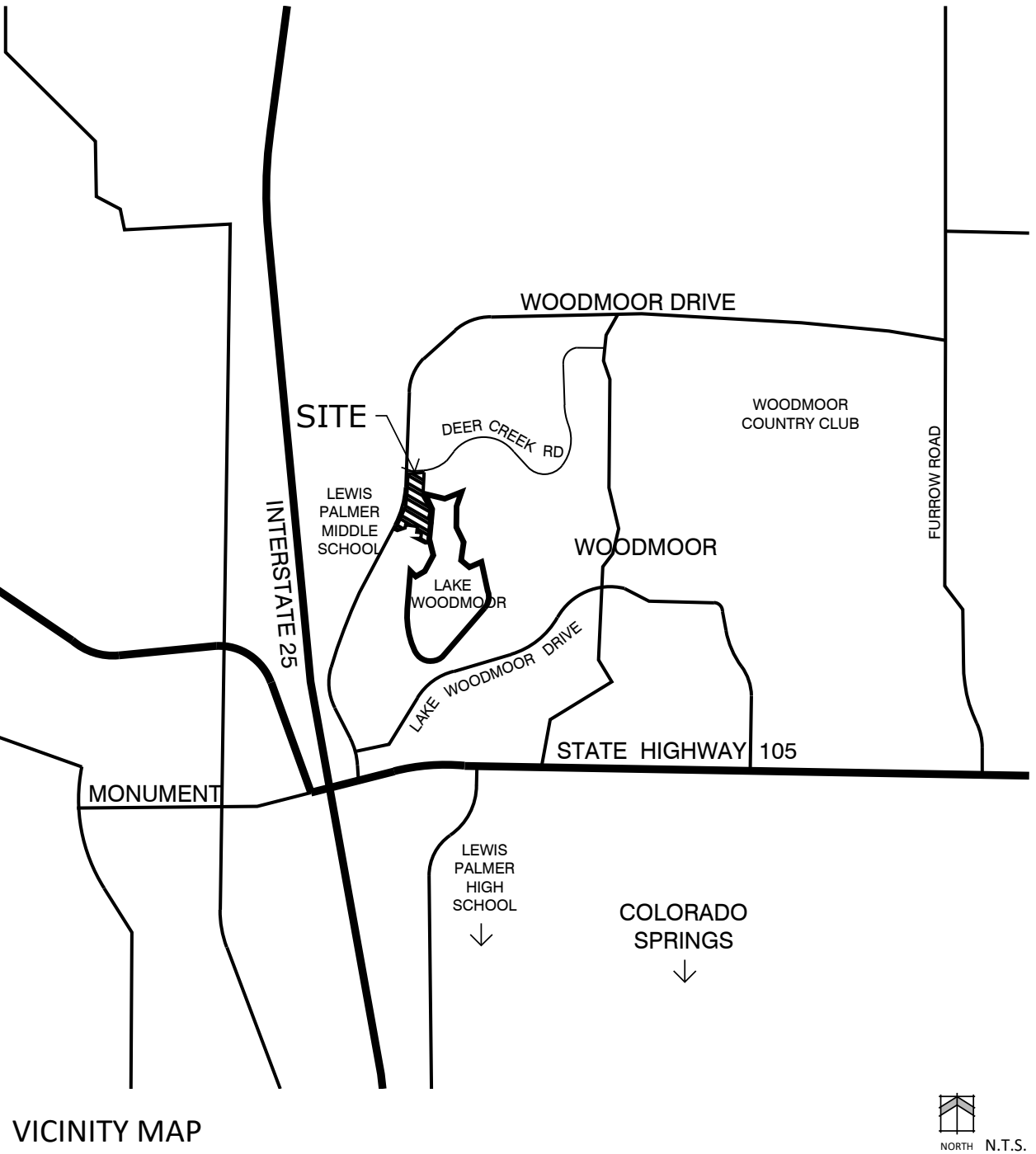


FIGURE 1

Waterside
Vicinity Map
El Paso County, Colorado

PROJECT NO. 15073

Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

MAP LEGEND

WOODMOOR
WOODMOOR DRIVE
32' TRACT "A"

