Water Resources 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



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

Kiowa Project No. 22027 August 27, 2024

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 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 44 townhouse lots will be developed. 40 lots will contain multi-family (attached) units and 4 lots will contain single-family (detached) units. With the platting of Waterside at Lake Woodmoor, water and wastewater mains and services within the property will be constructed.

III. Water Distribution System

The proposed water distribution system for Waterside at Lake Woodmoor will be connected to the existing Woodmoor Water and Sanitation District (District) water main in Woodmoor Drive. Proposed water mains within Waterside at Lake Woodmoor are all 8-inch PVC public mains. These lines are to be constructed per Woodmoor Water and Sanitation District Standards and Specifications.

Demand flow calculations are contained in Appendix A of this report and are provided to the District for review and analysis. The Preliminary Utility Plan is included in Appendix G of this report and shows the locations of the existing and proposed water lines and associated appurtenances.

IV. Water Supply, Resources and Quality

Contained within Appendix C of this report is the water supply summary for Waterside at Lake Woodmoor based upon the District's usage specific standard demand. The estimated water supply requirements listed on the Water Supply Information Summary are based upon the District's average domestic (internal) water demand of 0.184 acre-feet per year for multi-family dwellings and for single-family dwellings. The average domestic water demand estimated for 40 multi-family units and 4 single-family units is 7.348 acre-feet per year and 0.735 acre-feet per year, respectively. The District's average irrigation demands are 0.085 acre-feet per year for multi-family dwellings and 0.175 acre-feet per year for single-family dwellings. The average domestic irrigation demand estimated for 40 multi-family dwellings and 0.175 acre-feet per year for single-family dwellings. The average domestic irrigation demand estimated for 40 multi-family dwellings and 0.175 acre-feet per year for single-family dwellings. The average domestic irrigation demand estimated for 40 multi-family units and 4 single-family units is 3.405 acre-feet per year and 0.699 acre-feet per year, respectively. The total annual demand for the multi-family units and single-family units is estimated to be 10.753 acre-feet per year and 1.434 acre-feet per year, for a total

demand of 12.187 acre-feet per year for the entire development. Refer to Appendix B for correspondence containing the estimated water demand calculations from the District.

Included in Appendix D is a copy of the draft Supplemental Water Usage and Service Agreement between the District and Lake Woodmoor Holdings, LLC.

Summarized in the District's Long Range Plan (LRP) is a description of the existing water supply and distribution system, as well as descriptions for possible future improvements and expansions to the system. The water requirements necessary for Waterside at Lake Woodmoor have been accounted for in the LRP. Summarized in section 2.3 of the LRP are the current water rights owned by the District. Summarized as Section 3 is a summary of the future water system including on Table 3-1, a summary of the District's water service commitments. Excerpts from Sections 2 and 3 have been included in Appendix E with the pertinent portions highlighted. Based upon the data contained in the LRP regarding the water resources that are available to the District, subdivisions served by Woodmoor Water and Sanitation District will be supplied with water resources meeting the requirements of El Paso County's 300-year water supply regulations for future subdivisions relying on the Denver aquifer. Contained within Appendix B is a commitment to serve letter from the District for Waterside at Lake Woodmoor.

The quality of the water produced by the Woodmoor Water and Sanitation District for domestic and commercial consumption is subject to regulations prescribed by the Colorado Department of Public Health and Environment (CDPHE) that limit the amount of certain contaminants in treated or untreated water. Contained within Appendix F is the District's 2021 Consumer Confidence Report (Covering Data For Calendar Year 2020) that summarizes the quality of the water produced by the District and its conformance with CDPHE regulations.

APPENDIX A

Vicinity Map Woodmoor District Overview Map Water Demand Calculations



03, Plan.dwg/Nov Drainage 15073 |



Waterside at Lake Woodmoor Water Demand Calculations

Single-Family Detached/Attached	44 units	
Persons per Dwelling Unit	3.5 persons	
	154 persons	
1 Person =	150 gpd	
Average Daily Flow (ADF) =	23,100 gpd	ADF = persons x gpd
Peak Flow Factor =	6	
Peak Hourly Flow (PHF) =	138,600 gpd	PHF = ADF x Peak Flow Factor
Single-Family PHF =	96 gpm	

APPENDIX B

Woodmoor Water and Sanitation District Commitment Letter Estimated Water Demand Calculations

August 26, 2024

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

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

Dear Mr. Rossell:

The above referenced development, as depicted in the attached sketch, is located within the service boundaries of Woodmoor Water and Sanitation District No. 1 (the District).

It is the District's understanding that La Plata Communities intends to construct 40 muti-family units and 4 single-family units on 7.53 acres of land within the Waterside Development with a projected total water demand of 12.187 Acre-Feet per year.

The District is committed to providing water and sewer services to the development once the following terms and conditions are met:

- 1. The Developer must apply for, be subsequently allocated, and enter into an agreement with the District for Supplemental Water Service. Supplemental Water Service is allocated by the District's Board (in its sole and absolute discretion) and therefore is not guaranteed. The District makes no representation herein (expressed or implied) as to whether Developer will or won't be successful in obtaining Supplemental Water Service for the Development.
- 2. The Development must comply with all District rules, regulations, specifications, and policies regarding water and wastewater service, including the District's System Specifications regarding installation of Water and Sewer utilities, granting of water and sewer utility easements, and construction of offsite improvements if required.

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

Sincerely,

O DDL

Jessie J. Shaffer District Manager

Cc: Cydney Saelens – District Engineer

WATERSIDE AT LAKE WOODMOOR

From: Lori Seago <<u>LoriSeago@elpasoco.com</u>> Sent: Friday, August 9, 2024 10:23 AM To: Jessie Shaffer <<u>JessieS@WoodmoorWater.com</u>> Cc: Steve Rossoll <<u>srossoll@laplatallc.com</u>> Subject: RE: Water Demand Calculations

Jessie, thank you for the information. This is exactly what I need. La Plata just needs to include this information in their Water Resource Report that is uploaded to our eDARP system so that it is available for us to rely on when completing our water review.

Lori

Lori L. Seago Senior Asst. County Attorney Office of the County Attorney Office: (719) 520-7371 Ioriseago@elpasoco.com

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You don't often get email from jessies@woodmoorwater.com. Learn why this is important

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Lori,

Steve Rossoll at La Plata asked me to reach out to you and explain some of the demand calculations that La Plata used in their water resources report for the proposed Waterside Development. Particularly the indoor domestic usage shown to be approximately 0.18 AF/Yr for residential units.

The 0.18 AF/yr was derived from our latest (2022) Long Range Planning Guide (LRP) where internal domestic usage for residential units (irrespective of whether they are multi-family or single family) in Woodmoor was calculated to be 164 GPD/Unit. Converting to AF/Yr yield a value of 0.184 AF/yr. I can't say whether other municipalities or water providers are seeing this same value or not, but for Woodmoor, this is the latest "District Specific" data that we've analyzed. We also hold Developers to using our Standard Demand Table when calculating total demand for their developments. The numbers in the standard demand table are inclusive of both internal domestic usage within dwelling units as well as outdoor irrigation (i.e. the 240 & 320 GPD numbers). If segregation between internal demand and irrigation demand is desired, I've been directing developer engineers to use our numbers below:

1 MFU = 240 Gal/Day, average over 365 days

- 1. 164 GPD internal
- 2. 76 GPD irrigation
- 3. Internal domestic use is approximately 68% of annual use for an MFU, irrigation (on average) accounts for approximately 32% of annual use
- 1 SFU = 320 Gal/Day, average over 365 days
 - 4. 164 GPD internal
 - 5. 156 GPD irrigation
 - 6. Internal domestic use is approximately 51% of annual use for an SFU, irrigation (on average) accounts for approximately 49% of annual use

As an example, for Waterside:

40 MFU (internal domestic demand) = 40x164*365/325852 = 7.348 AF/year <u>40 MFU (irrigation demand) = 40x76*365/325852 = 3.405 AF/year</u> Total MFU Annual demand = 10.753 AF/Year

4 SFU (internal domestic demand) = 4x164x365/325852 = 0.735 AF/year <u>4 SFU (irrigation demand) = 4x156x365/325852 = 0.699 AF/year</u> Total SFU Annual demand = 1.434 AF/Year

Total for entire planned development = 12.187 AF/Year

When we get into the math on developing supplemental water service agreements, the only irrigation demand that is broken out separately and is accounted for separately is where we have common area within single family developments being irrigated, however, for multi-family, the irrigation usage that's part of the 240 GPD/MFU was derived from common area irrigation within the multi-family areas. Although some of the numbers presented in Waterside's demand calculations (attached) don't match true to the District's numbers, the only one that matters (to the District anyway) from a water supply perspective is the total demand. In their report, they cite a value for total demand of 12.236 AF/year for the development. Per my calculation, using District demand numbers, the total demand should be 12.187. Possible rounding errors are likely the difference between their numbers and my numbers in the calculation of total demand. As far as their internal domestic demand of 0.18 AF/year goes for a single-family equivalent, I can confirm that this number (for Woodmoor) is accurate and is based on the most up to date analysis that the District has completed (see attached LRP Excerpt).

Let me know if you have any questions or if we need to schedule a phone call to have a more detailed discussion.

Thanks,

Jessie

Jessie Shaffer District Manager Woodmoor Water and Sanitation District No. 1 1845 Woodmoor Drive Monument, CO 80132 719-488-2525 x 14

<u>Appendix C</u> 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 <u>dwr.colorado.gov</u>						
	Section 30-28-133, sufficient in terms of	(d), C.R.S. requ	ires that the applic ty, and dependabil	ant submit to the County, "Adequatity will be available to ensure an ad	te evidence that a v lequate supply of w	vater supply that is ater."	
1. NAME OF DI	EVELOPMENT AS F	PROPOSED:	aterside at Lake	Woodmoor			
2. LAND USE A	CTION: PUD Dev	velopment Pla	n/Preliminary P	lan			
	SUBDIVISION: Waterside Condominiums , FILING (UNIT) , BLOCK , LOT						
4. TOTAL ACR	4. TOTAL ACREAGE: 7.53 5. NUMBER OF LOTS PROPOSED 44 PLAT MAP ENCLOSED? VES or XI NO						
6. PARCEL HIS	STORY – Please atta	ach copies of de	eds, plats, or other	evidence or documentation.			
A. Was parc	el recorded with cou	inty prior to June	e 1, 1972? 🗌 YES	or 🛛 NO			
B. Has the p	arcel ever been par	t of a division of	land action since J	une 1, 1972? 🗌 YES or 🛛 NO			
lf yes, de	scribe the previous a	action:					
7. LOCATION	OF PARCEL – Inclue	de a map delinea	ating the project ar	ea and tie to a section corner.			
<u></u> 1/4 of	the <u>SE</u> 1/4, See	ction <u>11</u> , To	wnship <u>11</u>]N or ⊠ S, Range <u>67</u> □ E o	r 🗙 W		
Principal Me	ridian (choose only c	one): 🛛 Sixth 🗌	New Mexico	te Costilla			
Optional GP	S Location: GPS U	Init must use the	following settings:	Format must be UTM , Units	Easting:		
Northing:							
8. PLAT – Loca	tion of all wells on p	roperty must be	plotted and permit	numbers provided.			
Surveyor's P	lat: 🗌 YES or 🛛 N	O If not, scale	ed hand drawn sket	tch: 🔲 YES or 🛛 NO			
9. ESTIMATED	WATER REQUIRE	MENTS		10. WATER SUPPLY SOURCE			
	USE	WATER RE	QUIREMENTS		UNEW WELLS -		
Multi-family	40	Gallons per Day	Acre-Feet per Year 7 348	· WELL SPRING	PROPOSED AQUIFERS	- (CHECK ONE)	
HOUSEHOLD US	E # 40 of units			WELL PERMIT NUMBERS			
COMMERCIAL US	SE # of S. F						
					LOWER DAWSON	□ LARAMIE FOX HILLS	
	72 of acres		4.104		DENVER		
		<u></u>					
STOCK WATERIN	IG # of bead						
SE* Hou	usehold Use: 4 units		0.725		WATER COURT D	ECREE CASE	
OTHER: 3F HOL			0.735		NUMBERS:		
TOTAL 44 UII	is + imgalion		12.107				
*Sin	gle Family						
	gieranny			SERVICE X YES or NO			
11. WAS AN EN	NGINEER'S WATER	SUPPLY REPO		? XES or NO IF YES, PLEAS	SE FORWARD WIT	TH THIS FORM.	
			pietea.)				
	TANK/LEACH FIFI			CENTRAL SYSTEM			
				DISTRICT NAME: Wood	Imoor W&S		
🗌 LAGOO	N			VAULT			
	EERED SYSTEM (Att	tach a copy of engine	eering design.)		LED TO:		
	□ OTHER:						

Appendix D Draft Supplemental Water Usage and Service Agreement

SUPPLEMENTAL WATER USAGE AND SERVICE AGREEMENT

by and between

WOODMOOR WATER AND SANITATION DISTRICT NO. 1

and

LAKE WOODMOOR HOLDINGS, LLC

This Supplemental Water Usage and Service Agreement (the "Agreement") is entered into and effective this ______ day of ______, 2023 between the WOODMOOR WATER AND SANITATION DISTRICT NO. 1, a quasi-municipal corporation and political subdivision of the State of Colorado (the "District"), and LAKE WOODMOOR HOLDINGS, LLC, a Colorado corporation (the "Developer").

WHEREAS, the District is the owner of all of the underground water rights within its boundaries, and has established a policy of allocating one-half ($\frac{1}{2}$) acre-foot of water per acre, per year, to each property within the District (the "Water Policy"); and

WHEREAS, the Developer is the owner of a 7.53 acre parcel of property located within the District's boundaries, which is described in **Exhibit A**, (the "Property"), and on which Developer intends to construct 4 single family homes and 40 multi-family homes, collectively the "Development" as shown in **Exhibit B**; and

WHEREAS, the Development's anticipated water service demand at build-out is expected to be such that the Development will use more water than is allocated to the Property under the District's Water Policy; and

WHEREAS, to the extent the District, in its sole discretion, determines that the District's resources are adequate, the District may allocate water service to new development in an amount over and above that allocated under the Water Policy (the "Supplemental Water Service"); and

WHEREAS, the District has decided to allocate Supplemental Water Service for use on the Property for the residential development thereon, subject to the terms and conditions set forth in this Agreement; and

WHEREAS, the Developer desires that it be able to use the Supplemental Water Service Share, as hereafter defined, on the Property in a fashion that meets the needs of the Development.

NOW THEREFORE, in consideration of the covenants and conditions contained herein, and other good and sufficient consideration, the parties agree as follows:

1. <u>Standard Water Policy Share</u>. Under the Water Policy, the District may allocate for service to the Property 3.765 acre-feet of water annually (7.53 acres x 0.50 acre-feet per acre)(the "Water Policy Share"). The District shall serve the Property with the Water Policy Share, subject to

the District Rules and Regulations, as amended from time to time, and subject to availability of resources adequate to meet all prior District allocations.

2. <u>Developer Calculated Total Demand</u>. The anticipated water demand for the Development is 12.187 acre-feet per year. The Developer calculated total demand for the Development of 12.187 acre-feet per year is based on the District's Standard Demand Table.

3. <u>Supplemental Water Service Share, Charge, Requirements and Limitations</u>.

