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Join via phone at 1-719-359-4580 **Meeting ID:** 893 4073 6332

Meeting Passcode: 804848

AGENDA

1. Call to Order

2. Roll Call

3. Pledge of Allegiance

4. Consent Items

A. Approval of Agenda

B. Approval of Minutes

5. Public Comment

Public comments are limited to three (3) minutes. When you are recognized, please stand, state your name, and then address the Board in a professional manner.

The Directors may not respond to your comments during this meeting, rather they may take your comments and suggestions under advisement and your questions will be directed to the appropriate person or department for follow-up.

6. Financial Reports

A. Expenditures for Year-to-Date 2025

7. Staff Reports

A. Sasha Davidson

B. Wolf Compliance

C. Kim Boyd

8. New Business

A. Reappointment and renewal of term for Donald Gabehart

B. Reappointment and renewal of term for Jill Duvall

9. Old Business

A. Kiowa Water & Wastewater Authority Conceptual Water Plan

10. Correspondence/Discussion

11. Adjourn

Agenda Approved By:

**Donald Gabehart
President, KWWA**

Date Posted:

January 26, 2026

Time Posted: 4:00pm

MEETING PROTOCOL AND STANDARDS OF CONDUCT

Public Participation

Public comment is encouraged and will be listed as an agenda item at every regular KWWA Director's meeting.

Each individual wishing to be heard during the public comment period will be given up to three (3) minutes to make a comment.

The public comment period will not be used to make political endorsements or for political campaign purposes.

Questions from the Directors will be for clarification purposes only. Public comment will not be used as a time for problem-solving or reacting to comments made but, rather, for listening to the comments of citizens without taking any formal action.

The Directors may direct the Town Administrator to provide information requested by a speaker during the public comment period.

Speakers are not allowed to make belligerent, accusatory, impertinent, slanderous, threatening, abusive, or disparaging comments.

The President may elect to defer public comment on a specific issue that appears on the regular agenda until that specific item is addressed.

The President may call for order when sidebar conversations occur in the audience. Those conversations are distracting from the Board addressing the topics at hand.

Members of the public who do not follow proper conduct after a warning in a public meeting may be barred from further participation at that meeting or removed from the meeting chambers pursuant to the Kiowa Municipal Code and Colorado Revised Statutes.

ACTION MAY BE TAKEN ON ANY AND ALL ITEMS LISTED ON THE AGENDA

All visitors must contact the Town Clerk five (5) business days before a scheduled meeting to be placed on the agenda. If special accommodations are necessary per ADA, contact 303-621-2366 prior to the meeting.

CALL TO ORDER

The regular meeting of the Kiowa Water and Wastewater Authority was called to order on December 10, 2025, at 5:32 pm by President Gabehart.

PLEDGE OF ALLEGIANCE

President Gabehart led the Board in the Pledge of Allegiance.

ROLL CALL

Present: President Donald Gabehart, Treasurer Teresa Parker, Director Laurel Brown and Director Bret Wager. Secretary Jill Duvall was absent. There was a quorum.

Also present:

Kim Boyd, Town Administrator

Sasha Davidson, Town Clerk

Colin Mielke, Attorney on Zoom

Paul Grant, Headways Consultants on Zoom – exited meeting at 6:15pm

Terry Howard, Mayor on Zoom

Michael Wolf, Wolf Compliance on Zoom

Chris Cobbley, Wolf Compliance on Zoom

CONSENT ITEMS

- A. **Approval of the Agenda** – President Gabehart entertained a motion to approve the agenda with a revision to remove the executive session. Treasurer Parker made the motion to approve the agenda with the revision of removing the executive session. Director Wager seconded the motion, and the motion passed 4-0, with no discussion.
- B. **Approval of the minutes of November 12, 2025, Meeting** – President Gabehart entertained a motion to approve the minutes of November 12, 2025. Director Wager made the motion to approve the minutes. Treasurer Parker seconded the motion, and the motion passed 4-0, with no discussion.

PUBLIC COMMENTS

None

FINANCIAL REPORTS

- A. **Expenditures for Year-to-Date 2025** - Administrator Boyd shared the financial reports. It was noted that there was an adjustment for repairs. The charge was for the purchase and installation of two new pumps for the lift station to replace the failing ones and the loaner pump was removed. The invoice to Headways Consultants was not paid until the board could look it over due to questions about billing hours. After discussion, the administrator was directed to pay the invoice by the board. There was no other discussion.

STAFF REPORTS

A. Paul Grant, ORC

1. Monthly Report – written report was submitted in the packet. No discussion.
2. Lift station pumps – As stated previously – two lift station pumps were replaced. The loaner pump has been taken out and returned. The controls will need adjusted to run off two pumps instead of one like it has been programmed for.
3. Water Plant - Well comes on when the contact tank is at 9' and stays on until the contact tank reaches 12'. When draining for bypass it didn't completely work – so Brownseal will have to come out and see about getting the control panel to function properly.

B. Kim Boyd, Administrator

1. No report.

C. Sasha Davidson, Clerk

1. Systems Total Report – Showing 46% water loss that could be due to draining tank and malfunctioning meters. Brief discussion was held about amount produced and amount sold.
2. There were 0 shut-off notices that were sent out along with 23 warning letters.
3. 8 – 10 meters are still malfunctioning – and reading “0” usage. The meters were some of the original ones put in at the end of 2022 and start of 2023. Paul was informed several times over the last few months about the issue. He stated that he called Neptune to figure out what is going on with those meters since water is flowing through but not registering.

NEW BUSINESS

A. Discussion and possible action about the service agreement with Headways Consultants, LLC.

A letter was read into the record by Administrator Boyd. The Board decided to terminate the contract with Headways Consultants, LLC after discussion about disrepairs at sewer plant, meter issues, and overall significant deficiencies. President Gabehart entertained a motion to terminate the contract with Headways Consultants, LLC and authorize the administrator to issue a letter to terminate the contract with a seven (7) day notice. Treasurer Parker made the motion to terminate the contract with Headways Consultants LLC, and authorize the administrator to issue a letter to terminate the contract with a seven (7) day notice. Director Brown seconded the motion. A roll call vote was taken:

President Gabehart – Aye
Treasurer Parker – Aye

Director Wager – Aye
Director Brown – Aye

The motion passed 4-0.

B. Discussion and possible action about the proposed contract with Wolf Compliance Consulting, LLC – Administrator Boyd gave an overview of the company and other municipalities that they work with. Attorney Colin Mielke spoke about the contract, and it is very similar to the one with

Headways Consultants but updated. An arbitration provision was requested by Wolf Compliance Consulting. A brief discussion over the arbitration provision was held between the board and the attorney. Michael Wolf spoke about his company, and what services they offer and discussed the arbitration provision. There will be an annual contract review/renewal. President Gabehart made a motion to approve the contract with revisions with Wolf Compliance Consulting, LLC. Director Wager made the motion to approve the contract with revisions with Wolf Compliance Consulting, LLC. Treasurer Parker seconded the motion. A roll call vote was taken:

President Gabehart – Aye
Treasurer Parker – Aye

Director Wager – Aye
Director Brown – Aye

The motion passed 4-0.

OLD BUSINESS

- A. Wright Water KWWA Draft Water Plan** - The revised plan is included in the packet so the board can read it and go over it at the January meeting. No IGA with Elbert County yet.
- B. Proposed Annual 3% Increase to Water Bills** - Discussion was held about adding 3% on the sewer base beginning on February 2026 bill. President Gabehart entertained a motion to add 3% to sewer base beginning on the February 2026 bill. Director Wager made a motion to add 3% to sewer bill. Director Brown seconded the motion and the motion passed 4-0, with no discussion.

CORRESPONDENCE/DISCUSSION

- A. Town Parks Project and community request for splash pad in Nordman Park.** Paperwork added to packet – GOCO grant application. From park surveys sent out there was an overwhelming request for a jump pad for bikes and skateboards and a splash pad. Splash pad would be open Memorial Day to Labor Day. It would be on a 350-gallon recirculating system with UV filtration and chlorine treatment system. Seasonal water cost is projected to be around \$514. The board discussed splitting the cost with ½ cost (\$250) from KWWA and ½ cost (\$250) from TOK with any costs above \$500 going to TOK annually. It would be on an irrigation meter since there will be no sewer. The splash pad will be added to the GOCO grant application.

ADJOURN

President Gabehart entertained a motion to adjourn. Treasurer Parker the motion to adjourn. Director Wager seconded the motion, and the motion passed 4-0 with no discussion. The meeting adjourned at 6:42pm.

The next regular meeting will be on Tuesday, January 13, 2026, at 5:30pm at Kiowa Town Hall.

Minutes Approved by:

Jill Duvall, KWWA Secretary

Sasha Davidson, Secretary to the Board

Profit and Loss

Kiowa Water and Wasterwater Authority

January 1-12, 2026

DISTRIBUTION ACCOUNT	TOTAL
Income	
4010 Water & Sewer - Income	
4015 Transfer Fees	175.00
4020 Water & Sewer Fees Collected	10,993.71
Total for 4010 Water & Sewer - Income	\$11,168.71
Total for Income	\$11,168.71
Gross Profit	\$11,168.71
Expenses	
6630 Dues & Subscriptions	3,086.26
6730 Repairs & Maintenance	
6731 Infrastructure Repairs & Maint. - Sewer	1,098.57
6732 Infrastructure Repairs & Maint. - Water	2,188.34
Total for 6730 Repairs & Maintenance	\$3,286.91
7000 All Professional Services	
7010 Professional Services - Legal	3,956.80
7040 Professional Services - Consulting	1,125.00
7050 Professional Services - ORC	
7051 ORC - Monthly Contract Fee	6,750.00
Total for 7050 Professional Services - ORC	\$6,750.00
7060 Professional Services - Lab Services	
7061 Sewer - Labs	1,386.00
7062 Water - Labs	177.00
Total for 7060 Professional Services - Lab Services	\$1,563.00
Total for 7000 All Professional Services	\$13,394.80
7070 TOK Operating contract	7,052.49
7095 Utility Notifications & Locates	7.75
7100 Bank Charges & Fees	9.71
Total for Expenses	\$26,837.92
Net Operating Income	-\$15,669.21
Net Other Income	
Net Income	-\$15,669.21

Balance Sheet

Kiowa Water and Wasterwater Authority

As of January 12, 2026

DISTRIBUTION ACCOUNT	TOTAL
Assets	
Current Assets	
Bank Accounts	
1010 KWWA Primary Checking (522)	135,939.88
1020 KWWA Money Market (514)	\$0.00
1310 Water Reserve Acct	183,709.09
1320 Wastewater Reserve Acct	183,709.17
Total for 1020 KWWA Money Market (514)	\$367,418.26
1050 Cash on hand	137.87
Total for Bank Accounts	\$503,496.01
Accounts Receivable	
1100 Accounts Receivable	52,022.00
1120 Water Users	12,750.00
1130 Water Users WW	10,601.00
Total for Accounts Receivable	\$75,373.00
Other Current Assets	
1490 Uncategorized Asset	0.00
Total for Other Current Assets	\$0.00
Total for Current Assets	\$578,869.01
Fixed Assets	
1540 Equipment and Furniture	
1541 Equipment and Furnitur	13,333.00
1542 Equipment wastewater	13,333.00
Total for 1540 Equipment and Furniture	\$26,666.00
1550 Buildings	13,169.00
1560 Investments in Capital Assets	1,060,684.24
1570 Land and Improvements	
1571 Land Wastewater	9,290.00
Total for 1570 Land and Improvements	\$9,290.00
1590 Enterprise System Assets	
1591 Water System	3,495,089.00
1592 Sewer System wastewater	2,153,845.00
Total for 1590 Enterprise System Assets	\$5,648,934.00
1600 Accumulated Depreciation	-\$798,657.00
1601 Accumulated Depreciation	-71,794.84
1602 Accum Deprec wastewater	-925,395.40
Total for 1600 Accumulated Depreciation	-\$1,795,847.24
Total for Fixed Assets	\$4,962,896.00
Total for Assets	\$5,541,765.01

Balance Sheet

Kiowa Water and Wasterwater Authority

As of January 12, 2026

DISTRIBUTION ACCOUNT	TOTAL
Liabilities and Equity	
Liabilities	
Current Liabilities	
Accounts Payable	
2000 Accounts Payable (A/P)	12,361.99
Total for Accounts Payable	\$12,361.99
Credit Cards	
2010 FSB Visa (3843)	-1,927.79
Total for Credit Cards	-\$1,927.79
Total for Current Liabilities	\$10,434.20
Long-term Liabilities	
2600 Bond Principle Water	2,953,799.35
2610 Bond Principle-Sewer	1,825,984.80
2620 CURRENT PORTION OF LT DEBT Water	0.00
2630 CURRENT PORTION OF LT DEBT Wastewater	0.00
2700 Meter Deposits	13,743.72
Total for Long-term Liabilities	\$4,793,527.87
Total for Liabilities	\$4,803,962.07
Equity	
3150 Opening Balance Equity	0.00
3300 Retained Earnings	753,472.15
Net Income	-15,669.21
Total for Equity	\$737,802.94
Total for Liabilities and Equity	\$5,541,765.01