SUBDIVISION NAME
STREET NAME
LOT INFORMATION
DISTRICT BOUNDARY
SECTION LINE
SUBDIVISION BOUNDARY
LOT LINE
SURFACE WATER
DETAIL BOUNDARY
SEWER R&R BOUNDARY
SEWER BASIN BOUNDARY
SEWER LINE (PVC)
SEWER LINE (STL)
SEWER LINE (VCP)
SEWER LINED W/ FOLIIFORM
SEWER LINED W/ HDPE
SEWER FORCE MAIN (PVC)
WATER PRESSURE ZONE BNDY.
POTABLE WATER PIPE (PVC)
POTABLE WATER PIPE (CP)
POTABLE WATER PIPE (HDPE)
NON-POTABLE WATER PIPE (PVC)
TRANSMISSION LINE (PVC)
TRANSMISSION LINE (DP)
PRIVATE SYSTEM
NOT FINAL ACCEPTED SYSTEM

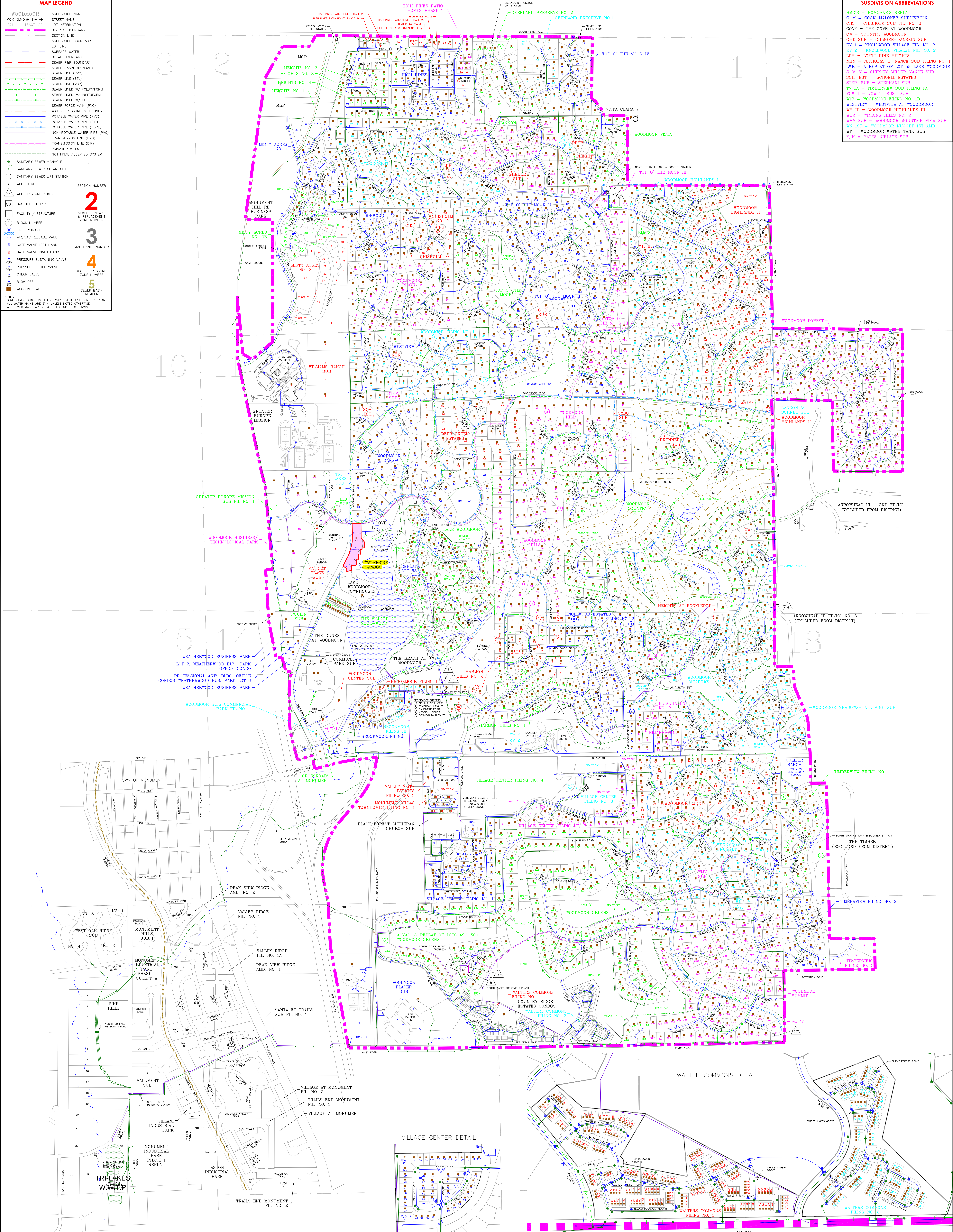
1
2
3
4
5

SEWER RENEWAL & REPLACEMENT ZONE NUMBER
MAP PANEL NUMBER
WATER PRESSURE ZONE NUMBER
SEWER BASIN NUMBER

NOTES:
- SOME OBJECTS IN THIS LEGEND MAY NOT BE USED ON THIS PLAN.
- ALL WATER MAINS ARE 6" # 4 UNLESS NOTED OTHERWISE.
- ALL SEWER MAINS ARE 6" # 4 UNLESS NOTED OTHERWISE.

SUBDIVISION ABBREVIATIONS

BMG'S = BONGAAR'S REPLAT
C-M = COOK-MALONEY SUBDIVISION
CHS = CHISHOLM SUB FIL. NO. 3
COVE = THE COVE AT WOODMOOR
CW = COUNTRY WOODMOOR
G-D SUB = GILMORE-DANSKIN SUB
KV 1 = KNOLLWOOD VILLAGE FIL. NO. 2
KV 2 = KNOLLWOOD VILLAGE FIL. NO. 2
LPH = LOFTY PINE HEIGHTS
NHN = NICHOLAS H. NANCE SUB FILING NO. 1