- a. *Share*. The total anticipated supplemental water demand for the Development is 8.422 acre-feet/year based on the District's Standard Demand Table. The District agrees, subject to the terms of this Agreement and the District Rules and Regulations, as amended from time to time, and subject to availability of resources adequate to meet all prior District allocations, to serve the Property with 8.422 acre-feet/year of supplemental water service (the "Supplemental Water Service Share")
- b. *Charge.* In exchange for the District's commitments contained herein, and at the time the District executes this Agreement, the Developer shall pay the District the cost attributable to the Development ("Total Charge") in order to serve the Property with the Supplemental Water Service Share. Such amounts are calculated for the Development by using the Supplemental Water Base Rate established by the District, currently \$29,000 per acre-foot for supplemental water quantities up to and including 1 acre-foot per acre per year ("Tier 2 Charge") and 1.5 times the base rate for supplemental water quantities exceeding the Tier 2 quantity ("Tier 3 Charge").

Tier 2 Charge

7.53 acre-feet of Supplemental Water Service Share is classified as Tier 2 supplemental water under the District's policy (the "Tier 2 Share") and the payment for the Tier 2 Share shall be the product of the supplemental water base rate (\$29,000 per acre-foot) multiplied by the Tier 2 Share of 7.53 acre-feet, totaling \$218,370.00.

Tier 3 Charge

0.892 acre-feet of the Supplemental Water Service Share is classified as Tier 3 and supplemental water under the District's policy (the "Tier 3 Share") and the payment for the Tier 3 Share shall be the product of the supplemental water base rate (\$29,000 per acre-foot) multiplied by the Tier 3 Share of 0.892 acre-feet multiplied by 1.5, totaling \$38,802.00.

Total Charge

\$257,172.00 (\$218,370.00 + \$38,802.00)

- c. Conditional Acceptance Requirement; Charges. Developer, (as used in this Agreement, Developer means Developer, its assigns and successors), shall within 365 days of having paid in full for the purchase of the Supplemental Water Service Share for the Development: obtain the District's conditional acceptance, granted in its sole discretion, of utilities installation for the Development or any phase of the Development. If the Developer fails to meet the aforementioned requirement, then the Developer shall annually pay to the District the difference (per acre-foot) between the then current Total Charge value of the Supplemental Water Service Share (based on the existing Supplemental Water Base Rate) and the previous year's Total Charge of the Supplemental Water Service Share (based on the District's previous year's Supplemental Water Base Rate). The Developer shall be responsible for paying such amount within ten (10) days from the date of the notice issued in writing by the District ("Notice") and thereafter annually by July 31st (if the Notice was provided on or after December 31st but before July 21st) or by January 10th (if the Notice was provided on or after July 21st but before December 31st). Failure to timely pay such annual amount may result in the District withholding any and all water service to the Property until such time as payment in full has been made. The Developer's obligation to make such annual payments shall terminate upon the Developer obtaining conditional acceptance from the District of the utilities installation for the Development or any phase of the Development, albeit late; regardless of when conditional acceptance is obtained, Developer is not entitled to receive a rebate on any portion of the annual payments due under this Agreement.
- 4. <u>Agreement shall bind the Property</u>. This Agreement shall be recorded in the real estate records in office of the El Paso County Clerk and Recorder and all of the commitments contained herein shall run with the land and be binding upon the Property, and all portions thereof, and shall bind all future owners of all or any portion of the Property.
- 5. <u>Limitations Upon Supplemental Water Service Commitment</u>. The District's commitment to furnish the Water Policy Share and the Supplemental Water Service Share to the Property is not intended to and does not exempt the Property from the District Rules and Regulations. The Property is subject to all provisions of the Rules and Regulations, as the same may be amended from time to time, including but not limited to those provisions that allow the District to discontinue or decrease water service in the case of a water shortage or other emergency.
- 6. <u>District is Not Conveying a Water Right</u>. This Agreement is not intended to, and does not, convey to the Developer any water right (decreed or undecreed) owned by the District.
- <u>No Speculation</u>. Nothing herein is intended nor shall it be construed as a grant to Developer or any of its assigns or its successors in interest to the Property a right to speculate on the Supplemental Water Service Share described in this Agreement. Developer, including its assigns and its successors, shall not speculate on the

Supplemental Water Service Share or take any action or do anything that would allow any other person to speculate on the Supplemental Water Service Share.

- 8. <u>Reversion</u>. In the event the use or zoning of any portion of the Property is modified by the Town of Monument or El Paso County such that the Supplemental Water Service Share, or any portion thereof, is determined by the District to no longer be needed to meet the applicable water requirements, then the Supplemental Water Service Share or such portion thereof which is no longer needed, shall revert back to the District, who shall cease to allocate it annually for the Property
- 9. <u>Assignment</u>. Only after obtaining the District's approval in writing, which shall not be unreasonably withheld, Developer may assign in whole or in part its rights and obligations under this Agreement.
- 10. <u>Entire Agreement</u>. This Agreement constitutes the entire agreement between the parties on the subject contained herein and it may only be modified or amended in writing, signed by both parties.
- 11. <u>Governing Law</u>. This Agreement shall be governed by, and construed according to, the laws of the State of Colorado. The parties further agree that any litigation arising out of this contract shall be tried in the El Paso County, Colorado District Court, or the United States District Court for the District of Colorado and not elsewhere.
- 12. <u>Governmental Immunity</u>. Nothing herein is intended as nor shall it be construed as a waiver by District of the privileges and immunities afforded District pursuant to the Colorado Governmental Immunity Act, as the same may be amended from time to time.

[The remainder of this page is intentionally left blank.]

WOODMOOR WATER AND SANITATION DISTRICT NO. 1

By: Brian X. Bush, President

Attest:

By: William Clewe, Secretary

The foregoing instrument was acknowledged before me this _____ day of _____, 2024, by Barrie Town and William Clewe as District President and District Secretary of Woodmoor Water and Sanitation District No. 1.

WITNESS my hand and official seal.

My commission expires:

Notary Public

WATERSIDE JV, LLC

By: _____

Name: ______

Its: _____

The foregoing instrument was acknowledged before me this ____ day of _____,2024, by _____ of Waterside JV, LLC.

WITNESS my hand and official seal.

My commission expires: _____

Notary Public

EXHIBIT A

Property

EXHIBIT B

The Development

<u>Appendix E</u> Portions of WWSD Long Range Plan

		0
Year	Golf Course, High School, and HOA Use (af)	Total Water Exchanged (af)
Jan	0.2	37.0
Feb	0.0	31.6
Mar	0.3	47.0
Apr	2.3	59.5
Мау	14.2	53.9
Jun	27.6	34.8
Jul	26.8	11.0
Aug	21.9	7.0
Sep	23.1	3.4
Oct	8.5	7.7
Nov	1.8	23.1
Dec	0.5	30.6
Total	127.1	346.7

Table 2-16 – Summary of 2017-2020 Average Monthly Exchange Yield

- 2021 data excluded from averages due to operational constraints preventing the District from maximizing exchange yield.
 - Golf course, high school irrigation, and Village Center Metro District non-potable water uses are a subset of the monthly prevented over a subset over a subset over a subset of the

average exchange.

2.2.3. SUPPLEMENTAL WATER SERVICE

Supplemental water service is additional commitment above the District's 0.5 af/ac/yr allocation policy. The total theoretical quantity of supplemental water available is derived from the difference in the District's decreed water rights and its base water service commitments while maintaining compliance with both State of Colorado's 100-year rule and El Paso County's 300-year rule.

The quantity of supplemental water projected for undeveloped land is less than the underlying Denver Basin water rights entitlements due to practical development densities and economic considerations in the development and delivery of supplemental water service as well as Board policy regarding the sale and pricing structure of supplemental water.

2.3. WATER RIGHTS

The District owns groundwater rights, exchange water rights, storage rights, a plan for augmentation, and senior surface water rights.