KIOWA WATER AND WASTEWATER AUTHORITY GENERAL FUND BUDGET

2026 MONTHLY BUDGET PERCENTAGES

GL ACCT	REVENUE	2026 Budget	YTD	%
4011-4016	Categorized Income	\$10,000	\$175	2%
4200	Grants & Contracts	\$0	\$0	
4020	Water and Sewer fees collected	\$700,000	\$10,994	2%
4013	Collected Tap Fees	\$26,000	\$0	
4800	CORA fees collected	\$100	\$0	
	TOTAL REVENUE	\$736,100	\$11,169	2%
	CURRENT ASSETS	2026 Budget	YTD	%
8100	Sale of Assets	\$0	\$0	
1310	Water Reserve Account	\$213,250	\$183,709	86%
1320	Wastewater Reserve Account	\$213,250	\$183,709	86%
	TOTAL CURRENT ASSETS	\$426,500	\$367,418	86%
	EXPENDITURES	2026 Budget	YTD	%
7100	Bank CC & EFT Fees	\$125	\$8	6%
7710	Bond Interest Sewer	\$70,000	\$0	
7720	Bond Interest Water	\$110,000	\$0	
2610	Bond Principal Sewer	\$36,000	\$0	
2600	Bond Principal Water	\$57,000	\$0	
6840	Computer Supplies & Software	\$3,000	\$0	
6630	Dues & Subscriptions	\$2,250	\$3,086	137%
4202	EIAF 9647 - Well Redundancy Project Grant	\$0	\$0	
6731	Infrastructure Repairs & Maintenance - Sewer	\$100,000	\$1,099	1%
6730	Infrastructure Repairs & Maintenance - Water	\$100,000	\$2,188	2%
6501	Insurance (Property & Liability)	\$15,580	\$17,543	113%
7060	Lab Fees	\$4,000	\$1,563	39%
6820	Office Supplies	\$500	\$0	
6805	Postage	\$3,000	\$0	
6731.1	Professional - Hauling	\$15,000	\$0	
7031	Professional - Accounting	\$2,500	\$0	
7032	Professional - Auditor	\$16,500	\$0	
7040	Professional - Consultants	\$15,000	\$0	
7080	Professional - Grant Writer	\$0	\$0	
7020	Professional - IT - Phoenix Technologies	\$0	\$0	
7010	Professional - Legal	\$32,000	\$3,519	11%
7050	Professional - ORC (includes emergency call outs & meter reads)	\$62,000	\$4,000	6%
7070	Professional - TOK Operating Agreement	\$78,420	\$5,500	7%
7090	Professional - Other	\$400	\$0	
6301	Public Notices & Advertising	\$250	\$0	
6740	Specific Use Supplies	\$40,000	\$0	
7140	Taxes & Licenses	\$3,200	\$0	
6733	Trash & Janitorial	\$525	\$37	7%
7990	Uncategorized Expenses	\$1,500	\$0	

6902	Utilities - Heat - pump house	\$0	\$0	
6940 & 6941	Utilities - Telephone & Internet	\$2,200	\$0	
7095	Utility Notifications & Locates	\$300	\$8	3%
6906	Utilities - Power (Sewer)	\$15,000	\$704	5%
6907	Utilities - Power (Water)	\$20,000	\$1,468	7%
	TOTAL EXPENDITURES	\$806,250	\$40,721	5%

System Totals Report

Kiowa Water & Wastewater Authority

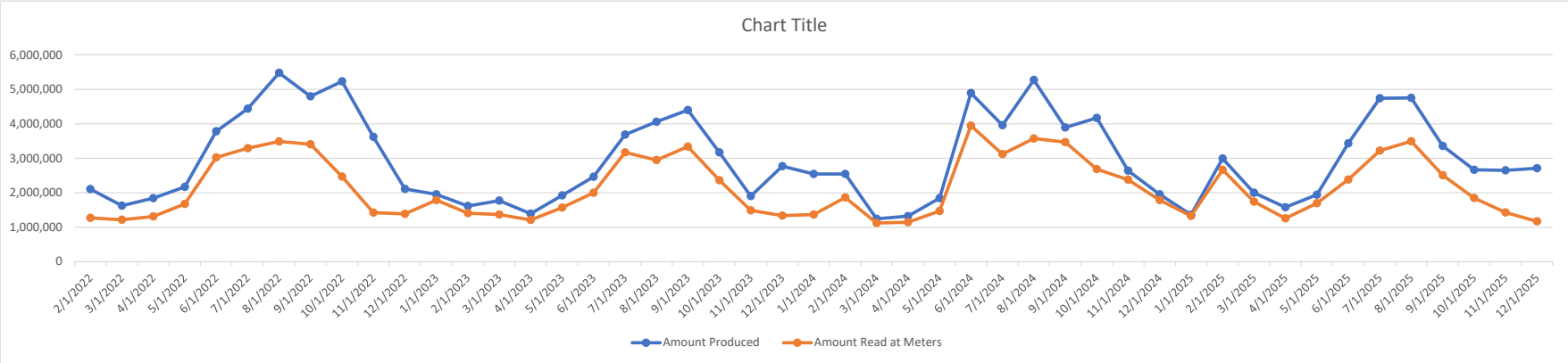
Water Pumped This Month	2,709,000 Gallons
Water Sold This Month	1,166,926 Gallons
Water Loss	1,542,074 Gallons
Water Loss (%)	56.92 %

	Amount (\$)	# Of Accounts
Total Water	23,201.31	363
Total Sewer	26,211.73	359
Total Late Fee	712.91	41
Total Adjustments	(104.56)	4
Total Prepayment	1,083.00	361
Total Current Charges	51,104.39	363
Amount Past Due 1-30 Days	6,192.18	48
Amount Past Due 31-60 Days	2,460.71	22
Amount Past Due Over 60 Days	4,314.91	12
Amount Of Overpayments/Prepayments	(3,849.23)	27
Total Receivables	60,222.96	356

Total Receipts On Account	51,256.46	310
Net Change in Deposits	0.00	0
Amount of All Deposits	14,471.58	132
Amount of All Deposit 2	1,526.28	14
Turned Off Accounts (Amount Owed)	0.00	14
Collection Accounts (Amount Owed)	0.00	14
Number Of Unread (Turned On) Meters		
Average Usage For Active Meters	3,215	363
Average Water Charge For Active Meters	63.92	363

Usage Groups	Gallons	# Of Accounts	Usage	Gallons	% Of Usage	% Of Sales
Over 50,000		0		0	0.00	0.00
40,001-50,000		1		48,000	4.11	1.00
30,001-40,000		1		40,000	3.43	0.99
20,001-30,000		3		66,593	5.71	1.64
10,001-20,000		12		162,486	13.92	4.81
8,001-10,000		5		44,652	3.83	1.58
6,001-8,000		17		120,209	10.30	5.27
4,001-6,000		39		191,800	16.44	10.97
2,001-4,000		124		368,212	31.55	32.35
1-2,000		113		124,974	10.71	29.08
Zero Usage		48		0	0.00	12.29
Total Meters		363		1,166,926	100.00	100.00

Date Read	Amount Produced	Amount Read at Meters	% Loss	Comments
12/15/2025	2,709,000	1,166,926	0.56	Some leakage from tank - unknown how much loss. Several meters still reading "0"
11/15/2025	2,650,000	1,424,837	0.46	
10/15/2025	2,664,000	1,844,012	-0.30	Leak on Hwy 86 near Museum
9/15/2025	3,356,000	2,506,495	-0.25	
8/15/2025	4,749,000	3,494,365	-0.25	23,400 Gallons used at Fairgounrds
7/15/2025	4,739,000	3,221,053	-0.32	
6/15/2025	3,431,000	2,380,209	-0.30	Several Leaks on main lines
5/15/2025	1,940,000	1,694,042	-0.13	
4/15/2025	1,576,000	1,255,327	-0.20	Break in line at Fairgrounds
3/15/2025	1,996,000	1,739,431	-0.12	
2/15/2025	2,993,000	2,665,292	-0.10	152,000 Gallons used for flushing hydrants & a house fire on 5/31
1/16/2025	1,359,000	1,323,334	-0.02	
12/16/2024	1,954,000	1,787,811	-0.08	
11/18/2024	2,640,000	2,378,728	-0.09	
10/16/2024	4,170,000	2,685,349	-0.35	
9/17/2024	3,890,000	3,467,023	-0.10	
8/17/2024	5,273,000	3,574,938	-0.28	
7/15/2024	3,957,000	3,120,567	-0.21	
6/16/2024	4,891,000	3,945,175	-0.19	
5/16/2024	1,841,000	1,466,357	-0.20	
4/15/2024	1,323,000	1,142,435	-0.14	
3/15/2024	1,242,000	1,120,604	-0.10	
2/15/2024	2,544,000	1,862,942	-0.27	
1/15/2024	2,545,413	1,363,972	-0.46	Tank overflowed 600,000 gallons
12/15/2023	2,770,431	1,334,106	-0.52	
11/15/2023	1,903,915	1,489,086	-0.22	Tank overflowed 800,000 gallons
10/15/2023	3,171,434	2,358,906	-0.26	
9/15/2023	4,395,685	3,334,744	-0.24	
8/15/2023	4,059,000	2,944,885	-0.27	
7/15/2023	3,685,801	3,167,462	-0.14	
6/15/2023	2,460,683	1,997,680	-0.19	
5/15/2023	1,922,232	1,566,597	-0.19	
4/15/2023	1,393,549	1,210,031	-0.13	
3/15/2023	1,770,575	1,364,934	-0.23	
2/15/2023	1,612,972	1,404,234	-0.13	
1/15/2023	1,952,000	1,787,778	-0.08	
12/15/2022	2,107,000	1,384,995	-0.34	
11/15/2022	3,620,000	1,423,056	-0.61	
10/15/2022	5,232,000	2,466,288	-0.53	
9/15/2022	4,796,000	3,404,880	-0.29	
8/15/2022	5,476,185	3,488,673	-0.36	
7/16/2022	4,439,253	3,291,222	-0.26	
6/15/2022	3,783,063	3,024,482	-0.20	
5/15/2022	2,169,388	1,673,645	-0.23	
4/15/2022	1,840,344	1,309,851	-0.29	
3/15/2022	1,625,936	1,214,902	-0.25	
2/15/2022	2,103,810	1,268,544	-0.40	





Kiowa Water & Wastewater Authority Conceptual Water Plan



Prepared for:
Kiowa Water & Wastewater
Authority (KWWA)

Prepared by:
Wright Water Engineers, Inc.
2490 W. 26th Ave Suite 100A
Denver, CO 80211
303-480-1700

DRAFT December 2025



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Appendices

- A. Findings of the Colorado Ground Water Commission
- B. Opinions of Probable Capital Costs

KIOWA WATER & WASTEWATER AUTHORITY CONCEPTUAL WATER PLAN

1.0 SUMMARY OF MAJOR CONCLUSIONS

1. The water system serving the Kiowa Water and Wastewater Authority (KWWA) requires a new groundwater well for redundancy and to meet future development water demands. It is recommended that a new Arapahoe Aquifer well be drilled and equipped with a new pump and controls.
2. A new chlorine disinfection system, metering, and valves should be installed in a new building. The need for additional water treatment will be assessed after water quality sampling of the new well, opinions of probable costs were prepared with and without treatment for iron and manganese.
3. The new well and new chlorine building can be located at the site of the existing well and booster pump station.
4. The estimated costs to address these improvements range between +/- 30 percent of \$4.27 million without iron and manganese treatment and \$5.96 million with iron and manganese treatment. Each scenario includes an allowance for fees for typical requirements encountered if grants and loans are received from the Colorado Department of Public Health and Environment.
5. Additional studies should be undertaken to explore opportunities for additional production from the Kiowa Creek alluvium even though such uses will require the prior approval of a replacement plan from the Colorado Ground Water Commission.
6. This report reviewed growth projections based on a 20-year planning horizon based on published growth rates, which is the time frame often requested when federally supported grant and loan options are reviewed. Other KWWA and Town consultants have projected the water demand for a future buildout condition. With the assumed growth projections, the buildout water demand would not occur within the 20-year planning horizon.

2.0 OBJECTIVES

The water system serving the existing customers in the Town of Kiowa (Town) has only one current operational groundwater well. The Colorado Department of Public Health and Environment (CDPHE) requires that water systems have at least two wells to provide redundancy of supply.

In addition, future development in or near the KWWA service area will impose an additional water demand on the Town's water system.

The objectives of this report were to:

1. Evaluate the existing water system to determine if the existing pumping and storage tank elements of the system can serve future development.
2. Determine a possible location of a new groundwater well and provide a conceptual level design of a new well at this location to address the redundancy requirement.

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3.0 INTRODUCTION

The Town is served with potable water provided by the KWWA. The KWWA was formed in 2013 to address the financial aspects of the water and sewer systems that had been previously built by the Town.

The existing KWWA potable water system consists of an alluvial groundwater well with one well pump, chlorine injection system, a ground level water storage tank, booster pump station, and an elevated storage tank. The water system is shown schematically in Figure 1.

The water requirements for a possible major development south of Shasta Court were addressed in a 2018 Water and Sewer Capacity Report prepared by RG and Associates (2018 Report). The 2018 Report concluded that the existing water piping distribution system has sufficient water pressure to provide the maximum daily demands, plus fire flow. Although the possible major development is no longer planned to be served by KWWA, the study provided useful information regarding the existing water distribution capacity. The major development was named “Terra Cotta” and is referenced in the Colorado Ground Water Findings and Order, which determined the available groundwater quantities for the Town. The water rights associated with Terra Cotta are no longer available to KWWA and this report reflects the water rights which are still available to KWWA.

Because no changes to the existing water distribution system have been reported since the 2018 Report, the hydraulic model was not updated for this 2025 report. A future water system master plan should incorporate hydraulic modeling of the distribution system to address various fire flow scenarios to confirm if water system pressure under maximum day demand plus fire flow are sufficient, especially if future developments are near the Town limits and on dead-end lines near the west end of Town.

WWE performed a site visit to Kiowa to observe the existing water system facilities and interview staff. A possible site for a new groundwater well was identified and is addressed in this Report.

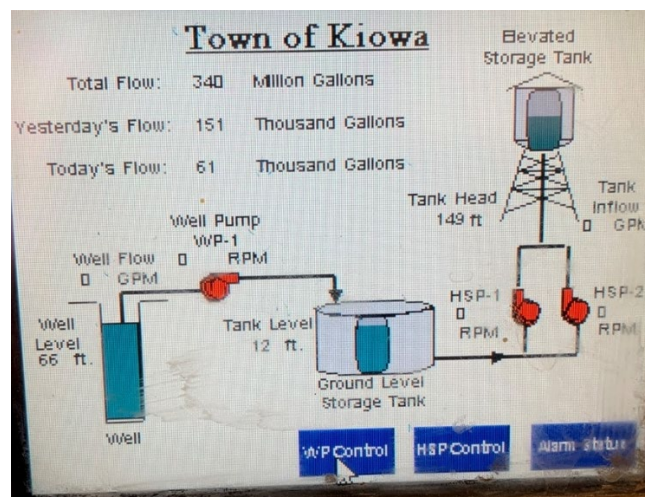


Figure 1. Kiowa Water System Schematic

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4.0 DESCRIPTION OF EXISTING WATER SYSTEM

The existing alluvial well was drilled in 2006 (Well Permit No. 2794-F-R) to a total depth of 66 feet. The Final Permit for this well allows up to 132.5 acre-feet per year to be withdrawn from this well. There is no operable second well.