LWR = A REPLAT OF LOT 56 LAKE WOODMOOR
S-M-V = SHIPLEY-MILLER-VANCE SUB
SCH. EST. = SCHOLL ESTATES
STEP SUB = STEPHAN SUB
TV 1A = TIMBERVIEW SUB FILING 1A
VCV 1 = VCV 1 TRUST SUB
WIB = WOODMOOR FILING NO. 1B
WESTVIEW = WESTVIEW AT WOODMOOR
WH III = WOODMOOR HIGHLANDS III
WHS = WINDING HILLS NO. 2
WMY SUB = WOODMOOR MOUNTAIN VIEW SUB
WN 1ST = WOODMOOR MOUNTAIN VIEW 1ST AND
WT = WOODMOOR WATER TANK SUB
Y/N = YATES NIBLACK SUB



Waterside at Lake Woodmoor Wastewater Demand Calculations

Single-Family	52 units	
Persons per Dwelling Unit	<u><u>3.5 persons</u></u>	
	182 persons	
1 Person =	<u><u>100 gpd</u></u>	
Average Daily Flow (ADF) =	18,200 gpd	ADF = persons x gpd
Peak Flow Factor =	<u><u>4</u></u>	
Peak Hourly Flow (PHF) =	72,800 gpd	PHF = ADF x Peak Flow Factor
Single-Family PHF =	51 gpm	

Total PHF =	43 gpm	
Total PHF =	0.10 cfs	cfs = gpm / (7.48 gal/ft ³) / (60 sec/min)
Pipe (8" SDR35) Capacity =	1.23 cfs	Qcap = (1.486/0.009)*0.349*0.167 ^{2/3} *0.005 ^{1/2} Pipe Slope = 0.5%
Pipe Capacity is Greater than Total PHF		
Pipe (12" SDR35) Capacity =	2.14 cfs	Qcap = (1.486/0.009)*0.785*0.25 ^{2/3} *0.0017 ^{1/2} Pipe Slope = 0.17%
Pipe Capacity is Greater than Total PHF		