The District's ground water rights include tributary, nontributary, and not-nontributary Denver Basin water rights. The District's exchange rights allow diversion by exchange of reusable wastewater effluent and LIRFs on Monument Creek and DWC. A plan for augmentation is decreed to replace evaporation from ponds within the District.

The District owns senior direct diversion and storage surface water rights on Fountain Creek that were changed for storage and municipal use in Case No. 12CW01 (Division 2) known as the "Ranch Water Rights". These senior Fountain Creek surface water rights include 58.0 shares (55

percent) of the Chilcott Ditch, 75 percent of the Liston and Love Ditch, 75 percent of the Lock Ditch, 75 percent of the Lock Ditch No. 2, and the Callahan Reservoir storage right. The Fountain Creek water rights are not yet used at the District northern El Paso County service area.

2.3.1. DENVER BASIN WATER RIGHTS

The District owns all of the Denver Basin water rights beneath the District's boundaries, except for limited reservations that account for historical wells owned by others. All of the District's Denver Basin water rights have been quantified by Water Court decree except for the water beneath the 11-acre Mills Timber inclusion.

The District's Denver Basin water rights include three statutory classifications of ground water: tributary, nontributary, and not-nontributary. The District's tributary ground water is from the Dawson aquifer and is replaced at 25 percent of pumping pursuant to a historical water rights decree. Nontributary groundwater is presently defined as groundwater that when withdrawn will not deplete the flow of a natural stream within one hundred years of continuous withdrawal "at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal." The District's nontributary groundwater is from the Denver, Arapahoe, and Laramie-Fox Hills aquifers. Not-nontributary groundwater is groundwater located within the Denver Basin that does not meet the statutory definition of nontributary ground water. Decreed augmentation plans are required prior to pumping not-nontributary water in order to replace depletions both during pumping and after pumping has ceased. The District has not-nontributary ground water in the Dawson, Denver, and Arapahoe aquifers. Prior to the statutory creation of not-nontributary water, some of the District's Denver Basin water rights were decreed as tributary.

Summarized in Table 2-17 below, the District's Denver Basin water rights total approximately 7,390.5 acre-feet per year. Some of the District's decreed Denver Basin water rights are not available for use, including: item [5] not-nontributary water rights not yet included in a decreed augmentation plan and item [6] nontributary water rights reserved for not-nontributary water rights post-pumping augmentation (POPA). The POPA reserve is set aside for the District's future augmentation obligation as a result of current not-nontributary ground water pumping pursuant to Augmentation Plan II decreed in Consolidated Case Nos. 87CW067 (Division 2), 88CW100 (Division 2), and 88CW218 (Division 1) and is owed to Monument Creek and West Cherry Creek for a period of 200 years after pumping has ceased. A granular summary of the District's Denver Basin water rights is included in Appendix B.

Approximately 6,322.4 acre-feet per year of Denver Basin water is available to the District for use, shown in item [7]. However, not all this water can be consumed. Pursuant to the District's existing decrees, a percentage of pumped Denver Basin groundwater must be relinquished to the stream system, including 25 percent of pumped tributary water, 4 percent of pumped not-nontributary water, and 2 percent of certain pumped nontributary water, depending on the various water rights decrees. These relinquishments are typically achieved through assignment of TLWWTF return flows.

Item	Description	Annual Entitlement (af/yr)
[1]	Tributary Water Rights	730.0
[2]	Not-Nontributary Water Rights	3,475.1
[3]	Nontributary Water Rights	3,185.4
[4]	Total Denver Basin Water Rights	7,390.5
[5]	Not-Nontributary Water Rights w/o Decreed Augmentation Plan	(625.1)
[6]	Nontributary Water Reserved for Post-Pumping Augmentation (POPA)	(443.0)
[7]	Total Denver Basin Water Rights Available for Use	6,322.4

Table 2-17 – The District's Decreed Denver Basin Water Rights

- Excludes undecreed Mills Timber water, which is estimated to overly 18.1 af/yr of not-nontributary water and 3.2 af/yr of nontributary water.

[1] Total tributary water rights decreed in Case No. W-2647 (Division 2). The tributary water rights operate under an augmentation plan decreed in Case No. 80CW170 (Division 2).

[2] Total not-nontributary water rights decreed in Case No. 81CW230 (Division 2), Case No. 81CW231 (Division 2), Case No. 02CW025 (Division 2), and Consolidated Case Nos. 07CW104 (Division 2) and 08CW263 (Division 1). The not-nontributary water rights decreed in Case No. 81CW230 (Division 2) and Case No. 81CW231 (Division 2) total 2,850.0 af/yr (based upon a 100-year statutory aquifer life) and operate under an augmentation plan decreed in Consolidated Case Nos. 87CW067 (Division 2), 88CW100 (Division 2), and 88CW218 (Division 1). The District's other not-nontributary water rights are not included in a decreed augmentation plan and are not available for use.

[3] Total nontributary water rights are decreed in Case No. W-2647 (Division 2), Case No. W-4544 (Division 2), Case No. 80CW169 (Division 2), Case No. 81CW231 (Division 2), Case No. 02CW025 (Division 2), and Consolidated Case Nos. 07CW104 (Division 2) and 08CW263 (Division 1).

[4] Total Denver Basin water rights equals [1] + [2] + [3].

[5] Not-nontributary water rights decreed in Case No. 02CW025 (Division 2) and Consolidated Case Nos. 07CW104 (Division 2) and 08CW263 (Division 1) total 625.1 af/yr (based upon a 100-year statutory aquifer life) and are not currently included in a decreed augmentation plan. Therefore, these water rights are not currently available for use.

[6] Nontributary water rights totaling 443.0 af/yr (based upon a 100-year statutory aquifer life) are reserved for notnontributary post pumping augmentation (POPA) requirements in Consolidated Case Nos. 87CW067 (Division 2), 88CW100 (Division 2), and 88CW218 (Division 1). The POPA reserve is set aside for the District's future augmentation obligation as a result of current not-nontributary ground water pumping pursuant to Augmentation Plan II and is owed to Monument Creek and West Cherry Creek for a period of 200 years after pumping has ceased.

[7] Total Denver Basin water rights available to the District for use equal [4] - [5] - [6].

During the 2017-2021 period, the District pumped an average of 1,010 acre-feet of Denver Basin ground water adjudicated in its modern water rights decrees, or approximately 16 percent of the total annual entitlement available for use. Special provisions in the District's modern Denver Basin water rights decrees allow unused portions of the District's annual entitlement to be carried over for use in subsequent years, referred to as "banking" or "banked water"; however, the banking provision is not included in the District's older decrees. The banking provision takes effect once the Denver Basin water rights decree is entered by the water judge. After that time, any portion of the annual entitlement that is not pumped during a year is added to the "bank" of water available for pumping in any subsequent year. This banked water can be withdrawn in addition to the District's Denver Basin water rights annual entitlements discussed above. For example, through 2021 more than 32,900 acre-feet of Arapahoe aquifer water has been banked pursuant to Case Nos. 81CW231, 02CW025, and 07CW104 (Division 2), and 08CW263 (Division 1).

Despite declines in well yield, the Arapahoe aquifer is the most productive aquifer beneath the District. If all future demands are met solely with the District's decreed Arapahoe aquifer water rights (an unlikely and very conservative scenario) the decreed Arapahoe aquifer annual entitlement would be exceeded before reaching buildout. Currently, Arapahoe aquifer pumping meets less than 65 percent of the District's demand and there is no actual exceedance. Furthermore, banked Arapahoe aquifer water rights could meet projected District demand through at least 2050. Many new Arapahoe aquifer wells would need to be drilled to supply all of the District's demand through 2050 at considerable expense. Therefore, although the District has ample Denver Basin water rights entitlements to meet future demand, it is not cost effective to rely exclusively on this non-renewable resource as a permanent supply.