The well pump is a vertical turbine type with a pumping capacity of 395 gallons per minute (gpm) at a total dynamic head (TDH) of 78 feet. However, the Final Permit limits the instantaneous production from this well to 360 gpm. The pump motor is 10 horsepower. The pump is set in the well at a depth of approximately 64 feet.

Water from the well is chlorinated with liquid chlorine (at a concentration of 10 percent sodium hypochlorite). The chlorine dosage is about 1.2 mg/L. The chlorinated water is conveyed to an above ground bolted steel water storage tank with a volume of approximately 100,000 gallons. This water storage tank provides contact time for the chlorine disinfection (for virus inactivation) and acts as a wet well for the booster pumps.

Water is pumped from the 100,000 gallon storage tank by booster pumps (2 pumps), each with a rated capacity of 175 gpm at 387 feet (168 psi). A single building houses the well pump, booster pumps, and liquid chlorine system. The existing building is on the same parcel as the 100,000 gallon tank.

The booster pumps provide the flow and pressure to the distribution system and the elevated storage tank. The elevated water storage tank has a reported capacity of one million gallons (Inland Potable Services, 2017). The elevated water tank is located adjacent to Highway 86 approximately 1.4 miles to the southeast of Town. The tank is at approximately 146 feet high (at low water level). The elevation difference between the tank site and the Town is about 190 feet. Therefore, this is a total of 336 feet of water pressure (or 145 psi) coming into the Town. A pressure reducing valve station reduces this water pressure for potable water use within the Town.

4.1 Service Area

The KWWA service area generally follows the Town of Kiowa boundaries with a few exceptions, such as the KWWA wastewater treatment facility that is just west of the Town Boundary but is within the service area. Also, KWWA is entering into an intergovernmental agreement with Elbert County for water service, including the KWWA providing bulk water sales up to 4,000,000 gallons (12.3 AF), and providing wastewater service for the Elbert County Public Works Facility at 11330 State Highway 86. The bulk water sales would include filling water trucks for municipal and fire protection purposes in Elbert County. The Public Works Facility is a new facility on the eastern edge of Town, and was relocated from a facility near Cheyenne Street and Arapahoe Street.

KWWA is in the process of upgrading water meters within the service area. As of October 2025, the service area includes 314 residential water meters, 32 commercial water meters, 15 governmental meters, 5 school meters 10 inactive meters, and 2 special rates for a total of 378

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accounts. Since commercial, government, and other meters may be larger than residential meters, the system is considered to have more single family equivalents than total accounts.

4.2 Water Demands

The water demands for the existing Town area and for future growth were estimated by WWE and are presented in this section. Water demands were calculated for both the existing population and future population based on a growth rate from the Colorado State Demography Office.

The water demands presented in this report were calculated based on the water that could potentially be used by a typical single family, or so called single family equivalent (SFE).

4.3 Single Family Equivalents (SFEs) and Water Demand

For determining the water demands to be used for planning of water systems, the water demand for a SFE is determined. This is accomplished by establishing the number of persons per household and estimating the water demand per person (or per capita).

For planning of single family residential occupancies, historic data are typically used. For Elbert County, the average persons per household are 2.77 (www.census.gov). However, some Front Range communities are less than what is reported for Elbert County as shown in Table 1.

Table 1: Household Population Densities in Some Front Range Colorado Municipalities
(Ref: www.census.gov)

Place	Persons Per Household
Elbert County	2.77
Castle Rock	2.76
Broomfield	2.57
Ft. Collins	2.47
Berthoud	2.36
Denver	2.30

In the 2018 Report the average number for persons per tap (or SFE) in the Town was 2.5. Herein, WWE also evaluates the assumption of 2.5 persons per household in the assessment for the water requirements for the existing and future development in the Town. WWE considers this to be a conservative assumption for calculating the indoor annual water use for the future development.

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4.3.1 Residential Indoor Demands

Data regarding historical water usage in the Town were provided to WWE and these data were used to estimate the daily per person indoor water use. The total metered water pumped from the groundwater well for 2019 was 33,711,000 gallons. This equals an average daily use of 93,400 gallons/day. This includes both indoor water use and irrigation water use. Updated data were provided in 2025 for this report update, which is reflected in Table 2, below.

The existing amount of indoor water use was estimated by using the metered water use during the non-irrigation months of January, February, March and April during 2019. This resulted in an average indoor use of 54,000 gallons/day. Updated data for this 2025 report update are included in the table below.

Table 2: Annual Water Production and Calculated Averages

Year	Total Production (gal) ¹	Total Production (Acre-Feet)	Average Day (GPD)	Indoor Average (GPD)
2019	33,711,000	103.5	93,400	54,000
2022	41,095,000	126.1	112,600	63,500
2023	30,298,000	93	83,000	56,000
2024	35,670,000	109.5	97,000	58,000

¹Excludes known tank overflow events

In the 2018 Water and Sewer Capacity Report, the existing total SFEs were determined to be 431. A review of population trends from the Colorado State Demography office indicated the Town of Kiowa population declined slightly between 2018 and 2025, while the population in Elbert County increased. Therefore, WWE continued to use the 431 SFE value in 2025. The KWWA water system existing water demands were determined by WWE based on the 431 SFEs, as shown in Table 2. The calculated water demands per person are also presented in Table 3 based on the 2019 metered water use and assuming 2.5 people per SFE.

Table 3. Kiowa Water System Use – 2019¹

	Indoor Water Use	Irrigation Water Use	Total Water Use per SFE (Average Day)
Single Family Equivalent	125 gpd/SFE	92 gpd/SFE	217 gpd/SFE
Per Person ²	50 gpd/person	37 gpd/person	87 gpd/person

¹Based on 431 SFE's existing

²Based on assuming 2.5 persons per SFE

The water system demand for the Town reflects the annual variation in demand based on various factors, such as changes in irrigation demand between wet and dry years, population variations, and variation in bulk water use with construction demand changes. In the overall water industry, a general overall decline in water use for each SFE has been reported. This can be attributed to the installation of individual water meters and the replacement of older meters with new, recently calibrated meters. In addition, actual indoor water use in single family residential homes is

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declining in general, especially in geographical areas that have limited water supplies and/or are prone to drought. The changes in water use must be recognized and are significant for water supply planning, rate and revenue projections, operations, water efficiency programs, etc. Several important references for indoor water use are addressed below to establish a basis for what should be planned for regarding indoor water use in Town and the new development area.

A 2016 Water Research Foundation study (DeOreo, et al., 2016) reported that the per capita average water use has decreased from 69 gallons per capita per day (gpcd) in 1999 to 59 gpcd in 2016. The improved water efficiency (15 percent decrease in per capita use) was attributed to water efficient clothes washers and toilets.

For the purposes of this report, WWE assumes an indoor water use of 60 gpcd as a planning number for future development. The information presented in this section demonstrates that the 60 gpcd figure is a conservative criterion especially considering that the average indoor use in the Town was 50 gpcd in 2019 and future development will be constructed with water efficient fixtures. In addition, the allowance that addresses line loss, represents an added margin of security whereby the 60 gpcd is appropriate as an indoor water usage planning criterion.

Using the household population density of 2.5 people, the indoor water demand for a SFE would be 150 gpd (2.5 people x 60 gpcd).

4.3.2 Residential Irrigation Demands

Residential lot sizes and areas vary in the existing Town residential development. For the existing development, the amount of water used for irrigation during 2019 in the Town was calculated at 92 gpd/SFE assuming 431 SFEs. This is a relatively low irrigation use, similar values were noted in more recent data.

For planning for each SFE, it is assumed that a lot will have a total of one-quarter acre. The average amount of lot area that is irrigated for a typical lot was assumed to be 25 percent (2,700 square feet).

An annual value of 30 inches of irrigation water demand was used for sprinkler lawn irrigation based on the assumption that Kentucky Bluegrass was the turf to be used. While there are other turf types that are more water efficient than Kentucky Bluegrass, it is common for water practitioners to assume Kentucky Bluegrass is planted in residential areas. The 30 inches of irrigation demand criterion is common in water resources planning in the Front Range region.

Therefore, averaged over the entire year there would be 140 gpd used for irrigation demand planning purposes for each SFE.

4.3.3 Total Water Demand Per SFE – Used for Planning

Water system planning for water demands must account for potential water use based on reasonable assumptions regarding home occupancy rates, dry year conditions, costs of water, etc.

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The total water demand for each SFE would include the indoor water demand and the irrigation water demand, as summarized in Table 4.

Table 4. Summary of Water Demand for Each SFE – Used for Planning¹

	Indoor Water Demand	Irrigation Water Demand	Total Water Demand per SFE (Average Day)
Single Family Equivalent	150 gpd/SFE	140 gpd/SFE	290 gpd/SFE

¹Water demand expressed as a daily use averaged over the entire year. This is average day demand.

In the 2018 Report, the existing total SFEs were determined to be 431. Therefore, for planning purposes, the average day water demand was set at 290 gpd/SFE. For comparison, the Town of Castle Rock uses 400 gpd per single family homes and duplexes and 260 gpd for townhomes for planning and design. Also, 290 gpd/SFE equates to 0.32 acre-feet per year, which is the planning value used by Denver Water and generally lower than other municipalities.

4.4 Growth Projections

The Town of Kiowa 2024 Comprehensive Plan presents a combination of single family residential and mixed-use land use in the larger undeveloped parcels in Town. The comprehensive plan also identified areas of possible growth, primarily east and west of the existing town boundaries. The Comprehensive Plan was prepared “to accommodate a range of possible conditions to allow for the market flexibility and unique nature of each future development project.” Due to this flexibility in the comprehensive plan, water demand growth projections in this report should be revisited when future development projects are defined.

An item to be considered with future planning is that the Town of Kiowa serves as the county seat for Elbert County and is home of the County Fairgrounds as well as three schools, an elementary school, a middle school, and a high school which serve residents in the surrounding unincorporated county as well as the Town.

A projection of ultimate buildout conditions was prepared for the Town in June 2024, based on discussion with the Town Administrator and Town Attorney. The projection was for a Town population of 2,513 people and 380 acre-feet per year water demand (Helton & Williamsen , 2024). A specific timeline for buildout was not included. Based on 2.5 people per SFE, this population would amount to a total of 1,005 SFE. The ultimate buildout condition assumed redevelopment of parcels within the Town boundary and major development on vacant land. This report focuses on a 20-year planning horizon based on published growth rate forecasts and does not address major development occurring in a short time frame. Therefore, the projected future water demand presented below will be less than the ultimate buildout demand.

For projecting future water demand below, WWE relied upon the State Demography Office Colorado Demographic Profile Community Profile for Elbert County, which forecast a growth rate of approximately 1.7-percent through 2035 and approximately 0.5-percent after.

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4.5 Summary of Water Demands

The estimated water demands for the existing Town and the future developments are expressed on an annual basis in Table 5 in terms of acre-feet per year. With the growth rate based on the State Demography Office projections, the 2024 buildout demand projection would not be realized in the next 20 years.

Table 5. Estimated Annual Water Demands (Acre-Feet/Year)

2025¹	2030	2035	2040	2045
140	152	166	170	174 ²

¹Based on 431 SFE's existing

²Equivalent to 0.32 acre-ft per year per SFE

The average daily demands are expressed as an average daily demand over the entire year. The maximum daily water demand is needed to size the water system facilities. The metered water flow rate records from the KWWA indicated a maximum day to average day ratio of 1.6 to 1.8 based on the 2022 to 2024 data. For water system planning, a maximum daily use to average daily use ratio can range between 2 and 3. For the purposes of this Report, WWE selected a maximum daily to average daily factor of 2.5 to account for increased bulk water sales to the County, discussed above.

The planning level average daily demands and maximum daily demands are presented in Table 6.

Table 6. Estimated Average Daily and Maximum Daily Water Demands

	Average Day (GPD)	Maximum Day (GPD)	Maximum Day (GPM)
2025	125,000	313,000	220
2030	136,000	340,000	240
2035	148,000	370,000	260
2040	152,000	380,000	265
2045	156,000	390,000	270

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5.0 GROUNDWATER SUPPLY & WELL PRODUCTION TO MEET DEMANDS

The legal groundwater supply must be sufficient to meet the average annual water demands. The groundwater well pumps, booster pumps, and the chlorine disinfection system components all must be sized to accommodate the maximum day demand.

5.1 Annual Water Demand and Groundwater Supply

From Table 5, the existing estimated annual water demand is about 140 acre-feet per year. Demand forecasts are also presented in increments of 5 years for possible future developments.

According to information made available to WWE, the KWWA has Kiowa Creek alluvial groundwater rights and Denver Basin bedrock aquifer water rights to meet the water demand. The existing alluvial groundwater well (Permit No. 2794-F-R) was identified as having an allocation of 575 acre-feet per year in the 2018 Water and Sewer Capacity Report. This was the case up until December 2017 when a Final Permit (Permit No. 2794-FP) was issued for this well from the Colorado Ground Water Commission. **This Final Permit limits the annual allocation from this well to 132.5 acre-feet per year.**

A second existing well located adjacent to the fire station on County Road 45 (Permit No. 2875-F-P) allows 15 acre-feet per year, with a limit of 30 gpm, to be produced from the Lower Dawson bedrock aquifer. It is our understanding that this well is no longer in use. The annual allocation in the existing well (132.5 acre-feet per year) is just short of the estimated *planning water demand* for existing development (140 acre-feet per year).