APPENDIX B
Woodmoor Water and Sanitation District
Commitment Letters



May 11, 2022

To: La Plata Communities, Inc
Attn: Beth Diana
La Plata Communities, Inc
9540 Federal Drive, Suite 200
Colorado Springs, CO 80921

RE: Water & Wastewater Service Commitment – Waterside Condominiums
El Paso County Parcel Numbers: 7111404113 - 7111404194

Dear Ms. Diana:

The above referenced development is currently located within the service boundaries of the Woodmoor Water and Sanitation District No. 1 (the District). The District is committed to providing water and sewer services to the development in accordance with all District rules, regulations, specifications and policies regarding water and wastewater service.

If you should have any questions or need further assistance, please contact me.

Sincerely,

A handwritten signature in blue ink, reading "Jessie J. Shaffer", is written over a light blue horizontal line.

Jessie J. Shaffer
District Manager

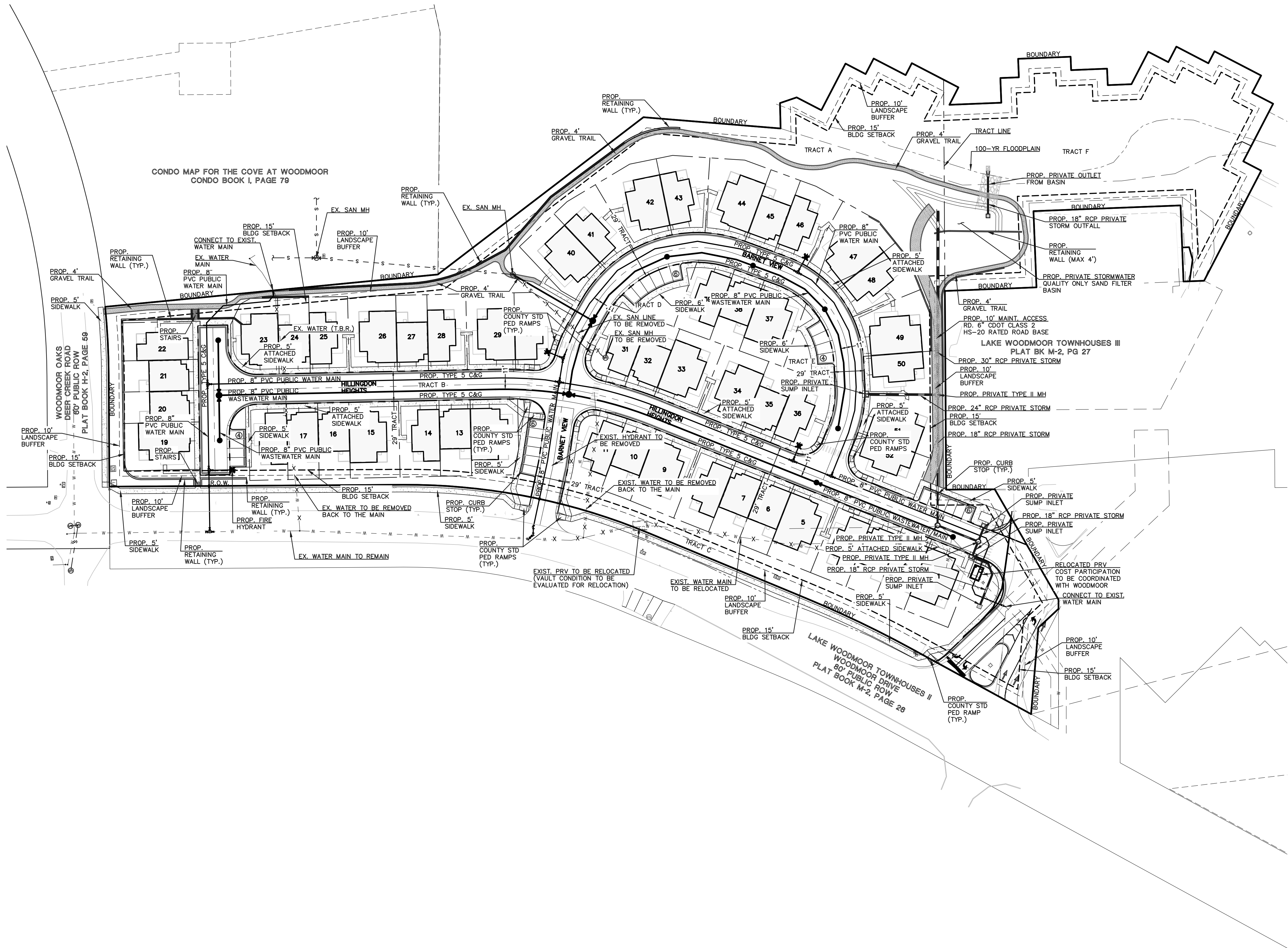
Cc: Ariel Hacker – District Engineer
Dan LaFontaine – Operations Superintendent