The District's future water supply planning includes construction of new Dawson aquifer wells in relatively new inclusion areas that are in the western and northern portions of the District. Some of these areas are outside of the geography included in the plan for augmentation decreed in Consolidated Case Nos. 87CW67 (Division 2), 88CW100 (Division 2), and 08CW263 (Division 1). In 2023, the District should file an application for approval of a plan for augmentation for this not-nontributary groundwater.

2.3.1.1. County Water Supply Planning Requirements

El Paso County requires a 300-year water supply for subdivisions relying on Denver Basin ground water (300-year rule) that did not have preliminary plan approval prior to November 20, 1986. The 300-year rule differs from the 100-year aquifer life period used by the State for Denver Basin water rights administration (100-year rule). Since 2017, the District has added two parcel inclusions that fall under the 300-year rule, Lot 1 Mills Timber Subdivision (5.32 acres) and Lot 2 Mills Timber Subdivision (5.65 acres). Including these additions, there are approximately 778 acres of the District's lands subject to the County's 300-year rule. The remaining 2,816 acres of the District's lands were zoned prior to the effective date of El Paso County's 300-year rule and are subject to the State's 100-year rule.

The District relies upon a planning value of 0.5 af/ac/yr for average in-district water demand. By applying a demand of 1.5 af/ac/yr to lands subject to El Paso County's 300-year rule and 0.5 af/ac/yr to lands subject to the State's 100-year rule, the estimated Denver Basin water rights annual entitlement needed to meet planning requirements totals 2,575 af/yr. These amounts are summarized in Table 2-18. Currently, the District's decreed Denver Basin water rights annual entitlement available for use totals 6,322.4 af/yr; therefore, even before considering banked water and undecreed Denver Basin groundwater beneath the Mills Timber subdivision, the District has an excess of 3,747.4 af/yr of Denver Basin water rights annual entitlement available for future water commitments.

Commitment Type	Lands with Water Commitments (ac)	Demand (af/ac)	Annual Demand (af)
Not Subject to El Paso County's 300-Year Rule	2,816	0.5	1,408
Subject to El Paso County's 300-Year Rule	778	1.5	1,167
Total	3,594	-	2,575

Table 2-18 – Woodmoor Water Commitments

2.3.2. REUSABLE CREDITS

The District may use, reuse, and successively use the portion of its pumped Denver Basin ground water that is not required to be relinquished to the stream ("reusable credits"). Reusable return flows occur as either indoor reusable wastewater effluent that is discharged to Monument Creek at the TLWWTF or LIRFs that accrue to Crystal Creek, DWC, and Teachout Creek, tributaries to Monument Creek. The District can use its reusable credits as a source of augmentation within the District, by direct re-diversion, or as substitute supply in the District's exchange system.

Currently, the District leases its unused reusable wastewater effluent to downstream water users. In the future, this water can be rediverted downstream and reused within the District. More discussion on future plans for reuse are addressed in Sections 3.2.3, 3.3.1, and 0. A summary of the District's reusable credits is presented in Table 2-19.

Water Year	Reusable Effluent Credit	Total LIRF Credit	Purchased Reusable Effluent Credit	Total Available Credits	Reusable Credit Used for Exchange	Reusable Credit Used for Augmentation	Remaining Reusable Credit Available for Other Uses
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2012	632	0	47.1	679	345	51	283
2013	634	0.9	21	656	370	58	229
2014	657	8.4	0	665	500	42	123
2015	654	9.1	3.3	666	347	37	282
2016	691	9.9	0	701	341	43	317
2017	703	9.4	0	712	327	59	327
2018	710	10.4	0	721	357	51	312
2019	642	10.1	89.1	741	397	56	288
2020	667	11.3	70.2	748	345	50	354
2021	737	11.2	0	749	139	49	560
'12-'16 Average	654	5.6	14.3	673	380	46	247
[·] 17-'21 Average	692	10.5	31.9	734	313	53	368

Table 2-19 – Summary of Reusable Credits

Table 2-19 Notes:

 (1) Equal to lesser of the District's measured effluent to Monument Creek through TLWWTF and 90% of the District's average base monthly water use for the previous November through March period generally based upon "Augmentation Plan II".
 (2) Daily LIRF credit is equal to monthly LIRF credit determined in Woodmoor's LIRF accounting, distributed equally for all days of the subsequent month.

(3) Effluent credit purchased from Donala, Monument, or Triview.

(4) Equal to (1) + (2) + (3).

(5) Equal to sum of (a) net volume delivered to Lake Woodmoor from either MCE Pump Station or Augusta Pit, (b) amount delivered directly to the Golf Course via Qal 4, and (c) stored by exchange in the Golf Course ponds. Amounts differ from Exchange Supply in Table 2-11 and Total Water Exchanged in Table 2-15 due to a difference in timing, where Tables 2-11 and 2-15 reflect the timing of the diversion of exchange water from the stream and values in this table represent the time at which the exchange water is used within the District

(6) Equal to sum of augmentation requirement for (a) District wells, (b) Participating Ponds, and (c) King's Deer HOA. (7) Equal to (4) - (5) - (6).

2.3.2.1. Woodmoor's Reusable Effluent Credits

Methodology to determine the District's indoor reusable effluent credit is provided in the District's Augmentation Plan II decree. These credits are available as an augmentation source for (a) replacement of tributary Denver Basin water pursuant to the Augmentation Plan I decree in 80CW170 (Division 2), (b) replacement of not-nontributary Denver Basin water pursuant to the Augmentation Plan II decree, and (c) exchange pursuant to the decree in 14CW3058 (Division 2).

From Table 2-19, the District averaged 692 af/yr of reusable effluent credit during 2017-2021, an increase of about 6 percent over the 2012-2016 period. As summarized in Table 2-19, an average of 313 af/yr of that amount was exchanged by the District in the 2017-2021 period.

2.3.2.2. Supplemental Effluent Credits

In order to divert water by exchange at a higher rate than the District's own reusable effluent credit allows, the District can purchase additional reusable effluent from neighboring entities whose wastewater is treated at either TLWWTF or the Upper Monument Creek Regional Wastewater Treatment Plant. These entities include the Town of Monument (TOM), Triview Metropolitan District, and Donala Water and Sanitation District (Donala). As shown in Table 2-19, the District purchased credits from other entities during two periods over the 2017-2021 period: (1) March through July of 2019 (89.1 af) and (2) March through June of 2020 (70.2 af). Diversion by exchange of supplemental effluent credits is not part of the District's exchange decrees and is operated instead by administrative approval.

Purchased effluent credits allow the District to fill Lake Woodmoor at a faster rate than would otherwise be possible and is advised whenever there is more native flow in Monument Creek at the MCE Pump Station than the District's reusable wastewater effluent credit. By using surface water, the District extends the economic life of its Denver Basin water supplies.

2.3.2.3. Lawn Irrigation Return Flows

The District can use reusable outdoor use return flows (also known as Lawn Irrigation Return Flows or "LIRFs") as an augmentation source for (a) replacement of evaporative depletions from in-District ponds pursuant to the decree in Case No. 2010CW28 (Division 2), (b) replacement of not-nontributary Denver Basin water pursuant to the Augmentation Plan II decree, and (c) exchange pursuant to the decree in 14CW3058 (Division 2).

LIRFs result from outdoor lawn irrigation that percolates below the lawn root zone and accrues to the stream system over time. The District quantifies LIRFs using a fixed return flow percentage equal to 15 percent of outdoor water use within identified LIRF areas. LIRF areas are located within the Crystal Creek, DWC, and Teachout Creek drainage basins in the District's boundaries that overlie alluvial or colluvial deposits outside of dense tree canopy, shown in Figure 2-6. The LIRF areas comprise approximately 760 acres out of the District's 3,909 acres, or approximately 19 percent of the current District area.