Based on *annual use records from 2022* (which show an annual use of 126 acre-feet), it is apparent that the existing Kiowa Creek alluvial groundwater well is capable of providing the annual water demand for the Town **but not for the planning level demands.**

Future studies should be undertaken to further explore opportunities for additional production from the Kiowa Creek alluvium even though such uses will require the prior approval of a replacement plan from the Colorado Ground Water Commission. Potential replacement sources might include effluent returning to the Kiowa Creek alluvium from the Town's wastewater treatment system.

The KWWA also has deep bedrock aquifer groundwater that can be used as both a primary and a redundant supply for the KWWA water system. The determination of the Denver Basin Aquifer KWWA water rights were summarized in an email from Matthew Poznanovic (Petrock Fendel Poznanovic) dated July 19, 2019, in a memorandum from Matthew Poznanovic (Hayes Poznanovic Korver) dated May 6, 2024 and a letter from Helton & Williamsen, P.C. dated June 11, 2024. The email and findings of the Colorado Ground Water Commission are included in Appendix A. A summary of the annual KWWA appropriations by Denver Basin aquifer based

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on the groundwater determination information (excluding the Terra Cotta portion) is presented in Table 7.

Table 7. Summary of Groundwater Determination – Annual Appropriation¹

Aquifer	Total Appropriation Per Year (Acre-Feet/Year)¹
Lower Dawson	68.3
Denver	163.8
Arapahoe	196.9
Laramie-Fox Hills	134.9

¹The annual appropriation presented in this table are based on a 100-year aquifer life.

A new groundwater well drilled into one of the aquifers would result in KWWA use of the existing Denver Basin groundwater rights.

As shown in Table 6, the greatest annual appropriation is available from the Arapahoe Aquifer at 196.9 acre-feet per year. This appropriation could provide for the entire existing Town demand of 140 acre-feet per year (from Table 4) and provide for 100 percent redundancy (based on a full year) to the existing alluvial well under existing conditions.

For forecast future conditions, the estimated annual water demand is 174 acre-feet per year. The Arapahoe Aquifer could provide up to 196.9 acre-feet per year of this demand (based on full time production for an entire year), which would exceed the estimated annual demand. However, additional wells, operating with down time for allowed recovery, will be necessary to generate this full annual aquifer appropriation.

In addition, some planning agencies (e.g. Elbert County) require that new development show that there is sufficient water supply based on a 300-year aquifer life (compared to a 100-year aquifer life). This may be a requirement for future developments and should be investigated by the KWWA.

5.2 Maximum Day Demands and Groundwater Pumping Capacities

From Table 5, the existing maximum day water demand is 220 gpm. The existing alluvial groundwater well pump has a capacity of 395 gpm but is limited in the Final Permit to 360 gpm. Therefore, the existing Kiowa Creek alluvial well and pump are adequate to provide the maximum day demand.

The estimated maximum day water demand with future development (based on growth forecasts for the next 20 years and not buildout conditions) is 270 gpm. Therefore, a new groundwater well is needed to meet the annual demand but not total maximum day demand under the assumed growth rate within the 20-year planning horizon. A new well is also needed to provide redundancy. If growth and development exceed the assumed growth rate, water demands and required infrastructure should be reviewed with the new information.

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WWE investigated the well yields of nearby wells in each of the deep aquifers to estimate the possible yield from a new Denver Basin aquifer well. A summary of this investigation is presented in Table 8.

Table 8. Summary of Well Pumping Yields from Nearby Wells

Aquifer	Reported Range (Gallons Per Minute)		
	High	Low	Average
Lower Dawson	150	17	53
Denver	432	18	72
Arapahoe	213	125	175
Laramie-Fox Hills	-	-	-

A well drilled into the Arapahoe Aquifer would likely provide the greatest production capacity, as shown as the highest average yield of the permitted wells investigated by WWE in Table 7.

However, the potential pumping yield of an Arapahoe Aquifer well (up to 213 gpm shown in Table 8) will not be sufficient to provide 100 percent redundancy to meet the estimated future maximum day water demands (270 gpm as shown in Table 6).

The existing unused Dawson well with a limit of 30 gpm would not meet maximum day water demands. In fact, at 30 gpm, the unused Dawson well would not meet the current measured actual average day water demand.

6.0 TOWN WATER SYSTEM NEEDED IMPROVEMENTS

There are several needed improvements to the existing KWWA water system. The water system improvements are required to address:

- Redundancy of groundwater supply to have a backup in case of one well failure.
- System capacity to future development.

6.1 New Groundwater Well

A new groundwater well is needed to provide some level of system redundancy and to provide adequate water supply during the maximum day demand conditions for the Town and the new development.

A new groundwater well drilled into the Arapahoe Aquifer would provide the KWWA with an additional water supply with an annual appropriation and pumping yield greater than anticipated from any of the other deep aquifers. In addition, the water quality of the Arapahoe Aquifer typically is more desirable than the water quality normally found in the Lower Dawson, Denver, and Laramie-Fox Hills aquifers.

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The raw water quality in a new Arapahoe Aquifer well will likely meet the primary drinking water standards. In some Arapahoe Aquifer wells, the secondary drinking water standards for iron (0.3 mg/L) and/or manganese (0.05 mg/L) can be exceeded. Iron and manganese can impart a taste to the water and can cause staining of plumbing fixtures (e.g., white porcelain sinks and toilets). Treatment processes can remove iron and/or manganese to more desirable levels, but can add to the costs of a water system. For the purposes of this report, WWE has prepared cost opinions with and without iron and manganese treatment for a new Arapahoe Aquifer well.

Once the new well is drilled, a full suite of water quality analyses will be required by the CDPHE. The results of the laboratory analyses will provide information regarding if any treatment processes will need to be designed and constructed.

The flow from each well must be metered by an approved and regularly calibrated water meter. The groundwater must be disinfected to comply with CDPHE regulations.

6.1.1 Location

From a water rights standpoint, the new nontributary Arapahoe Aquifer groundwater well can be drilled at any location within the Town boundaries. The well site should be at least 250 feet by 250 feet to allow room for the drilling equipment and for future access to maintain the well pump and equipment. Sufficient electrical power to the site is required for the pump motor and appurtenances.

WWE proposes that the new well be drilled on the parcel that currently contains the existing alluvial well, booster pump station, and 100,000 gallon storage tank. Although small, this site is satisfactory given its proximity to the other system components including the booster pump station, chlorine injection system, storage tank, and easy access for construction and maintenance.

6.2 Existing Dawson Well at Fire Station

An existing, permitted Dawson aquifer well is located adjacent to the fire station on County Road 45. Use of the well was discontinued when the alluvial well was constructed. This well is permitted to withdraw up to 15 acre-feet per year, at a maximum rate of 30 gpm, or 43,200 gpd. It was reported to have been connected directly to an elevated water storage tank at the site, which was demolished. The well was not reconnected to the water system due to the cost.

Reactivating the well would require a design review and approval from the CDPHE, including water quality sampling. The design would need to address disinfection and providing chlorine contact time, as well as possible treatment if water quality sampling detected parameters above allowable levels. Recent regulations would require sampling for per- and polyfluoroalkyl related chemicals and treatment for these chemicals, if detected. Since these contaminants are associated with fire fighting foams, as well as other sources, possible contamination due to the proximity to the fire station would need to be considered.

The Dawson aquifer in this area is classified as not-non-tributary, which means pumping from the well could impact surface water and would require more water rights administration than a

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non-tributary Arapahoe aquifer well. Given these factors and the fact that the allowable production rate is less than the winter average day demand, WWE recommends that this well be eliminated from further consideration.

6.3 Chlorine System and Building

At a minimum, disinfection of the water from the new well will be required to provide a 4-log virus inactivation, to meet the CDPHE Regulation 11, Section 11.11.

A new liquid chlorine system is proposed for the new groundwater well. Groundwater disinfection will be achieved with liquid sodium hypochlorite (chlorine) for the inactivation of viruses and the appropriate chlorine contact time (CT) to achieve 4-log reduction of viruses. The CT will be provided in the existing above ground, bolted steel storage tank.

Achieving 4-log virus inactivation is a function of the source water chlorine demand, pH, temperature, residual chlorine concentration, flow, volume, and baffling factor provided by the contact chamber, in this case the existing steel 100,000 gallon storage tank. Subject to final design revisions, this tank is sufficient for the capacity required for the existing and new development.

A new building with a footprint of approximately 20 feet by 20 feet would be constructed on the existing site to house the chlorination equipment and the required flow metering system. If treatment of the Arapahoe Aquifer well water is required, a larger building with an approximate footprint of 35 feet by 20 feet would be needed.

6.4 Existing Booster Pump Station Storage Tank Rehabilitation

The above ground storage tank functions to provide chlorine contact time for meeting disinfection requirements and also to provide a wet well for the booster pumps. It is an important component of the KWWA water system. As of April 2025, the tank was in need of maintenance, as shown in the photograph in Figure 2. Significant corrosion is apparent on the outside of the tank. The interior surfaces of the tank were not inspected. KWWA was in the process of having the tank recoated as of April 2025, so tank rehabilitation is not included in this report.

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Figure 2. Tank Used for Disinfection Requirements. Note the Condition of Rust.

6.5 Opinion of Probable Capital Costs

The opinion of probable capital costs (herein referred to as estimated costs) for the groundwater well and improvements are presented in Appendix B. Estimated costs have been prepared to a nominal accuracy of +/- 30 percent of a total of \$4.27 million without iron and manganese treatment and \$5.96 million with iron and manganese treatment. The scope of each improvement has been quantified as much as possible within the limited conceptual level of planning to identify the required work and to provide preliminary planning estimated costs. For comparison, a ballpark estimate for connecting the existing unused Dawson Well was \$0.75 to \$1.5 million, with a nominal accuracy of +50 percent to -30 percent. It must be noted that with a permit limit of 30 gpm and 1,440 minutes is a day the unused Dawson well would produce 43,000 gpd, which is approximately one-third of the average day demand.

Project contingency is based on the level of confidence in the scope of work, quantities, and complexity of the project. Contingency is intended to cover anticipated variances between the direct costs in the base estimates and the final actual project cost for the total estimated values to represent the most likely outcomes. The contingency sum does not cover changes to the stated design (scope changes). It is expected that the most likely outcome is that all contingency monies would be spent in the execution of the project. Engineering fees for design have been estimated to cover services for permitting, CDPHE submittals, geotechnical, surveying, and final design. Engineering fees for construction administration have been estimated based on typical requirements for projects receiving grants and loans from the CDPHE.

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7.0 GRANTS AND LOANS CONSIDERATIONS

The following summary was prepared in 2020 for funding options and has not been updated. Options for obtaining funding through the State Revolving Fund and Department of Local Affairs were pursued by KWWA but were placed on hold in spring 2025 when funding opportunities through the U.S. Congresswoman's Office became available. When the pursuit of grants and loans was placed on hold, a rate study, a capital asset study and a capital improvement plan were being prepared for KWWA by the Colorado Rural Water Association in support of the funding applications and had not been finalized. WWE has not seen a finalized copy of these studies as of December 2025.

7.1 State Revolving Fund (SRF) – Low Interest Loans

The Water Pollution Control Revolving Fund (WPCRF) provides low interest loans to governmental entities for the construction of wastewater projects for public health and compliance purposes. The WPCRF can support the following types of projects:

- Treatment Facilities
- Water Storage
- Interceptor / Collection Lines
- Bio-Solid Facilities
- Stormwater Systems
- Re-Use Facilities
- Non-Point Source

In the past, the loan types that have been available include:

- Direct Loans: up to \$3 million, a recent APR of 2.0 percent for 20 or 30 years.
- Leveraged Loans: generally provided to investment grade borrowers with larger projects greater than \$3 million, bond market interest rate for 20 or 30 years.

The CDPHE, Department of Local Affairs (DOLA), and the Colorado Water Resources and Power Development Authority (Authority) jointly administer the SRF program. The WQCD administers the environmental reviews; engineering and design approval; and overall project management. The Authority manages the finances and loan approvals. DOLA staff works with applicants on credit reviews and reports.

There are several milestones that need to be met in order for a project to be eligible for the WPCRF:

- The entity must be included on the most current needs list.
- A Pre-qualification Application must be submitted to the Grants and Loans Unit.
- A Pre-application meeting with the CDPHE, DOLA, and the Authority must be held.
- Eligibility for a \$10,000 Planning Grant is determined at the Pre-application meeting

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- A Project Needs Assessment (PNA) and Environmental Determination for the project must be submitted to the CDPHE Water Quality Control Division, Engineering Section for review.
- CDPHE will provide an Environmental Determination (Categorical Exclusion or Environmental Assessment).
- If necessary, an Environmental Assessment would be submitted and reviewed. If a Finding of No Significant Impact (FNSI) is determined it would be published with a 30-day comment period.
- PNA and Environmental Approval must be obtained.
- Eligibility for a Design and Engineering Grant is determined after approval of the PNA.
- Prior to loan application, a public meeting must be held with a 30-day notice period, notifying the public of the project.
- The loan application would then be submitted.
- The Authority would then approve the loan.

7.2 Department of Local Affairs (DOLA) Energy and Mineral Impact Assistance Fund (EIAF)

The purpose of the Energy and Mineral Impact Assistance Program is to assist political subdivisions that are socially and/or economically impacted by the development, processing, or energy conversion of minerals and mineral fuels. Funds come from the state severance tax on energy and mineral production and from a portion of the state's share of royalties paid to the federal government for mining and drilling of minerals and mineral fuels on federally owned land. Impact scores (10 being the most impact, 1 being the least impact) are assigned by county based on the extent of energy and mineral operations in the area. The success of this grant would be dependent on the competitiveness of the funding cycle and the county's energy and mineral impact score.

The kinds of projects that are funded include, but are not limited to, water and sewer improvements, road improvements, construction/improvements to recreation centers, senior centers and other public facilities, fire protection buildings and equipment, and local government planning. The EIAF grants are categorized into Administrative Grants, Tier I, Tier II, and Tier III.

Application deadlines for each category are on April 1st, August 1st, and December 1st of each year.

