

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

Similar comments on water report. Commitment letter needs to be updated with a specific wastewater load committed to.

Prepared by:

Kiowa
Engineering Corporation

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

Kiowa Project No. 22027
June 15, 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.

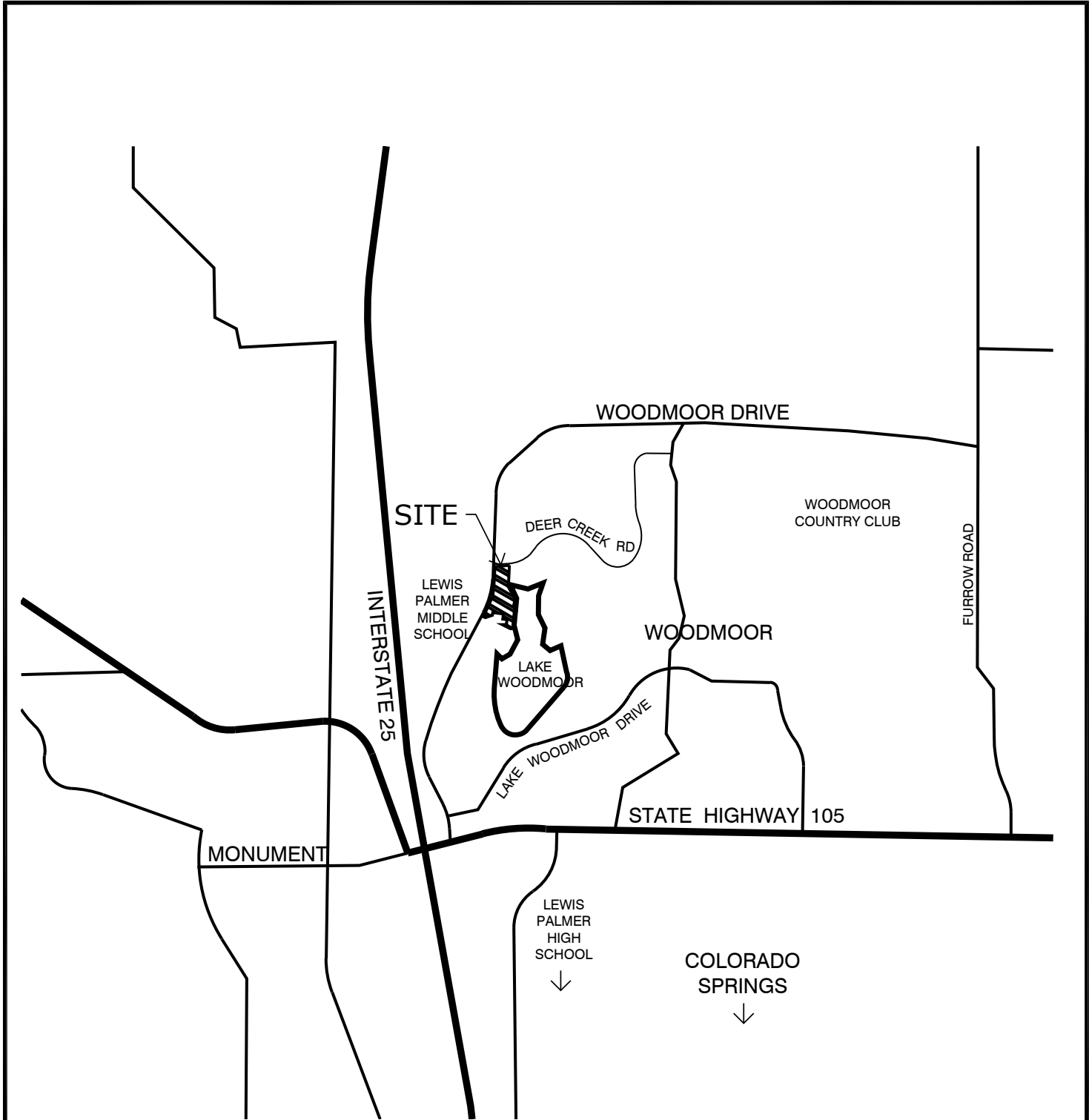
IV. Wastewater Collection and Treatment

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 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
Woodmor District Overview Map
Water Demand Calculations
Wastewater Calculations**