Based upon the fixed return flow percentage, total unlagged LIRF credits current and buildout conditions equal 16.8 af/yr and 33.3 af/yr, respectively, summarized in Table 2-20. Those annual amounts accrue to Crystal Creek, DWC, and Teachout Creek over time and will not be available in their full amounts until some years after buildout.

	Current Condition	s within LIRF Areas	Buildout Conditions within LIRF Areas		
LIRF Area	2021 Outdoor Water Use	2021 Unlagged LIRF	Annual Outdoor Water Use	Annual Unlagged LIRF	
	(af/yr)	(af/yr)	(af/yr)	(af/yr)	
[1]	[2]	[3]	[4]	[5]	
Crystal Creek	12.4	1.9	12.5	1.9	
Dirty Woman Creek	48.5	7.3	105.3	15.8	
Teachout Creek	50.9	7.6	103.9	15.6	
Total	111.8	16.8	221.7	33.3	

Table 2-20 – Estimated Unlagged Lawn Irrigation Return Flows

[1] LIRF areas include areas within the Crystal Creek, Dirty Woman Creek and Teachout Creek drainage basins in the District's boundaries that overlie alluvial or colluvial deposits outside of dense tree canopy. LIRF areas comprise approximately 760 ac out of the District's 3,909 ac, or approximately 19 percent of current District area.

[2] Current outdoor water use based upon November 2020 - October 2021 water use data for accounts located within the LIRF areas. Annual outdoor water use equals total monthly water use during the April through October period less calculated average monthly indoor water use, which equals the average monthly water use during the previous November through March period. In the LIRF areas, lawn areas tend to be much greater than other areas in the District and outdoor water use is typically 45 – 75 percent of total water use, which is a much higher outdoor water use percentage than the District-wide average percentage of outdoor water use. For this reason, in the Crystal Creek basin, current outdoor water use exceeds the projection of buildout outdoor water use.

[3] Current annual unlagged LIRF equals 15-percent of current outdoor water use. Equals [2] * 15 percent. LIRFs currently available for augmentation purposes depend on the timing of the LIRFs accretion to the stream system. LIRFs from Crystal Creek, Dirty Woman Creek and Teachout Creek accrue to the stream system over a period of years.

[4] Buildout outdoor water use calculated based on total estimated SFE units within LIRF Areas, average water use of 272 gallons per day per SFE, the District-wide current demand distribution (36 percent outdoor water use), and potable system losses of 6 percent.

[5] Annual buildout unlagged LIRF equals 15-percent of buildout outdoor water use. Equals [4] * 15 percent. LIRFs available for augmentation purposes during buildout conditions depend on the timing of the LIRFs accretion to the stream system. LIRFs from Crystal Creek, DWC, and Teachout Creek accrete to the stream system over a period of years.

Figure 2-6 – LIRF Areas

LIRFs available to the District for augmentation purposes depend on the lagged timing of the LIRFs accretion to Crystal Creek, DWC, and Teachout Creek over a period of months and years. LIRFs are only available for the District's use after they have accrued to the stream. During November 2020 through October 2021 total LIRF accrual was 11.28 af, summarized in Table 2-21. The rate of LIRF accrual will increase over time and ultimately reach the buildout projection.

Month	Crystal Creek Basin (af)	Dirty Woman Creek Basin (af)	Teachout Creek Basin (af)	Total (af)
Nov-20	0.42	0.70	0.17	1.29
Dec-20	0.33	0.64	0.17	1.14
Jan-21	0.27	0.56	0.17	1.00
Feb-21	0.22	0.50	0.17	0.90
Mar-21	0.18	0.46	0.46 0.17	
Apr-21	0.15	0.42	0.17	0.75
May-21	0.13	0.39	0.18	0.69
Jun-21	0.11	0.38	0.18	0.67
Jul-21	0.17	0.45	0.18	0.80
Aug-21	0.16	0.57	0.57 0.18	
Sep-21	0.24	0.69	0.69 0.18	
Oct-21	0.26	0.77	0.77 0.18	
Total	2.64	6.55	2.09	11.28

Table 2-21 – 2021 Lagged LIRF Credits

Notes: Monthly amounts copied from Woodmoor LIRF accounting forms. Lagging based on URFs included as Appendix 3 in 10CW28 decree.

The District currently uses a portion of the lagged LIRFs to augment evaporative depletions resulting from the operation Participating Ponds within the District. The 10CW28 decree included four ponds at Monument Hill Country Club totaling approximately 4.4 acre-feet per year (evaporation from three of the four ponds; the fourth pond is accounted for by the Country Club on a daily basis through reservoir accounting). In 2018, the District added seven Participating Ponds to the 10CW28 decree, with a total of up to 8.13 acre-feet per year of evaporative depletions. Table 2-22 summarizes the District's LIRF credits, along with the amount used for augmentation of ponds within the District. The remaining LIRF credits are available for use in Augmentation Plan II, for exchange, or for lease to downstream entities. Shown in column (3) of Table 2-22, the District may not be using 3.6 af /yr of its LIRF credits. **The District should modify its water accounting to divert and account for this otherwise unused LIRF credit.**

Water Year	Total LIRF Credit (af)	LIRF Credit Used (af)	LIRF Credit Available for Other Uses (af)
	(1)	(2)	(3)
2012	0.0	0.0	0.0
2013	0.9	0.0	0.9
2014	8.4	4.5	3.9
2015	9.1	4.3	4.7
2016	9.9	4.7	5.2
2017	9.4	5.1	4.2
2018	10.4	7.0	3.4
2019	10.1	7.1	3.0
2020	11.3	7.8	3.5
2021	11.2	7.5	3.7
'12-'16 Average	5.6	2.7	2.9
'17-'21 Average	10.5	6.9	3.6

Table 2-22 – Summary of LIRF Credits

(1) Daily LIRF credit is equal to monthly LIRF credit determined in District's LIRF accounting, distributed equally for all days of the subsequent month.

(2) Equal to LIRF Credits Used accounted for in District's daily accounting workbook.

(3) Equal to (1) - (2).

2.3.3. RANCH WATER RIGHTS

The District acquired the Ranch Water Rights in 2011. The Ranch is located in El Paso County, near the City of Fountain, as shown in Figure 2-7. Approximately 2,040 acres on the Ranch were irrigated from Fountain Creek through the Chilcott Ditch using Chilcott Ditch, Liston and Love Ditch, Lock Ditch, Lock Ditch No. 2, and Callahan Reservoir water rights. The Ranch Water Right amounts and priority dates are summarized in Table 2-23.

On February 7, 2014, a decree was entered in Case No. 12CW01 (Division 2) that changed the use of the Ranch water rights from irrigation to municipal use and other uses, including the right to "reuse, successively use, and use to extinction all return flows including, but not limited to, indoor use return flows and lawn irrigation return flows." The change of use will allow the Ranch water rights to be diverted from Fountain Creek at their current point of diversion, stored in a reservoir, and ultimately delivered to the District via pipeline to meet municipal demands.

Figure 2-7 – Ranch Water Rights Map

	Fountain		Adjudication	Water Right Amount	
Case No.	Creek Priority No.	Appropriation Date	Date	Total	District
Chil	cott Ditch Wat	er Rights (Woodmoor	owns 58/105 sha	res)	
CA 751	27	March 21, 1866	February 15, 1882	27.0 cfs	14.914 cfs
CA 751	39	March 21, 1874	February 15, 1882	20.63 cfs	11.396 cfs
CA 10146	172	December 18, 1905	June 2, 1919	30.95 cfs	Abandoned ⁽¹⁾
Lis	ton and Love D	Ditch Water Rights (Wo	odmoor owns 75	%)	
CA 751	14	March 21, 1863	February 15, 1882	8.82 cfs	6.615 cfs
CA 751	33	December 31, 1871	February 15, 1882	3.6 cfs	2.7 cfs
Lock Dit	ch and Lock Di	itch No. 2 Water Rights	s (Woodmoor ow	ns 75%)	
CA 751	15	December 31, 1863	February 15, 1882	6.3 cfs	4.725 cfs
CA 751	22	December 31, 1864	February 15, 1882	8.38 cfs	6.285 cfs
CA 751	45	December 31, 1880	February 15, 1882	5.02 cfs	3.765 cfs
Ca	allahan Reserv	oir Water Right (Wood	moor owns 100%	5)	
CA 10146	51 ⁽²⁾	November 20, 1909	June 2, 1919	716 af	716 af

Table 2-23 – Summary of Ranch Water Rights

(1) District's share of Chilcott Priority No. 172 was abandoned in Case No. 12CW1.