7.2.1 Administrative Grants

Administrative Grants are available for planning, preliminary engineering and architectural design projects. The application process requires the local government to submit a detailed letter to the appropriate DOLA Regional Manager, and signed by the Chief Elected Official. The letter should include information such as the project description, budget, financial need, why the project is necessary, urgency of the project, how soon the project can begin, and how soon it can be

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completed. The maximum award for an Administrative Grant is \$25,000, and the total project cost should not exceed \$100,000. A dollar-for-dollar match is required for this grant.

7.2.1.1 Tier I Grants

Tier I grant funds can be used for a variety of public purposes including planning, engineering and design studies, and capital projects requiring a limited level of financial assistance. A Tier I grant awards up to \$200,000. Applications for grant consideration will be expected to include a minimum match of 25 percent. Larger matching amounts are generally more competitive.

Applications will be reviewed and recommended for funding by DOLA staff. The Executive Director makes funding decisions three times per year. A Tier I grant could be used to fund a portion of the design fees associated with a new facility.

7.2.1.2 Tier II Grants

The Tier II grant program is intended to support a wide variety of community development projects to improve quality of life in communities. A Tier II grant awards greater than \$200,000 up to \$2.0 million. Applications for grant consideration would be expected to include a minimum match of 25 percent. Larger matching amounts are generally more competitive. Applications would be reviewed and recommended for funding by DOLA staff. The Executive Director makes funding decisions three times per year.

7.2.1.3 Tier III Grants

To be competitive for a Tier III grant, applications require regional or multi-jurisdictional collaboration assistance to solve a multi-jurisdictional problem. A Tier III grant awards greater than \$2.0 million. Applications would be reviewed and recommended for funding by DOLA staff. The Executive Director makes funding decisions based on revenue availability. Local governments that receive a Tier III grant may be asked to withdraw from future funding application cycles.

7.3 United States Department of Agriculture (USDA)

The USDA Rural Development Program offers funding options to develop essential community facilities in rural areas. The KWWA system may qualify as an essential community facility as it provides an essential service to the local community in a primarily rural area and is not a private or commercial facility. To qualify for the Rural Development Program, the population of the City can be no more than 20,000 residents. In reviewing the grant application, the USDA RD office will prioritize communities based on population and median household income (MHI). In WWE's experience, it is only worthwhile applying for the grant if the Town qualifies as a small community with a population under 5,500 and a median household income below 80% of the state rural median household income. The 2018 MHI for Colorado rural communities was reported as \$52,841. The 2018 median household income for Elbert County was reported from the US Census as \$96,658.

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Based on this information, pursuing USDA funding may not be recommended for the KWWA. Information on this program is included below for completeness.

If the KWWA qualifies and chooses to apply for the grant, a Preliminary Engineering Report (PER) and an Environmental Report (ER) are required. The USDA PER is more extensive than the PNA which accompanies an SRF application. To complete these reports, the KWWA can apply for a SEARCH grant through the USDA RD office for \$30,000 which would cover the cost of engineering services for the PER and ER.

The amount awarded from the USDA grant varies between funding cycle. In the past, the USDA awards 20% of requested funding as a grant, and 80% as a 40-year loan with a comparatively low interest rate.

8.0 FUTURE WORK

The following tasks are suggested to move forward with the plan for a new Arapahoe Aquifer well and rehabilitation of existing equipment.

- Investigate the available funding specifically for the KWWA for this project.
- Engage an engineering firm to provide surveying, geotechnical investigations, design drawings and specifications for the work.
- Apply for a well permit.

The final design of the new well and appurtenances must address factors and details that were beyond the scope of work for this Report. There may be additions (e.g., treatment processes) and refinements to the work presented herein that could impact decisions and costs.

9.0 REFERENCES

Castle Rock, Town of. Water System Design 2018 Criteria Manual.

Colorado Department of Public Health and Environment. 2021 Drinking Water Revolving Fund – Intended Use Plan - Final. DWRF 2021 IUP_Final.pdf - Google Drive.

Design Workshop. Elbert County Comprehensive Plan Update. April 1, 2018.

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Inland Potable Services, Inc. Inspection Report for Town of Kiowa, Kiowa, CO. – 1MG Steel Elevated Tank. April 18, 2017.

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Poznanovic, M., Email to Debbie Ullom – Kiowa Determination 3723-BD. July 19, 2019.

Poznanovic, M., Memorandum to Ruth Borne, Esq. – Terra Cotta Investments LLC Groundwater. May 6, 2024. Privileged & Confidential Attorney Work Product

RG and Associates, LLC. Water and Sewer Capacity Report – Town of Kiowa. January 2018.

State Demography Office. Colorado Demographic Profile, Community Profile for Elbert County. Print Date: February 19, 2024.

United States Census Bureau. Population and Housing Unit Estimates. May 24, 2020. Accessed December 7, 2020.

United States Census Bureau. Households and Family. Retrieved December 09, 2020, from <https://data.census.gov/cedsci/table?tid=ACSST5Y2018.S1101>

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APPENDIX A FINDINGS OF THE COLORADO GROUND WATER COMMISSION

From: matt <matt@petrockfendel.com>

To: Debbie Ullom <homerealtykiowa@aol.com>

Subject: Kiowa Determination 3723-BD

Date: Fri, Jul 19, 2019 11:22 am

Attachments: Kiowa Determination 3723-BD LFH.pdf (329K), Kiowa Determination 3723-BD LFH Ex A Part 1.pdf (117K), Kiowa Determination 3723-BD LFH Ex A Part 2.pdf (593K), Kiowa Determination 3723-BD LFH Ex A Part 3 Map.pdf (65K), Kiowa Determination 3723-BD LFH Ex B.pdf (293K), Kiowa Determination 3723-BD LFH Ex C.pdf (126K), Kiowa Determination 3723-BD LFH Ex E.pdf (464K), Kiowa Determination 3723-BD LFH Ex D.pdf (236K)

Debbie, There are four approved determinations of water rights, Nos. 3723-BD, 3724-BD, 3725-BD and 3726-BD. Due to the number of the documents, I will email them in four sets. This is the first. Please let me know if you would like copies mailed to Kiowa as well.

Before I get to the summary of the determinations, I have 2 questions:

1. The determinations of water rights are issued to both Town of Kiowa and the Kiowa Water and Wastewater Authority. Did you want me to prepare a quit claim deed to convey the Town's interest in each determination to the Authority?
2. We are required to record each of the determinations of water rights. Did you want us to take care of recording, or did you want someone at Kiowa to handle this?

I am providing the following summary of the determinations of water right, but please be aware that additional details are contained in the determination approvals:

For all of the determinations of water rights:

The approved uses are municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The ground water may be reused and successively used to extinction. It is our opinion that municipal use will allow for storage of determination water in a reservoir, in storage tanks and in a pond located at a Kiowa park.

The approved places of use are limited to current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.

Each new well can only be drilled into one aquifer. Wells have to be located at least 600 feet away from existing large capacity wells, unless an injury waiver is obtained.

An approved measuring device must be installed on each well.

For each determination of water right, the total quantified amount of water in each aquifer is divided between the 276 acre "Implied Consent" Lands, the 117 acre "Terra Cotta" Lands, the 54.743 "Fairground" Lands, and the 94 acre "Kiowa Heights" Lands.

In each aquifer, wells must be located on the total 541.743 acres of overlying land area. The Implied Consent Lands, Terra Cotta Lands and Fairgrounds Lands are all contiguous. Kiowa Heights is not contiguous with the other lands. Since all of the lands are not contiguous, there are some restrictions on how much water can be pumped by a well or group of wells, depending on the drilled location.

Wells located on the 447.743 acres of contiguous overlying land (Implied Consent, Terra Cotta and Fairgrounds) can only withdraw the amount of water in each aquifer underlying those lands and wells located on the 94 acres Kiowa Heights Land area can only withdraw the amount of water in each aquifer underlying that land, unless the following "cylinder of appropriation" condition is satisfied:

Cylinder of Appropriation Rule: For wells to withdraw water from noncontiguous parcels, Kiowa may withdraw the total amount from one or more wells, provided that the well or wells are located so that the cylinder or cylinders of appropriation for at least one of the wells overlap, at least in part, the noncontiguous parcels. In determining the cylinder of appropriation, the acreage from the noncontiguous parcels shall be included in the calculation. There is a mathematical equation that can be used to determine the radius of the cylinder. Once the radius of the cylinder is calculated, Kiowa can determine if there is a well location on the contiguous parcel where a well can be placed and have its cylinder overlap with the noncontiguous Kiowa Heights Land. It will be important to perform this calculation before Kiowa decides to drill a well.

There is an accounting requirement for each aquifer. Annual diversion records, including assignment of all water pumped from each well to each individual allocation, shall be collected and permanently maintained by the well owner and submitted to the Commission. As part of that requirement, all water pumped by any well must be assigned to an individual allocation, i.e. to the Implied Consent, the Terra Cotta, the Fairgrounds, or the Kiowa Heights, as it is withdrawn. What this means is that Kiowa must first account on its accounting form for water being withdrawn from the quantified amount available from one of the land areas, before accounting for any withdrawals of the quantified amounts available under another of the land areas.

3723-BD Laramie-Fox Hills Aquifer:

-172.6 acre-feet per year is the average annual withdrawal.

-Water can be pumped from one or more wells of a well field in the same aquifer.

-Wells located on the 447.743 acres of contiguous overlying land (Implied Consent, Terra Cotta and Fairgrounds) can only withdraw a total of **144.4** acre-feet and Wells located on the 94 acres Kiowa Heights Land area can only withdraw a total of **28.2** acre-feet, unless the "cylinder of appropriation" condition described above is satisfied.

3724-BD Arapahoe Aquifer:

-**247.6** acre-feet per year is the average annual withdrawal.

-Water can be pumped from one or more wells of a well field in the same aquifer.

-Wells located on the 447.743 acres of contiguous overlying land (Implied Consent, Terra Cotta and Fairgrounds) can only withdraw a total of **205.3** acre-feet and Wells located on the 94 acres Kiowa Heights Land area can only withdraw a total of **42.3** acre-feet, unless the "cylinder of appropriation" condition described above is satisfied.

3725-BD Denver Aquifer:

-**208.5** acre-feet per year is the average annual withdrawal.

-Water can be pumped from one or more wells of a well field in the same aquifer.

-Wells located on the 447.743 acres of contiguous overlying land (Implied Consent, Terra Cotta and Fairgrounds) can only withdraw a total of **174.1** acre-feet and Wells located on the 94 acres Kiowa Heights Land area can only withdraw a total of **34.4** acre-feet, unless the "cylinder of appropriation" condition described above is satisfied.

3726-BD Lower Dawson Aquifer:

-**71.96** acre-feet per year is the average annual withdrawal.

-The Lower Dawson Aquifer groundwater is not nontributary groundwater, which means a replacement plan must be obtained to replace the actual depletions to the alluvial aquifer and prevent material injury to existing water rights. The replacement plan must be obtained prior to approval of well permits for wells to be located on the Terra Cotta Overlying Land to withdraw the allocated ground water from the aquifer.

-Water can be pumped from one or more wells of a well field in the same aquifer.

-Wells located on the 447.743 acres of contiguous overlying land (Implied Consent, Terra Cotta and Fairgrounds) can only withdraw a total of **56.96** acre-feet and Wells located on the 94 acres Kiowa Heights Land area can only withdraw a total of **15** acre-feet, unless the "cylinder of appropriation" condition described above is satisfied.

Please let me know if you have any questions.

Matt

Matthew S. Poznanovic

Petrock Fendel Poznanovic, P.C.

700 17th Street, Suite 1800

**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN UNDERLYING NEW LAND; AND A CHANGE IN TYPE OF USE, CHANGE IN PLACE OF USE AND CHANGE IN POINT OF DIVERSION FOR THE WATER ALLOCATED IN DETERMINATION OF WATER RIGHT NOS. 60-BD, 2199-BD AND 2906-BD

DETERMINATION NO.: 3726-BD

AQUIFER: Lower Dawson

APPLICANT: Town of Kiowa and Kiowa Water and Wastewater Authority

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Town of Kiowa and Kiowa Water and Wastewater Authority (hereinafter "Applicant") submitted an application for determination of water right to designated ground water from the Lower Dawson Aquifer, and a request for a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 60-BD, 2199-BD and 2906-BD.

FINDINGS

1. The application was received by the Colorado Ground Water Commission on June 7, 2018.
2. Applicant requests a determination of rights to designated ground water in the Lower Dawson Aquifer (hereinafter "Aquifer") underlying 276 acres, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., in Elbert County. According to a signed Nontributary Ground Water Consent Claim dated February 13, 2018 and February 14, 2018, attached hereto within Exhibit A, the Applicant claims the consent from the owners of the 276 acres of land to withdraw the ground water from the Aquifer underlying the land (such ground water hereinafter "Consent Underlying Ground Water"). The Applicant provided a copy of the ordinance regarding the appropriation of nontributary ground water that was introduced and passed by the Town of Kiowa on January 9, 1996, attached hereto within Exhibit A, as evidence that the Applicant has consent to withdraw the underlying ground water from the 276 acres of overlying land (such land hereinafter "Consent Overlying Land"), pursuant to Rule 5.3.10 of the Designated Basin Rules.
3. The Applicant intends to apply the Consent Underlying Ground Water to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The Applicant's proposed place of use of the Consent Underlying Ground Water is the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
4. The quantity of water in the Aquifer underlying the 276 acres of Consent Overlying Land claimed by the applicant is 4,420 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 20 percent.