VICINITY MAP



FIGURE 1

15073 Drainage Plan.dwg/Nov. 03, 2016

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
321 TRACT "A"

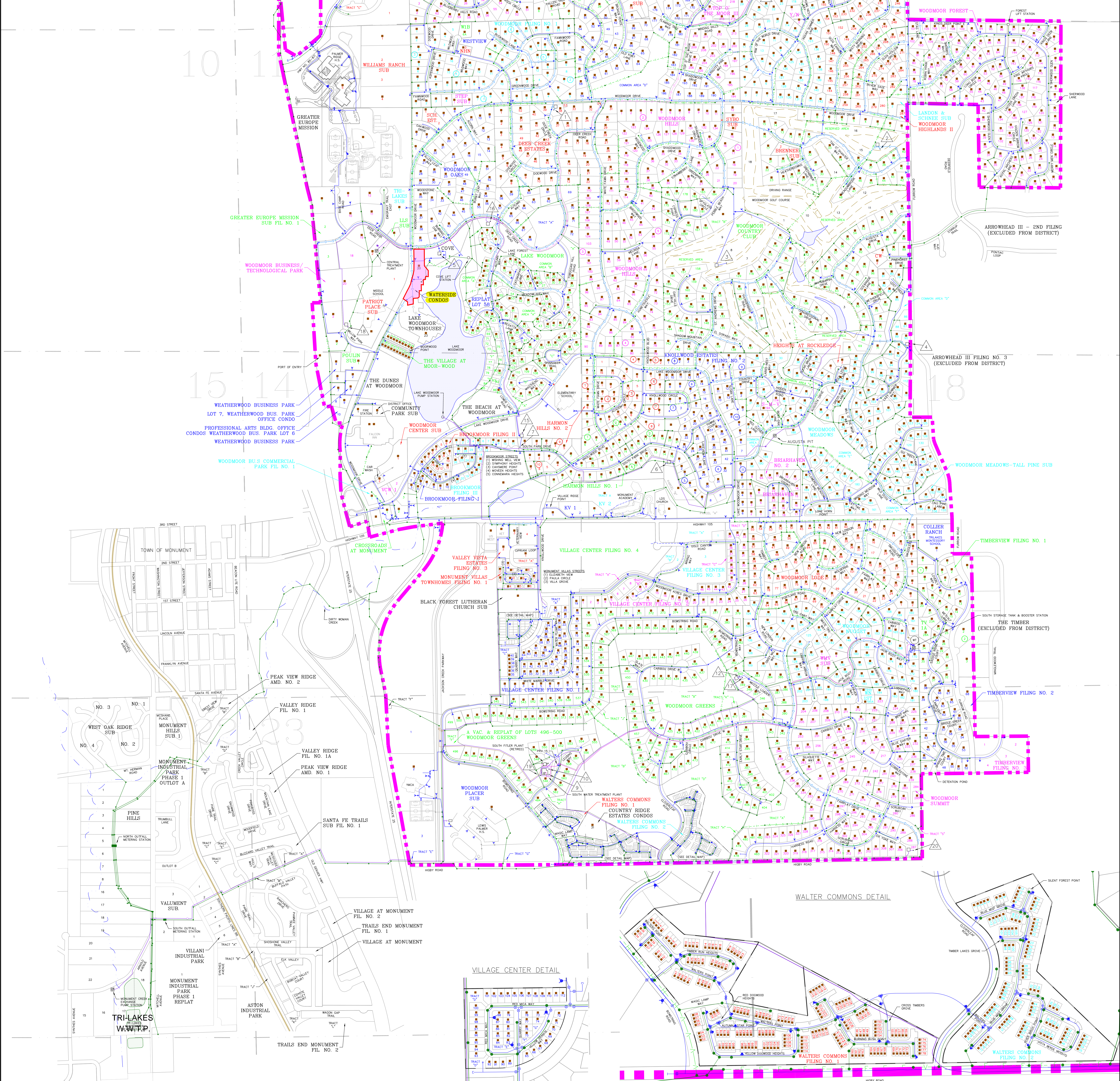
SUBDIVISION NAME
STREET NAME
LOT INFORMATION
DISTRICT BOUNDARY
SECTION LINE
SUBDIVISION BOUNDARY
LOT LINE
SURFACE WATER
DETAIL BOUNDARY
SEWER R&R BOUNDARY
SEWER BASIN BOUNDARY
SEWER LINE (PVC)
SEWER LINE (STL)
SEWER LINE (VCP)
SEWER LINED W/ FOLDIFORM
SEWER LINED W/ KUSTIFORM
SEWER LINED W/ HDPE
SEWER 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)
PRIVATE SYSTEM
NOT FINAL ACCEPTED SYSTEM