Appendix C
Water Supply Summary

Kiowa Engineering Corporation

FORM NO. GWS-76 05/2011	WATER SUPPLY INFORMATION SUMMARY STATE OF COLORADO, OFFICE OF THE STATE ENGINEER 1313 Sherman St., Room 821, Denver, CO 80203 Main (303) 866-3581 dwr.colorado.gov		
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: Waterside at Lake Woodmoor			
2. LAND USE ACTION: PUD Development Plan/Preliminary Plan			
3. NAME OF EXISTING PARCEL AS RECORDED: SUBDIVISION: Waterside Condominiums , FILING (UNIT), BLOCK, LOT			
4. TOTAL ACREAGE: 7.53		5. NUMBER OF LOTS PROPOSED 52 PLAT MAP ENCLOSED? <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO	
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? <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO B. Has the parcel ever been part of a division of land action since June 1, 1972? <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO If yes, describe the previous action:			
7. LOCATION OF PARCEL – Include a map delineating the project area and tie to a section corner. ----- 1/4 of the <u>SE</u> 1/4, Section <u>11</u> , Township <u>11</u> <input type="checkbox"/> N or <input checked="" type="checkbox"/> S, Range <u>67</u> <input type="checkbox"/> E or <input checked="" type="checkbox"/> W Principal Meridian (choose only one): <input checked="" type="checkbox"/> Sixth <input type="checkbox"/> New Mexico <input type="checkbox"/> Ute <input type="checkbox"/> Costilla Optional GPS Location: GPS Unit must use the following settings: Format must be UTM , Units must be meters , Datum must be NAD83 , Unit must be set to true N , <input type="checkbox"/> Zone 12 or <input type="checkbox"/> Zone 13 Easting: _____ Northing: _____			
8. PLAT – Location of all wells on property must be plotted and permit numbers provided. Surveyor's Plat: <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO If not, scaled hand drawn sketch: <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO			
9. ESTIMATED WATER REQUIREMENTS		10. WATER SUPPLY SOURCE	
USE	WATER REQUIREMENTS		<input type="checkbox"/> NEW WELLS - PROPOSED AQUIFERS – (CHECK ONE) <input type="checkbox"/> ALLUVIAL <input type="checkbox"/> UPPER ARAPAHOE <input type="checkbox"/> UPPER DAWSON <input type="checkbox"/> LOWER ARAPAHOE <input type="checkbox"/> LOWER DAWSON <input type="checkbox"/> LARAMIE FOX HILLS <input type="checkbox"/> DENVER <input type="checkbox"/> DAKOTA <input type="checkbox"/> OTHER: _____
HOUSEHOLD USE # 52 of units	Gallons per Day _____	Acre-Feet per Year 0.3	<input type="checkbox"/> EXISTING WELL <input type="checkbox"/> DEVELOPED SPRING WELL PERMIT NUMBERS _____ _____ _____
COMMERCIAL USE # _____ of S. F	_____	_____	<input type="checkbox"/> MUNICIPAL <input type="checkbox"/> ASSOCIATION <input type="checkbox"/> COMPANY <input checked="" type="checkbox"/> DISTRICT NAME Woodmoor W&S LETTER OF COMMITMENT FOR SERVICE <input checked="" type="checkbox"/> YES or <input type="checkbox"/> NO
IRRIGATION # 0.597 of acres	_____	2.178	WATER COURT DECREE CASE NUMBERS: _____ _____ _____
STOCK WATERING # _____ of head	_____	_____	
OTHER: _____	_____	_____	
TOTAL	_____	16.900	
11. WAS AN ENGINEER'S WATER SUPPLY REPORT DEVELOPED? <input checked="" type="checkbox"/> YES or <input type="checkbox"/> NO IF YES, PLEASE FORWARD WITH THIS FORM. (This may be required before our review is completed.)			
12. TYPE OF SEWAGE DISPOSAL SYSTEM			
<input type="checkbox"/> SEPTIC TANK/LEACH FIELD <input type="checkbox"/> LAGOON <input type="checkbox"/> ENGINEERED SYSTEM (Attach a copy of engineering design.)		<input checked="" type="checkbox"/> CENTRAL SYSTEM DISTRICT NAME: _____ <input type="checkbox"/> VAULT LOCATION SEWAGE HAULED TO: _____ <input type="checkbox"/> OTHER:	