(2) Reservoir priority.

2.3.3.1. Current Operations

Future municipal water use of the Ranch Water Rights will occur pursuant to the terms of the 12CW01 decree. Unlike the Denver Basin well supplies, the District's system for diverting and storing the rights will vary from year-to-year with wet and dry cycles. Future operations of the Ranch and associated water rights are discussed in Section 3.2.3.

To-date, the District has not used the Ranch Water Rights for any changed uses. Irrigation continued on the Ranch through 2015. Beginning in 2016, the District began irrigation to establish new vegetation to comply with decreed revegetation requirements.

In 2014, a measurement flume was installed to measure deliveries to the Ranch, but records were not kept until 2015. The District began preparing and submitting accounting for the Ranch Water Rights to the State on a monthly basis beginning in June 2018. The accounting forms include tracking of volumetric limits pursuant to decreed terms and conditions.

During 2017 and 2018, the District had difficulty managing unmeasured inflows to the Chilcott Ditch, resulting in more delivery at the Ranch than was diverted at the river headgate, a challenge common to historical irrigation ditches. That issue has since been controlled and typical operations now consist of higher than historical ditch losses that are associated with lower than historical diversions.

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SECTION 3

Future Water System

The purpose of this Section is to identify future water system improvement projects to meet the future demands of the District. This section projects future water demands based on population forecasts from Section 1. This section provides analysis and descriptions of recommended projects for the short term (prior to integration of the JV Ranch) and the long term water supply plan (projects needed to integrate JV Ranch). The anticipated date each project will be required is also included.

3.1. Water System Growth

The population forecasts presented in Section 1 were used in conjunction with the revised water demands summarized in Section 2 to project the water demand for each build-out scenario. The general location of the future growth in terms of which pressure zone the growth will likely occur is also considered.

3.1.1. Current Build-Out Water Demand

The District currently serves 3,835 SFEs and plans to serve up to 2,452 additional SFEs within the District's current boundaries. Under this scenario, the current build-out is estimated at 6,287 SFEs. Refer to Section 1.3.1 for additional information on how the SFEs were determined. Currently, there are 1,396 SFEs in Zone 1, 1,377 SFEs in Zone 2 and 4, and 1,062 SFEs in Zone 3. Figure 3-1 and Table 3-1 provide a summary of where the District has committed to provide service. Table 3-1 provides a summary of the subdivisions where most of the new growth will occur; however, some of the "committed" SFEs already exist and are included in the current total of 3,835 SFEs total.

Fig 3-1 Ref	Name	Area (Acres)	Total SFEs at Build-Out	Zone Number
1	M.G.P. (Mahion Plowman)	29.92	114	Zone 1
2	High Pines (All Filings)	49.41	102	Zone 1
3	Greenland Preserve:			
	Filing 1	N/A	36	Zone 1
1	Filing 2	N/A	19	Zone 1
4	Unplatted - MBP (Monument Business Park)	11.62	51	Zone 1

Table 3-1 Future Growth by Zones (Current Build-Out)

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Fig 3-1 Ref	Name	Area (Acres)	Total SFEs at Build-Out	Zone Number
5	Unplatted Misty Acres	28.62	126	Zone 1
	Misty Acres:			
6	Filing 1	26.34	28	Zone 1
7	Filing 2A	16.18	42	Zone 1
8	Filing 2	42.29	186	Zone 1
9	Williams Subdivision	20.07	29	Zone 1
10	Palmer Ridge High School	69.12	140	Zone 1,2
11	Colorado Lakeshore Holdings	54.74	332	Zone 3
12	Brookmoor Office Park	2.58	11	Zone 2
13	Buffs Car Wash	0.29	27	Zone 3
14	Unplatted - Jim Maguire	23.69	104	Zone 3
15	Kum and Go (Lot 4 Valley Vista)	1.57	5	Zone 3
16	Tuscan Hills Plaza (Lot 1 Valley Vista)	1.24	12	Zone 3
17	Monument Villas	7.5	42	Zone 3
	Village Center at Woodmoor:			
18	Filing 4	43.24	165	Zone 3
19	Filing 3	22.37	56	Zone 3
20	Filing 2	29.78	49	Zone 3
21	Filing 1	43.14	120	Zone 3
22	Unplatted - Pine Tree Properties	86.25	379	Zone 3
23	Unplatted - Jackson Creek Land Co.	20.11	88	Zone 3
24	YMCA	11.99	37	Zone 3
25	Unplatted - Walters Estate	133.767	399	Zone 3
26	Walters Commons Filing 1 (Multi-Fam)	17.6	135	Zone 3
27	Walters Commons Filing 2 (Multi-Fam)	13.68	86	Zоле 3
28	Mills Subdivision	10.53	4	Zone 4
29	Lot 1 Collier Ranch (Montessori School)	6.08	25	Zone 2
30	L2, Wooodmoor Business/Tech Park (Monument Academy)	3.29	6	Zone 3
31	Tract A Knollwood Village 2 - Charter Academy	16.65	35	Zone 3
32	Lot 1 Knollwood Village 2 - Premier Vision	1.28	6	Zone 3
33	Lot 2, Knollwood Village 1 - Investment Trust	2.81	21	Zone 3
33a	Integrity Bank & Trust	1.81	3	Zone 3
34	Moorwood	2.66	15	Zone 3
35	Unplatted - Greater European Mission	11.96	53	Zone 2
36	Unplatted - Woodmoor Visla Prof. Park	8.23	36	Zone 1
37	Unplatted - CDOT Wetlands	N/A	0	Zone 3
38	Crossroads at Monument	3.72	24	Zone 3
39	Brookmoor Filings 1, 2 & 3	32.3	59	Zone 3

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December 13, 2012 3-2 As demonstrated in Table 3-1, the majority of the growth will occur in Zone 3, followed by Zone 1, with little growth anticipated for Zone 2. No growth is planned for Zone 4 and is not included in the analysis. It is projected that Zone 1 will have an additional 644 SFEs or 26.3% of the overall growth, Zone 2 will have an additional 168 SFEs or 6.9% of the overall growth, and Zone 3 will have an additional 1,641 SFEs or 66.9% of the overall growth.

Using the population projections identified in Section 1.3, and the average annual average demand of 305 gpd/SFE, water demand for each zone was estimated with the results presented in Table 3-2. The results for peak day water demand using a 2.2 peaking factor are presented in Table 3-3.