1 SECTION NUMBER
2 SEWER RENEWAL & REPLACEMENT ZONE NUMBER
3 MAP PANEL NUMBER
4 WATER PRESSURE ZONE NUMBER
5 SEWER BASIN NUMBER

NOTES:
SOME OBJECTS IN THIS LEGEND MAY NOT BE USED ON THIS PLAN.
ALL WATER MAINS ARE 6" UNLESS NOTED OTHERWISE.
ALL SEWER MAINS ARE 8" UNLESS NOTED OTHERWISE.

SUBDIVISION ABBREVIATIONS

BMG'S = BOMGAAR'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
NMN = NICHOLAS H. NANCE SUB FILING NO. 1
LWR = A REPLAT OF LOT 56 LAKE WOODMOOR
S-M-V = SHIPLEY-MILLER-VANCE SUB
SCH. EST. = SCHOELL ESTATES
STEP. SUB = STEPHAN SUB
TV 1A = TIMBERVIEW SUB FILING 1A
VCW 1 = VCW 1 TRUST SUB
WIB = WOODMOOR FILING NO. 1B
WESTVIEW = WESTVIEW AT WOODMOOR
WH III = WOODMOOR HIGHLANDS III
WH5 = WINDING HILLS NO. 2
WMY SUB = WOODMOOR MOUNTAIN VIEW SUB
WN 1ST = WOODMOOR NUGGET 1ST AMD
WT = WOODMOOR WATER TANK SUB
Y/N = YATES NIBLACK SUB



North Bay at Lake Woodmoor

Wastewater Calculations

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

Jessie J. Shaffer
District Manager

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

Appendix C
Water Supply Summary

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: **North Bay 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? YES or 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? YES or NO
 - B. Has the parcel ever been part of a division of land action since June 1, 1972? YES or 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 SE 1/4, Section 11, Township 11 N or S, Range 67 E or W
Principal Meridian (choose only one): Sixth New Mexico Ute 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**, Zone 12 or Zone 13
Easting: _____
Northing: _____

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

Surveyor's Plat: YES or NO If not, scaled hand drawn sketch: YES or NO

9. ESTIMATED WATER REQUIREMENTS 10. WATER SUPPLY SOURCE

USE	WATER REQUIREMENTS		<input type="checkbox"/> EXISTING WELL <input type="checkbox"/> DEVELOPED SPRING WELL PERMIT NUMBERS _____ _____ _____	<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: _____
	Gallons per Day	Acre-Feet per Year		
HOUSEHOLD USE # 52 of units	_____	0.342		
COMMERCIAL USE # _____ of S. F	_____	_____		
IRRIGATION # _____ of acres	_____	_____		
STOCK WATERING # _____ of head	_____	_____		
OTHER: _____	_____	_____	<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	WATER COURT DECREE CASE NUMBERS: _____ _____ _____
TOTAL	_____	17.784*		
* Includes Irrigation				

11. WAS AN ENGINEER'S WATER SUPPLY REPORT DEVELOPED? YES or 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
- LAGOON
- ENGINEERED SYSTEM (Attach a copy of engineering design.)
- CENTRAL SYSTEM
DISTRICT NAME: _____
- VAULT
LOCATION SEWAGE HAULED TO: _____
- OTHER:

Appendix D
Preliminary Utility Plan

Kiowa Engineering Corporation



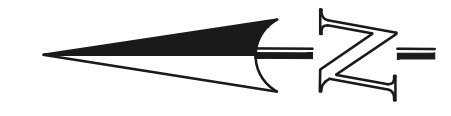
WATERSIDE TOWNHOMES
Preliminary/Final PUD Site Plan

Monument, Colorado

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

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 PUBLIC.
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.



SCALE: 1" = 50'

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	- - - - -

PRELIMINARY UTILITY PLAN

4
OF 15