Appendix H
Utility Plan



NOTES:

1. THE UTILITY SIZES SHOWN HEREON ARE PRELIMINARY AND SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.
2. ALL PROPOSED ROADWAYS SHOWN HEREON ARE PRIVATE.
3. ALL WATER AND SEWER LINES SHOWN HEREON ARE 8" DIAMETER UNLESS LABELED OTHERWISE.
4. FIRE HYDRANT LATERALS ARE 6" DIA.
5. ALL LOTS PLATTED WITH 5' SIDE YARD UTILITY EASEMENTS AND 5' FRONT AND 7' REAR YARD UTILITY EASEMENT, UNLESS OTHERWISE NOTED.
6. ALL CORNER LOTS PLATTED WITH 25' SIGHT TRIANGLE TO MEET TOWN STANDARDS UNLESS OTHERWISE SHOWN.
7. NO SEPARATE IRRIGATION TAPS FOR INDIVIDUAL LOTS
8. CURB AND GUTTER TRANSITIONS ARE TYPICAL AT 4-WAY AND TEE INTERSECTIONS OF RESIDENTIAL STREETS AND DOWN DRAINING CUL-DE-SACS.



50 25 0 50 100

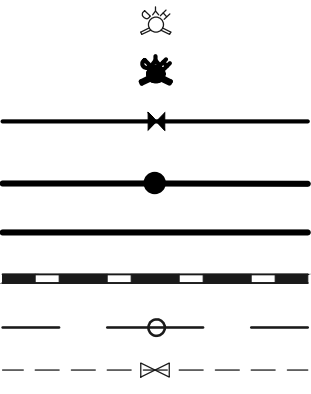
SCALE: 1" = 50'

LEGEND:

DESCRIPTION

SYMBOL

EXISTING FIRE HYDRANT
PROPOSED FIRE HYDRANT
PROPOSED WATER MAIN
PROPOSED SANITARY SEWER
BOUNDARY
PROPOSED STORM PIPE
EXISTING SANITARY
EXISTING WATER W/EX. VALVE



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CLASSIC
CONSULTING
ENGINEERS & SURVEYORS

WATERSIDE
TOWNHOMES
Preliminary/Final
PUD Site Plan

Monument, Colorado

DATE: JULY 29, 2021
PROJECT MGR: M. Whorton
PREPARED BY: R. Aragon

SEAL

ISSUE INFO

DATE: BY: DESCRIPTION:

ISSUE / REVISION

PRELIMINARY
UTILITY PLAN

5
OF 16

SHEET NUMBER

PLAN FILE #