- b. The average thickness of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 80 feet.
5. Pursuant to Section 37-90-107(7)(a), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate the underlying ground water based on ownership of the overlying land and an aquifer life of one hundred years. Should the entire quantity of underlying ground water underlying the Consent Overlying Land be available for allocation, the allowed average annual amount of withdrawal from the Aquifer that could be allocated from beneath the Consent Overlying Land would be 44.2 acre-feet per year.
6. A review of the records in the Office of the State Engineer has disclosed that a large-capacity well located on or in the vicinity of the Overlying Land has appropriations of water from the Aquifer created prior to November 19, 1973. The well permit number and other relevant data concerning such right is set forth in attached Exhibit B. Approval of the determination of water right would result in unreasonable impairment to these existing water rights unless terms and conditions are included to prevent such effect. In accordance with Rule 5.3.3.1 of the Designated Basin Rules, the quantity of Underlying Ground Water which is considered available for allocation has been reduced to 2,950 acre-feet, resulting in an allowed average annual amount of withdrawal of 29.5 acre-feet per year. This reduction was based on constructing a cylinder of appropriation around this existing well of sufficient size to provide volumes of water equal to one hundred times the annual appropriations of this right. The effect of this calculation is to reduce the land area available for calculating the quantity of available Underlying Ground Water to 184.4 acres. Except for the above described existing right, review of the records in the Office of the State Engineer finds no other previous allocations or permitted withdrawals from the Aquifer underlying the claimed land area.
7. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.
8. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the Aquifer underlying the land claimed by the Applicant will, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Underlying Ground Water is considered to be not-nontributary ground water. Withdrawal of water from the Aquifer underlying the claimed land area would impact the alluvial aquifer(s) of Kiowa Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan pursuant to Section 37-90-107.5, C.R.S., and Rule 5.6 of the Designated Basin Rules, providing for the actual depletion of the alluvial aquifer and adequate to prevent any material injury to existing water rights, is required prior to approval of well permits for wells to be located on this land area to withdraw the Consent Underlying Ground Water from the Aquifer.
9. Applicant requests a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 60-BD, 2199-BD and 2906-BD. The allocation of ground water in determination of water right nos. 60-BD, 2199-BD and 2906-BD, for which the Applicant is seeking a change, is further described below:

- a. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated June 30, 2000, the Ground Water Commission (hereinafter "Commission") approved a Determination of Water Right, no. 60-BD, for the Lower Dawson Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 117 acres, generally described as land primarily located in the N1/2 of the SE1/4, located in part of the N1/2 of the S1/2 of the SE1/4, and in part of the S1/2 of the S1/2 of the NE1/4, of Section 20, Township 8 South, Range 63 West of the 6th P.M., shown as the Terra Cotta property on attached Exhibit C and further described on attached Exhibit D ("Terra Cotta Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 18.7 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 1,870 acre-feet, based on a 100 year aquifer life.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: residential use in single family homes and multi-family, commercial, and replacement water.
 - v. The place of use was the Terra Cotta Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Terra Cotta Overlying Land.
 - vii. Withdrawal of ground water from the Lower Dawson aquifer underlying the Terra Cotta Overlying Land will, within one hundred years, deplete the flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water underlying the Terra Cotta Overlying Land is considered to be not-nontributary ground water. Withdrawal of water from the Lower Dawson aquifer underlying the Terra Cotta Overlying Land would impact the alluvial aquifer(s) of Kiowa Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan providing for the actual depletion of the alluvial aquifer and adequate to prevent any material injury to existing water rights, is required prior to approval of well permits for wells to be located on the Terra Cotta Overlying Land to withdraw the allocated ground water from the aquifer.
 - viii. In a Findings and Order dated March 15, 2004 the type of use of the ground water was changed to: residential use in single family homes and multi-family, commercial, replacement water, stock watering, and irrigation.
- b. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 60-BD and provided a deed dated May 15, 2008 between Terra Cotta Investments, LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Terra Cotta Underlying Ground Water").
- c. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 11, 2009, the Commission approved a Determination of Water Right, no. 2199-BD, for the Lower Dawson Aquifer, summarized as follows.

- i. The determination quantified an amount of water underlying 54.743 acres, generally described as part of the E1/2 of Section 17, Township 8 South, Range 63 West of the 6th P.M., shown as the Fairgrounds property on attached Exhibit C and further described on attached Exhibit E ("Fairgrounds Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 8.76 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 876 acre-feet, based on a 100 year aquifer life.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet, wildlife, and replacement.
 - v. The place of use was the Fairgrounds Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Fairgrounds Overlying Land.
 - vii. Withdrawal of ground water from the Lower Dawson aquifer underlying the Fairgrounds Overlying Land will, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water underlying the Fairgrounds Overlying Land is considered to be non-tributary ground water. Withdrawal of water from the Lower Dawson aquifer underlying the Fairgrounds Overlying Land would impact the alluvial aquifer(s) of Bijou Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan pursuant to Section 37-90-107.5, C.R.S., and Rule 5.6 of the Designated Basin Rules providing for the actual depletion of the alluvial aquifer and adequate to prevent any material injury to existing water rights, is required prior to approval of well permits for wells to be located on the Fairgrounds Overlying Land to withdraw the allocated ground water from the aquifer.
- d. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2199-BD and provided a deed dated December 11, 1990 between the County of Elbert and the Town of Kiowa and a deed dated October 15, 2018 between Elbert County BOCC and the Towns of Kiowa as evidence of that ownership (hereinafter "Fairgrounds Underlying Ground Water").
 - e. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 7, 2012, the Commission approved a Determination of Water Right, no. 2906-BD, for the Lower Dawson Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 94 acres of land, generally described as part of the SE1/4 of the NE1/4 of Section 21 and part of the NW1/4 of Section 22, Township 8 South, Range 63 West of the 6th P.M., shown as the Kiowa Heights property on attached Exhibit C and further described on attached Exhibit F ("Kiowa Heights Overlying Land").

- ii. The allowed average annual amount of ground water to be withdrawn was 15.0 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 1,500 acre-feet.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: irrigation, domestic, commercial, livestock, replacement, fish and wildlife, pond and industrial.
 - v. The place of use was the Kiowa Heights Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Kiowa Heights Overlying Land.
 - vii. Withdrawal of ground water from the Lower Dawson aquifer underlying the Kiowa Heights Overlying Land will, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water underlying the Kiowa Heights Overlying Land is considered to be non-tributary ground water. Withdrawal of water from the Lower Dawson aquifer underlying the Kiowa Heights Overlying Land would impact the alluvial aquifer(s) of Kiowa Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan pursuant to Section 37-90-107.5, C.R.S., and Rule 5.6 of the Designated Basin Rules providing for the actual depletion of the alluvial aquifer and adequate to prevent any material injury to existing water rights, is required prior to approval of well permits for wells to be located on the Kiowa Heights Overlying Land to withdraw the allocated ground water from the aquifer.
- f. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2906-BD and provided a deed dated May 24, 2018 between Kiowa Heights Development Co. LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Kiowa Heights Underlying Ground Water").
10. The Applicant is seeking a change of type of use for the water allocated in determination of water right nos. 60-BD, 2199-BD and 2906-BD from the uses specified in those determinations, and described above, to municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation.
11. The Applicant is seeking a change in place of use for the water allocated in determination of water right nos. 60-BD, 2199-BD and 2906-BD from the places of use specified in those determinations and described above to the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
12. The Applicant is seeking a change in point of diversion for the water allocated in determination of water right nos. 60-BD, 2199-BD and 2906-BD from the Overlying Land associated with each determination, as described above, to any location on the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land and Kiowa Heights Overlying Land (hereinafter "Combined Overlying Land").

13. The Applicant is seeking approval to divert the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water together from any well located on the Combined Overlying Land, in the manner of a well field.
14. The Applicant's request for changes to Determination of Water Right nos. 60-BD, 2199-BD, and 2906-BD essentially results in subsuming the existing allocations of Determination of Water Right nos. 60-BD, 2199-BD, and 2906-BD into a single new Determination of Water Right containing the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water. The existing allocations of Determination of Water Right nos. 60-BD, 2199-BD, and 2906-BD may be subsumed into a single new Determination of Water right so long as, pursuant to section 37-90-107(7)(c)(III), C.R.S., the amounts of ground water allocated in those existing allocations are final amounts of ground water so determined from beneath their respective overlying lands; except that the Commission shall retain jurisdiction for subsequent adjustment of such amounts to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes. In order to ensure the amounts of water withdrawn from beneath each of the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land, and Kiowa Heights Overlying Land areas do not exceed each individual allocation, all water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation as it is withdrawn.
15. The Consent Overlying Land, Fairgrounds Overlying Land and Terra Cotta Overlying Land together total 447.743 acres and are contiguous to each other (hereinafter "Contiguous Overlying Land"). The Kiowa Heights Overlying Land contains 94 acres and is noncontiguous to the Contiguous Overlying Land, as shown on attached Exhibit C.
16. The Combined Overlying Land is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Commission has jurisdiction over the ground water that is the subject of this Finding and Order.
17. The Commission Staff has evaluated the application relying on the claims to control of the Consent Underlying Ground Water, Terra Cotta Underlying Ground Water, Fairgrounds Underlying Ground Water and Kiowa Heights Underlying Ground Water (hereinafter "Underlying Ground Water") in the Aquifer made by the Applicant.
18. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable Aquifer may be less than the one hundred years upon which the amount of water in the Aquifer is allocated, due to anticipated water level declines.
19. In accordance with Sections 37-90-107(7)(c)(II) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 16, 2019 and May 23, 2019. No objections to the application were received within the time limit set by statute.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of right to designated ground water in the Lower Dawson Aquifer underlying 276 acres of land, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of

Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., further described in Exhibit A; and orders the request for the change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 60-BD, 2199-BD and 2906-BD, is approved subject to the following conditions:

20. The allowed average annual amount of withdrawal of Underlying Ground Water from the Aquifer shall not exceed 71.96 acre-feet, consisting of the following individual allowed average annual amounts of withdrawal:
 - a. Contiguous Overlying Land = 56.96 acre-feet, consisting of:
 - i. the 29.5 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 8.76 acre-feet previously allocated in Determination of Water Right no. 2199-BD for the Fairgrounds Overlying Land, and
 - iii. the 18.7 acre-feet previously allocated in Determination of Water Right no. 60-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 15 acre-feet previously allocated in Determination of Water Right no. 2906-BD for the Kiowa Overlying Land.
21. The total volume of Underlying Ground Water that may be withdrawn from the Aquifer pursuant to this Determination of Water Right shall not exceed 7,196 acre-feet, consisting of the following individual volumes of Underlying Ground Water that may be withdrawn:
 - a. Contiguous Overlying Land = 5,696 acre-feet, consisting of:
 - i. the 2,950 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 876 acre-feet previously allocated in Determination of Water Right no. 2199-BD for the Fairgrounds Overlying Land, and
 - iii. the 1,870 acre-feet previously allocated in Determination of Water Right no. 60-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 1,500 acre-feet previously allocated in Determination of Water Right no. 2906-BD for the Kiowa Overlying Land.
22. The Commission may adjust the total individual volumes and the individual allowed average annual amounts of withdrawal of Underlying Ground Water that may be withdrawn from the Aquifer to conform to actual Aquifer characteristics based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimates of the amounts of Underlying Ground Water in the Aquifer was incorrect.
23. The individual allowed maximum annual amounts of withdrawal may exceed the individual allowed average annual amounts of withdrawal as long as the total individual volumes of Underlying Ground Water withdrawn do not exceed the sum of the product of the number of years since the dates of approval of the each Determination of Water Right for each separate overlying land area (the date of this Determination for the Consent Overlying Land, June 30, 2000 for the Terra Cotta Overlying Land, September 11, 2009 for the Fairgrounds Overlying

Land, and September 7, 2012 for the Kiowa Heights Overlying Land) times the individual allowed average annual amounts of withdrawal allowed by each determination.

24. The Applicant may pump the allowed average annual amounts of withdrawal and the allowed maximum annual amounts of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.
25. All water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation, i.e. to the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, or the Kiowa Heights Underlying Ground Water, as it is withdrawn.
26. Commission approval of a replacement plan, providing for actual depletion of affected alluvial aquifers and adequate to prevent any material injury to existing water rights in such alluvial aquifers, is required prior to approval of well permits that allow the withdraw of the Underlying Ground Water.
27. The use of the allowed amounts of Underlying Ground Water from this allocation shall be limited to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The place of use shall be limited to current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa. Subject to the limitation in paragraph 26, the ground water that is the subject of this Determination may be reused and successively used to extinction to the extent dominion and control over the water is maintained and its volume can be distinguished from the volume of any stream system into which it is introduced to the satisfaction of the Commission.
28. Approval of this determination meets the requirements of Section 37-90-107(7)(d)(II) that requires a determination of ground water be made prior to the granting of a well permit pursuant to Section 37-90-107(7).
29. Wells withdrawing the allowed amounts of Underlying Ground Water allocated herein are subject to the following conditions:
 - a. The wells must be located on the above described 541.743 acres of Combined Overlying Land.
 - b. Wells located within the 447.743 acres of the Contiguous Overlying Land area shall only withdraw the average annual amounts of water determined for that area (totaling 56.96 acre-feet) and wells located within the 94 acres of the Kiowa Overlying Land area shall only withdraw the average annual amount of water determined for that area (15 acre-feet) unless the following condition is satisfied:
 - i. Any requests for combined withdrawal from noncontiguous areas must be identified in the well permit application and done in accordance with Rule 5.3.7.2 of the Designated Basins Rules.
 - c. No well shall be located within 600 feet of any existing large-capacity well in the same Aquifer unless a Waiver of Claim of Injury is obtained from the owner of the existing well or unless the Commission, after a hearing, finds that circumstances in a particular instance warrant that a well may be permitted without regard to this limitation.

Aquifer: Lower Dawson

Applicant: Town of Kiowa and Kiowa Water and Wastewater Authority

- d. The wells must be constructed to withdraw water from only the Lower Dawson Aquifer.
 - e. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
 - f. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records, including assignment of all water pumped from each well to each individual allocation, shall be collected and permanently maintained by the well owner and submitted to the Commission.
 - g. The well shall be marked in a conspicuous place with this determination number, the well permit number, and the name of the Aquifer. The well owner shall take necessary means and precautions to preserve these markings.
30. Determination of Water Rights nos. 60-BD, 2199-BD and 2906-BD are hereby superseded by and subsumed into this determination and, from the date of this approval forward, the allocations in those previous determinations shall be used only in accordance with this approval in the absence of any subsequent approvals of the Commission modifying this Order.
31. A copy of this Findings and Order shall be recorded by the Applicant in the public records of the county in which the Combined Overlying Land is located so that a title examination of the above described 541.743 acres of the Combined Overlying Land area, or any part thereof, shall reveal the existence of this determination.
32. The ground water right determined herein is a vested property right with specific ownership. The ground water right may be transferred independent of the land under which the right originated. Any action taken that is intended to convey, transfer, and/or sell the subject water right shall explicitly identify this Determination of Water Right number, the specific aquifer, and the annual volume (based on a 100-year aquifer life) or total volume of ground water that is being conveyed.