Year	SFEs Zone1	Avg. Annual Demand Zone 1 (af/Year)	SFEs Zone 2	Avg. Annual Demand Zone 2 (af/Year)	SFEs Zone 3	Avg. Annual Demand Zone 3 (af/Year)	SFEs Total	Total Avg. Annual Demand (af/Year)
2012	1,396	477	1,377	470	1,062	363	3,835	1,310
2013	1,426	487	1,385	473	1,139	389	3,950	1,350
2014	1,456	498	1,393	476	1,216	415	4,065	1,389
2015	1,487	508	1,401	478	1,293	442	4,180	1,428
2016	1,517	518	1,408	481	1,370	468	4,295	1,467
2017	1,547	529	1,416	484	1,447	494	4,410	1,507
201B	1,577	539	1,424	487	1,524	521	4,525	1,546
2019	1,607	549	1,432	489	1,601	547	4,640	1,585
2020	1,638	559	1,440	492	1,678	573	4,755	1,625
2021	1,668	570	1,448	495	1,755	600	4,870	1,664
2022	1,698	580	1,456	497	1,832	626	4,986	1,703
2023	1,728	590	1,463	500	1,909	652	5,101	1,743
2024	1,758	601	1,471	503	1,986	678	5,216	1,782
2025	1,789	611	1,479	505	2,063	705	5,331	1,821
2026	1,819	621	1,487	508	2,140	731	5,446	1,860
2027	1,849	632	1,495	511	2,217	757	5,561	1,900
2028	1,879	642	1,503	513	2,294	784	5,676	1,939
2029	1,909	652	1,511	516	2,371	810	5,791	1, 9 78
2030	1,940	663	1,518	519	2,448	836	5,906	2,018
2031	1,970	673	1,526	521	2,525	863	6,021	2,057
2032	2,000	683	1,534	524	2,602	889	6,136	2,096
2033	2,030	694	1,542	527	2,679	915	6,251	2,136
2034	2,040	697	1,545	528	2,703	923	6,287	2,148

Table 3-2 Average Annual Water Demand per Zone for Current Buildout

December 13, 2012 3-3

Bar Measures 1 Inch

<u>Appendix F</u> 2021 Consumer Confidence Report

WOODMOOR WSD 2021 Drinking Water Quality Report Covering Data For Calendar Year 2020

Public Water System ID: CO0121950

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 Dan LaFontaine at 719-488-2525 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 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 naturallyoccurring 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 <u>epa.gov/safewater/lead</u>.

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 121950, WOODMOOR WSD, or by contacting JESSIE SHAFFER at 719-488-2525. 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

NO 10 WELL (Groundwater-Well) NO 11 WELL (Groundwater-Well) NO 12 WELL (Groundwater-Well) NO 15 WELL (Groundwater-Well) NO 16 WELL (Groundwater-Well) NO 17 WELL (Groundwater-Well) NO 18 WELL (Groundwater-Well)	Sources (Water Ty	e - Source Type)	Potential Source(s) of Contamination
NO 2 WELL (Groundwater-Well)Inventory/Storage Sites, EPA Toxic Release Inventory SitesNO 3 WELL (Groundwater-Well)Permitted Wastewater Discharge Sites, Aboveground, Underground and Leaking Storage Tank Sites, Existing/Abandoned Mine Sites, Other Facilities, Commercial/Industrial/Transportation, Low Intensity Residen Urban Recreational Grasses, Row Crops, Fallow, Pasture / H Deciduous Forest, Evergreen Forest, Septic Systems, Road MMONUMENT CREEK (Surface Water-Intake) WELL 20 (Groundwater-Well)Urban Recreational Grasses, Row Crops, Fallow, Pasture / H Deciduous Forest, Evergreen Forest, Septic Systems, Road MMONUMENT CREEK (Surface Water-Intake) WELL 21 (Groundwater-Well)WELL 21 (Groundwater-Well)	NO 10 WELL (Gro NO 11 WELL (Gro NO 12 WELL (Gro NO 15 WELL (Gro NO 15 WELL (Gro NO 16 WELL (Gro NO 17 WELL (Gro NO 2 WELL (Gro NO 3 WELL (Gro NO 6 WELL (Gro NO 7 WELL (Gro NO 8 WELL (Gro NO 9 WELL (Gro MONUMENT CREEK (AUGUSTA PIT (Sur WELL 20 (Grou LAKE WOODMOOR ()	undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) undwater-Well) Surface Water-Intake) face Water-Intake) ndwater-Well) Surface Water-Intake) ndwater-Well)	EPA Hazardous Waste Generators, EPA Chemical Inventory/Storage Sites, EPA Toxic Release Inventory Sites, Permitted Wastewater Discharge Sites, Aboveground, Underground and Leaking Storage Tank Sites, Existing/Abandoned Mine Sites, Other Facilities, Commercial/Industrial/Transportation, Low Intensity Residential, Urban Recreational Grasses, Row Crops, Fallow, Pasture / Hay, Deciduous Forest, Evergreen Forest, 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

WOODMOOR WSD 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, 2020 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.

	TT Requirement : If	Disinfectants Sampled in the Dis At least 95% of samples per period (mor sample size is less than 40 no more than Typical Sources: Water additive used	tribution System th or quarter) must be at l sample is below 0.2 ppr l to control microbes	least 0.2 pp n	om <u>OR</u>	
Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chlorine	December, 2020	Lowest period percentage of samples meeting TT requirement: 100%	0	15	No	4.0 ppm

		Lead a	nd Copper	Sampled in	the Distribu	ition Systen	1	
Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Copper	05/26/2020 to 06/28/2020	0.18	63	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	08/19/2020 to 08/31/2020	2	60	ррb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

		Lead a	nd Copper	Sampled in	the Distribu	ition Systen	1	
Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Copper	08/19/2020 to 08/31/2020	0.12	60	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	05/26/2020 to 06/28/2020	1	63	ррb	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	MCL Violation	Typical Sources		
Total Haloacetic Acids (HAA5)	2020	8.04	0 to 35.4	8	ррb	60	N/A	No	Byproduct of drinking water disinfection		
Total Trihalome thanes (TTHM)	2020	19.96	0.6 to 98.6	8	ррb	80	N/A	No	Byproduct of drinking water disinfection		

Disinfection Byproducts Sampled at the Entry Point to the Distribution System									
Contaminant	Year	Average	Range	Sample	Unit of	MCL	MCLG	MCL Violation	Typical Sources
Name			Low – nigii	Size	Measure			violation	
Bromate	2017	7.67	5.2 to 12	3	ppb	10	0	No	Byproduct of drinking water disinfection

	Summ	ary of Turbidity Sampled at the	Entry Point to the Distribution Sys	stem	
Contaminant	Sample	Level Found	TT Requirement	TT	Typical
Name	Date			Violation	Sources
Turbidity	Date/Month:	Highest single measurement:	Maximum 1 NTU for any single	No	Soil Runoff
	Jul	0.3 NTU	measurement		

	Summ	ary of Turbidity Sampled at the	Entry Point to the Distribution Sys	stem	
Contaminant	Sample	Level Found	TT Requirement	TT	Typical
Name	Date			Violation	Sources
Turbidity	Month:	Lowest monthly percentage of	In any month, at least 95% of	No	Soil Runoff
	Oct	samples meeting TT requirement	samples must be less than 0.3		
		for our technology: 100 %	NTU		

	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	2018	2.27	0.7 to 3.8	4	pCi/L	15	0	No	Erosion of natural deposits	
Combined Radium	2018	2.98	1.9 to 3.6	4	pCi/L	5	0	No	Erosion of natural deposits	

	1	norganic C	ontaminants Sar	npled at th	e Entry Poi	nt to the l	Distributio	on System	
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Arsenic	2020	1	1 to 1	1	ррЬ	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2020	0.12	0.12 to 0.12	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	2020	2	2 to 2	1	ррb	100	100	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	2020	1.24	1.24 to 1.24	1	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2020	0.06	0 to 0.3	5	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks,

	Ι	norganic C	ontaminants Sar	npled at th	e Entry Poin	nt to the l	Distributio	on System	
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
									sewage; erosion of natural deposits
Selenium	2020	3	3 to 3	1	ррb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Secondary Contaminants**

**Secondary standards are <u>non-enforceable</u> 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	2020	44.8	44.8 to 44.8	1	ppm	N/A

Violations, Significant Deficiencies, and Formal Enforcement Actions

No Violations or Formal Enforcement Actions

<u>Appendix G</u> Preliminary Utility Plan