Dated this 11th day of July, 2019.

By: _____

Kevin G. Rein
Kevin G. Rein, P.E.
Executive Director
Colorado Ground Water Commission

Keith Vander Horst

Keith Vander Horst, P.E.
Chief of Water Supply, Basins

Prepared by: jmw
F&O3726-BD.doc

**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN UNDERLYING NEW LAND; AND A CHANGE IN TYPE OF USE, CHANGE IN PLACE OF USE AND CHANGE IN POINT OF DIVERSION FOR THE WATER ALLOCATED IN DETERMINATION OF WATER RIGHT NOS. 59-BD, 2198-BD AND 2905-BD

DETERMINATION NO.: 3725-BD

AQUIFER: Denver

APPLICANT: Town of Kiowa and Kiowa Water and Wastewater Authority

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Town of Kiowa and Kiowa Water and Wastewater Authority (hereinafter "Applicant") submitted an application for determination of water right to designated ground water from the Denver Aquifer, and a request for a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 59-BD, 2198-BD and 2905-BD.

FINDINGS

1. The application was received by the Colorado Ground Water Commission on June 7, 2018.
2. Applicant requests a determination of rights to designated ground water in the Denver Aquifer (hereinafter "Aquifer") underlying 276 acres, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., in Elbert County. According to a signed Nontributary Ground Water Consent Claim dated February 13, 2018 and February 14, 2018, attached hereto within Exhibit A, the Applicant claims the consent from the owners of the 276 acres of land to withdraw the ground water from the Aquifer underlying the land (such ground water hereinafter "Consent Underlying Ground Water"). The Applicant provided a copy of the ordinance regarding the appropriation of nontributary ground water that was introduced and passed by the Town of Kiowa on January 9, 1996, attached hereto within Exhibit A, as evidence that the Applicant has consent to withdraw the underlying ground water from the 276 acres of overlying land (such land hereinafter "Consent Overlying Land"), pursuant to Rule 5.3.10 of the Designated Basin Rules.
3. The Applicant intends to apply the Consent Underlying Ground Water to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The Applicant's proposed place of use of the Consent Underlying Ground Water is the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
4. The quantity of water in the Aquifer underlying the 276 acres of Consent Overlying Land claimed by the applicant is 10,800 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

- b. The average thickness of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 230 feet.
5. Pursuant to Section 37-90-107(7)(a), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate the underlying ground water based on ownership of the overlying land and an aquifer life of one hundred years. Should the entire quantity of underlying ground water underlying the Consent Overlying Land be available for allocation, the allowed average annual amount of withdrawal from the Aquifer that could be allocated from beneath the Consent Overlying Land would be 108 acre-feet per year.
6. A review of the records in the Office of the State Engineer has disclosed that none of the Consent Underlying Ground Water in the Aquifer beneath the Consent Overlying Land has been previously allocated or permitted for withdrawal.
7. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.
8. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the Aquifer underlying the Consent Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Consent Underlying Ground Water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. Pursuant to the Rules, no more than 98% of the amount of the Consent Underlying Ground Water withdrawn annually shall be consumed.
9. Applicant requests a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 59-BD, 2198-BD and 2905-BD. The allocation of ground water in determination of water right nos. 59-BD, 2198-BD and 2905-BD, for which the Applicant is seeking a change, is further described below:
 - a. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated July 17, 2000, the Ground Water Commission (hereinafter "Commission") approved a Determination of Water Right, no. 59-BD, for the Denver Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 117 acres, generally described as land primarily located in the N1/2 of the SE1/4, located in part of the N1/2 of the S1/2 of the SE1/4, and in part of the S1/2 of the S1/2 of the NE1/4, of Section 20, Township 8 South, Range 63 West of the 6th P.M., shown as the Terra Cotta property on attached Exhibit B and further described on attached Exhibit C ("Terra Cotta Overlying Land").
 - ii. In accordance with the Designated Basin Rules, the maximum annual amount available for appropriation for the Terra Cotta Overlying Land was reduced to allow for the annual withdrawal of a small capacity well which is completed in the aquifer, permit number 205219.

- iii. The allowed average annual amount of ground water to be withdrawn was 44.7 acre-feet.
 - iv. The total volume of underlying ground water that was allocated was 4,470 acre-feet, based on a 100 year aquifer life.
 - v. The use of the allocated ground water was limited to the following beneficial uses: residential use in single family homes and multi-family, commercial, and replacement water.
 - vi. The place of use was the Terra Cotta Overlying Land.
 - vii. Withdrawal of the allocated water was limited to wells located on the Terra Cotta Overlying Land.
 - viii. Withdrawal of ground water from the Denver aquifer underlying the Terra Cotta Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the underlying ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
 - ix. In a Findings and Order dated March 15, 2004 the type of use of the ground water was changed to: residential use in single family homes and multi-family, commercial, replacement water, stock watering, and irrigation.
- b. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 59-BD and provided a deed dated May 15, 2008 between Terra Cotta Investments, LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Terra Cotta Underlying Ground Water").
- c. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 11, 2009, the Commission approved a Determination of Water Right, no. 2198-BD, for the Denver Aquifer, summarized as follows.
- i. The determination quantified an amount of water underlying 54.743 acres, generally described as part of the E1/2 of Section 17, Township 8 South, Range 63 West of the 6th P.M., shown as the Fairgrounds property on attached Exhibit B and further described on attached Exhibit D ("Fairgrounds Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 21.4 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 2,140 acre-feet, based on a 100 year aquifer life.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock

watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet, wildlife, and replacement.

- v. The place of use was the Fairgrounds Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Fairgrounds Overlying Land.
 - vii. Withdrawal of ground water from the Denver aquifer underlying the Fairgrounds Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the underlying ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
- d. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2198-BD and provided a deed dated December 11, 1990 between the County of Elbert and the Town of Kiowa and a deed dated October 15, 2018 between Elbert County BOCC and the Towns of Kiowa as evidence of that ownership (hereinafter "Fairgrounds Underlying Ground Water").
- e. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 7, 2012, the Commission approved a Determination of Water Right, no. 2905-BD, for the Denver Aquifer, summarized as follows.
- i. The determination quantified an amount of water underlying 94 acres of land, generally described as part of the SE1/4 of the NE1/4 of Section 21 and part of the NW1/4 of Section 22, Township 8 South, Range 63 West of the 6th P.M., shown as the Kiowa Heights property on attached Exhibit B and further described on attached Exhibit E ("Kiowa Heights Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 34.4 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 3,440 acre-feet.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: irrigation, domestic, commercial, livestock, replacement, fish and wildlife, pond and industrial.
 - v. The place of use was the Kiowa Heights Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Kiowa Heights Overlying Land.
 - vii. Withdrawal of ground water from the Denver aquifer underlying the Kiowa Heights Overlying Land will not, within one hundred years, deplete the flow of

a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Underlying Ground Water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

- f. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2905-BD and provided a deed dated May 24, 2018 between Kiowa Heights Development Co. LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Kiowa Heights Underlying Ground Water").
10. The Applicant is seeking a change of type of use for the water allocated in determination of water right nos. 59-BD, 2198-BD and 2905-BD from the uses specified in those determinations, and described above, to municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation.
11. The Applicant is seeking a change in place of use for the water allocated in determination of water right nos. 59-BD, 2198-BD and 2905-BD from the places of use specified in those determinations and described above to the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
12. The Applicant is seeking a change in point of diversion for the water allocated in determination of water right nos. 59-BD, 2198-BD and 2905-BD from the Overlying Land associated with each determination, as described above, to any location on the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land and Kiowa Heights Overlying Land (hereinafter "Combined Overlying Land").
13. The Applicant is seeking approval to divert the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water together from any well located on the Combined Overlying Land, in the manner of a well field.
14. The Applicant's request for changes to Determination of Water Right nos. 59-BD, 2198-BD, and 2905-BD essentially results in subsuming the existing allocations of Determination of Water Right nos. 59-BD, 2198-BD, and 2905-BD into a single new Determination of Water Right containing the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water. The existing allocations of Determination of Water Right nos. 59-BD, 2198-BD, and 2905-BD may be subsumed into a single new Determination of Water right so long as, pursuant to section 37-90-107(7)(c)(III), C.R.S., the amounts of ground water allocated in those existing allocations are final amounts of ground water so determined from beneath their respective overlying lands; except that the Commission shall retain jurisdiction for subsequent adjustment of such amounts to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes. In order to ensure the amounts of water withdrawn from beneath each of the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land, and Kiowa Heights Overlying Land areas do not exceed each individual allocation, all water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation as it is withdrawn.

15. The Consent Overlying Land, Fairgrounds Overlying Land and Terra Cotta Overlying Land together total 447.743 acres and are contiguous to each other (hereinafter "Contiguous Overlying Land"). The Kiowa Heights Overlying Land contains 94 acres and is noncontiguous to the Contiguous Overlying Land, as shown on attached Exhibit B.
16. The Combined Overlying Land is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Commission has jurisdiction over the ground water that is the subject of this Finding and Order.
17. The Commission Staff has evaluated the application relying on the claims to control of the Consent Underlying Ground Water, Terra Cotta Underlying Ground Water, Fairgrounds Underlying Ground Water and Kiowa Heights Underlying Ground Water (hereinafter "Underlying Ground Water") in the Aquifer made by the Applicant.
18. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable Aquifer may be less than the one hundred years upon which the amount of water in the Aquifer is allocated, due to anticipated water level declines.
19. In accordance with Sections 37-90-107(7)(c)(II) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 16, 2019 and May 23, 2019. No objections to the application were received within the time limit set by statute.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of right to designated ground water in the Denver Aquifer underlying 276 acres of land, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., further described in Exhibit A; and orders the request for the change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 59-BD, 2198-BD and 2905-BD, is approved subject to the following conditions:

20. The allowed average annual amount of withdrawal of Underlying Ground Water from the Aquifer shall not exceed 208.5 acre-feet, consisting of the following individual allowed average annual amounts of withdrawal:
 - a. Contiguous Overlying Land = 174.1 acre-feet, consisting of:
 - i. the 108 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 21.4 acre-feet previously allocated in Determination of Water Right no. 2198-BD for the Fairgrounds Overlying Land, and
 - iii. the 44.7 acre-feet previously allocated in Determination of Water Right no. 59-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 34.4 acre-feet previously allocated in Determination of Water Right no. 2905-BD for the Kiowa Overlying Land.

21. The total volume of Underlying Ground Water that may be withdrawn from the Aquifer pursuant to this Determination of Water Right shall not exceed 20,850 acre-feet, consisting of the following individual volumes of Underlying Ground Water that may be withdrawn:
 - a. Contiguous Overlying Land = 17,410 acre-feet, consisting of:
 - i. the 10,800 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 2,140 acre-feet previously allocated in Determination of Water Right no. 2198-BD for the Fairgrounds Overlying Land, and
 - iii. the 4,470 acre-feet previously allocated in Determination of Water Right no. 59-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 3,440 acre-feet previously allocated in Determination of Water Right no. 2905-BD for the Kiowa Overlying Land.
22. The Commission may adjust the total individual volumes and the individual allowed average annual amounts of withdrawal of Underlying Ground Water that may be withdrawn from the Aquifer to conform to actual Aquifer characteristics based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimates of the amounts of Underlying Ground Water in the Aquifer was incorrect.
23. The individual allowed maximum annual amounts of withdrawal may exceed the individual allowed average annual amounts of withdrawal as long as the total individual volumes of Underlying Ground Water withdrawn do not exceed the sum of the product of the number of years since the dates of approval of the each Determination of Water Right for each separate overlying land area (the date of this Determination for the Consent Overlying Land, July 17, 2000 for the Terra Cotta Overlying Land, September 11, 2009 for the Fairgrounds Overlying Land, and September 7, 2012 for the Kiowa Heights Overlying Land) times the individual allowed average annual amounts of withdrawal allowed by each determination.
24. The Applicant may pump the allowed average annual amounts of withdrawal and the allowed maximum annual amounts of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.
25. All water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation, i.e. to the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, or the Kiowa Heights Underlying Ground Water, as it is withdrawn.
26. No more than 98% of the allowed amounts of Underlying Ground Water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the underlying ground water withdrawn is being consumed.
27. The use of the allowed amounts of Underlying Ground Water from this allocation shall be limited to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and

augmentation. The place of use shall be limited to current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa. Subject to the limitation in paragraph 26, the ground water that is the subject of this Determination may be reused and successively used to extinction to the extent dominion and control over the water is maintained and its volume can be distinguished from the volume of any stream system into which it is introduced to the satisfaction of the Commission.

28. Approval of this determination meets the requirements of Section 37-90-107(7)(d)(II) that requires a determination of ground water be made prior to the granting of a well permit pursuant to Section 37-90-107(7).
29. Wells withdrawing the allowed amounts of Underlying Ground Water allocated herein are subject to the following conditions:
 - a. The wells must be located on the above described 541.743 acres of Combined Overlying Land.
 - b. Wells located within the 447.743 acres of the Contiguous Overlying Land area shall only withdraw the average annual amounts of water determined for that area (totaling 174.1 acre-feet) and wells located within the 94 acres of the Kiowa Overlying Land area shall only withdraw the average annual amount of water determined for that area (34.4 acre-feet) unless the following condition is satisfied:
 - i. Any requests for combined withdrawal from noncontiguous areas must be identified in the well permit application and done in accordance with Rule 5.3.7.2 of the Designated Basins Rules.
 - c. No well shall be located within 600 feet of any existing large-capacity well in the same Aquifer unless a Waiver of Claim of Injury is obtained from the owner of the existing well or unless the Commission, after a hearing, finds that circumstances in a particular instance warrant that a well may be permitted without regard to this limitation.
 - d. The wells must be constructed to withdraw water from only the Denver Aquifer.
 - e. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
 - f. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records, including assignment of all water pumped from each well to each individual allocation, shall be collected and permanently maintained by the well owner and submitted to the Commission.
 - g. The well shall be marked in a conspicuous place with this determination number, the well permit number, and the name of the Aquifer. The well owner shall take necessary means and precautions to preserve these markings.
30. Determination of Water Rights nos. 59-BD, 2198-BD and 2905-BD are hereby superseded by and subsumed into this determination and, from the date of this approval forward, the allocations in those previous determinations shall be used only in accordance with this approval in the absence of any subsequent approvals of the Commission modifying this Order.

Aquifer: Denver

Applicant: Town of Kiowa and Kiowa Water and Wastewater Authority

31. A copy of this Findings and Order shall be recorded by the Applicant in the public records of the county in which the Combined Overlying Land is located so that a title examination of the above described 541.743 acres of the Combined Overlying Land area, or any part thereof, shall reveal the existence of this determination.
32. The ground water right determined herein is a vested property right with specific ownership. The ground water right may be transferred independent of the land under which the right originated. Any action taken that is intended to convey, transfer, and/or sell the subject water right shall explicitly identify this Determination of Water Right number, the specific aquifer, and the annual volume (based on a 100-year aquifer life) or total volume of ground water that is being conveyed.

Dated this 11th day of July, 2019.

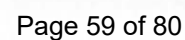
By: *Kevin G. Rein*

Kevin G. Rein, P.E.
Executive Director
Colorado Ground Water Commission

Keith Vander Horst

Keith Vander Horst, P.E.
Chief of Water Supply, Basins

Prepared by: jmw
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**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN UNDERLYING NEW LAND; AND A CHANGE IN TYPE OF USE, CHANGE IN PLACE OF USE AND CHANGE IN POINT OF DIVERSION FOR THE WATER ALLOCATED IN DETERMINATION OF WATER RIGHT NOS. 58-BD, 2197-BD AND 2904-BD

DETERMINATION NO.: 3724-BD

AQUIFER: Arapahoe

APPLICANT: Town of Kiowa and Kiowa Water and Wastewater Authority

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Town of Kiowa and Kiowa Water and Wastewater Authority (hereinafter "Applicant") submitted an application for determination of water right to designated ground water from the Arapahoe Aquifer, and a request for a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 58-BD, 2197-BD and 2904-BD.

FINDINGS

1. The application was received by the Colorado Ground Water Commission on June 7, 2018.
2. Applicant requests a determination of rights to designated ground water in the Arapahoe Aquifer (hereinafter "Aquifer") underlying 276 acres, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., in Elbert County. According to a signed Nontributary Ground Water Consent Claim dated February 13, 2018 and February 14, 2018, attached hereto within Exhibit A, the Applicant claims the consent from the owners of the 276 acres of land to withdraw the ground water from the Aquifer underlying the land (such ground water hereinafter "Consent Underlying Ground Water"). The Applicant provided a copy of the ordinance regarding the appropriation of nontributary ground water that was introduced and passed by the Town of Kiowa on January 9, 1996, attached hereto within Exhibit A, as evidence that the Applicant has consent to withdraw the underlying ground water from the 276 acres of overlying land (such land hereinafter "Consent Overlying Land"), pursuant to Rule 5.3.10 of the Designated Basin Rules.
3. The Applicant intends to apply the Consent Underlying Ground Water to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The Applicant's proposed place of use of the Consent Underlying Ground Water is the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
4. The quantity of water in the Aquifer underlying the 276 acres of Consent Overlying Land claimed by the applicant is 12,900 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

- b. The average thickness of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 275 feet.
5. Pursuant to Section 37-90-107(7)(a), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate the underlying ground water based on ownership of the overlying land and an aquifer life of one hundred years. Should the entire quantity of underlying ground water underlying the Consent Overlying Land be available for allocation, the allowed average annual amount of withdrawal from the Aquifer that could be allocated from beneath the Consent Overlying Land would be 129 acre-feet per year.
6. A review of the records in the Office of the State Engineer has disclosed that none of the Consent Underlying Ground Water in the Aquifer beneath the Consent Overlying Land has been previously allocated or permitted for withdrawal.
7. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.
8. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the Aquifer underlying the Consent Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Consent Underlying Ground Water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. Pursuant to the Rules, no more than 98% of the amount of the Consent Underlying Ground Water withdrawn annually shall be consumed.
9. Applicant requests a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 58-BD, 2197-BD and 2904-BD. The allocation of ground water in determination of water right nos. 58-BD, 2197-BD and 2904-BD, for which the Applicant is seeking a change, is further described below:
 - a. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated June 30, 2000, the Ground Water Commission (hereinafter "Commission") approved a Determination of Water Right, no. 58-BD, for the Arapahoe Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 117 acres, generally described as land primarily located in the N1/2 of the SE1/4, located in part of the N1/2 of the S1/2 of the SE1/4, and in part of the S1/2 of the S1/2 of the NE1/4, of Section 20, Township 8 South, Range 63 West of the 6th P.M., shown as the Terra Cotta property on attached Exhibit B and further described on attached Exhibit C ("Terra Cotta Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 50.7 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 5,070 acre-feet, based on a 100 year aquifer life.

- iv. The use of the allocated ground water was limited to the following beneficial uses: residential use in single family homes and multi-family, commercial, and replacement water.
 - v. The place of use was the Terra Cotta Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Terra Cotta Overlying Land.
 - vii. Withdrawal of ground water from the Arapahoe aquifer underlying the Terra Cotta Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the underlying ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
 - viii. In a Findings and Order dated March 15, 2004 the type of use of the ground water was changed to: residential use in single family homes and multi-family, commercial, replacement water, stock watering, and irrigation.
- b. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 58-BD and provided a deed dated May 15, 2008 between Terra Cotta Investments, LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Terra Cotta Underlying Ground Water").
 - c. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 11, 2009, the Commission approved a Determination of Water Right, no. 2197-BD, for the Arapahoe Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 54.743 acres, generally described as part of the E1/2 of Section 17, Township 8 South, Range 63 West of the 6th P.M., shown as the Fairgrounds property on attached Exhibit B and further described on attached Exhibit D ("Fairgrounds Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 25.6 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 2,560 acre-feet, based on a 100 year aquifer life.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet, wildlife, and replacement.
 - v. The place of use was the Fairgrounds Overlying Land.

- vi. Withdrawal of the allocated water was limited to wells located on the Fairgrounds Overlying Land.
 - vii. Withdrawal of ground water from the Arapahoe aquifer underlying the Fairgrounds Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the underlying ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
- d. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2197-BD and provided a deed dated December 11, 1990 between the County of Elbert and the Town of Kiowa and a deed dated October 15, 2018 between Elbert County BOCC and the Towns of Kiowa as evidence of that ownership (hereinafter "Fairgrounds Underlying Ground Water").
- e. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 7, 2012, the Commission approved a Determination of Water Right, no. 2904-BD, for the Arapahoe Aquifer, summarized as follows.
- i. The determination quantified an amount of water underlying 94 acres of land, generally described as part of the SE1/4 of the NE1/4 of Section 21 and part of the NW1/4 of Section 22, Township 8 South, Range 63 West of the 6th P.M., shown as the Kiowa Heights property on attached Exhibit B and further described on attached Exhibit E ("Kiowa Heights Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 42.3 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 4,230 acre-feet.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: irrigation, domestic, commercial, livestock, replacement, fish and wildlife, pond and industrial.
 - v. The place of use was the Kiowa Heights Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Kiowa Heights Overlying Land.
 - vii. Withdrawal of ground water from the Arapahoe aquifer underlying the Kiowa Heights Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Underlying Ground Water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to

demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

- f. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2904-BD and provided a deed dated May 24, 2018 between Kiowa Heights Development Co. LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Kiowa Heights Underlying Ground Water").
10. The Applicant is seeking a change of type of use for the water allocated in determination of water right nos. 58-BD, 2197-BD and 2904-BD from the uses specified in those determinations, and described above, to municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation.
11. The Applicant is seeking a change in place of use for the water allocated in determination of water right nos. 58-BD, 2197-BD and 2904-BD from the places of use specified in those determinations, and described above, to the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
12. The Applicant is seeking a change in point of diversion for the water allocated in determination of water right nos. 58-BD, 2197-BD and 2904-BD from the Overlying Land associated with each determination, as described above, to any location on the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land and Kiowa Heights Overlying Land (hereinafter "Combined Overlying Land").
13. The Applicant is seeking approval to divert the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water together from any well located on the Combined Overlying Land, in the manner of a well field.
14. The Applicant's request for changes to Determination of Water Right nos. 58-BD, 2197-BD, and 2904-BD essentially results in subsuming the existing allocations of Determination of Water Right nos. 58-BD, 2197-BD, and 2904-BD into a single new Determination of Water Right containing the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water. The existing allocations of Determination of Water Right nos. 58-BD, 2197-BD, and 2904-BD may be subsumed into a single new Determination of Water right so long as, pursuant to section 37-90-107(7)(c)(III), C.R.S., the amounts of ground water allocated in those existing allocations are final amounts of ground water so determined from beneath their respective overlying lands; except that the Commission shall retain jurisdiction for subsequent adjustment of such amounts to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes. In order to ensure the amounts of water withdrawn from beneath each of the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land, and Kiowa Heights Overlying Land areas do not exceed each individual allocation, all water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation as it is withdrawn.
15. The Consent Overlying Land, Fairgrounds Overlying Land and Terra Cotta Overlying Land together total 447.743 acres and are contiguous to each other (hereinafter "Contiguous Overlying Land"). The Kiowa Heights Overlying Land contains 94 acres and is noncontiguous to the Contiguous Overlying Land, as shown on attached Exhibit B.

16. The Combined Overlying Land is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Commission has jurisdiction over the ground water that is the subject of this Finding and Order.
17. The Commission Staff has evaluated the application relying on the claims to control of the Consent Underlying Ground Water, Terra Cotta Underlying Ground Water, Fairgrounds Underlying Ground Water and Kiowa Heights Underlying Ground Water (hereinafter "Underlying Ground Water") in the Aquifer made by the Applicant.
18. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable Aquifer may be less than the one hundred years upon which the amount of water in the Aquifer is allocated, due to anticipated water level declines.
19. In accordance with Sections 37-90-107(7)(c)(II) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 16, 2019 and May 23, 2019. No objections to the application were received within the time limit set by statute.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of right to designated ground water in the Arapahoe Aquifer underlying 276 acres of land, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., further described in Exhibit A; and orders the request for the change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 58-BD, 2197-BD and 2904-BD, is approved subject to the following conditions:

20. The allowed average annual amount of withdrawal of Underlying Ground Water from the Aquifer shall not exceed 247.6 acre-feet, consisting of the following individual allowed average annual amounts of withdrawal:
 - a. Contiguous Overlying Land = 205.3 acre-feet, consisting of:
 - i. the 129 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 25.6 acre-feet previously allocated in Determination of Water Right no. 2197-BD for the Fairgrounds Overlying Land, and
 - iii. the 50.7 acre-feet previously allocated in Determination of Water Right no. 58-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 42.3 acre-feet previously allocated in Determination of Water Right no. 2904-BD for the Kiowa Overlying Land.
21. The total volume of Underlying Ground Water that may be withdrawn from the Aquifer pursuant to this Determination of Water Right shall not exceed 24,760 acre-feet, consisting of the following individual volumes of Underlying Ground Water that may be withdrawn:

- a. Contiguous Overlying Land = 20,530 acre-feet, consisting of:
 - i. the 12,900 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 2,560 acre-feet previously allocated in Determination of Water Right no. 2197-BD for the Fairgrounds Overlying Land, and
 - iii. the 5,070 acre-feet previously allocated in Determination of Water Right no. 58-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 4,230 acre-feet previously allocated in Determination of Water Right no. 2904-BD for the Kiowa Overlying Land.
22. The Commission may adjust the total individual volumes and the individual allowed average annual amounts of withdrawal of Underlying Ground Water that may be withdrawn from the Aquifer to conform to actual Aquifer characteristics based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimates of the amounts of Underlying Ground Water in the Aquifer was incorrect.
 23. The individual allowed maximum annual amounts of withdrawal may exceed the individual allowed average annual amounts of withdrawal as long as the total individual volumes of Underlying Ground Water withdrawn do not exceed the sum of the product of the number of years since the dates of approval of the each Determination of Water Right for each separate overlying land area (the date of this Determination for the Consent Overlying Land, June 30, 2000 for the Terra Cotta Overlying Land, September 11, 2009 for the Fairgrounds Overlying Land, and September 7, 2012 for the Kiowa Heights Overlying Land) times the individual allowed average annual amounts of withdrawal allowed by each determination.
 24. The Applicant may pump the allowed average annual amounts of withdrawal and the allowed maximum annual amounts of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.
 25. All water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation, i.e. to the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, or the Kiowa Heights Underlying Ground Water, as it is withdrawn.
 26. No more than 98% of the allowed amounts of Underlying Ground Water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the underlying ground water withdrawn is being consumed.
 27. The use of the allowed amounts of Underlying Ground Water from this allocation shall be limited to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The place of use shall be limited to current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa. Subject to the limitation in paragraph 26, the ground water that is the subject of this Determination may be reused and successively used to extinction to the extent dominion and

control over the water is maintained and its volume can be distinguished from the volume of any stream system into which it is introduced to the satisfaction of the Commission.

28. Approval of this determination meets the requirements of Section 37-90-107(7)(d)(II) that requires a determination of ground water be made prior to the granting of a well permit pursuant to Section 37-90-107(7).
29. Wells withdrawing the allowed amounts of Underlying Ground Water allocated herein are subject to the following conditions:
 - a. The wells must be located on the above described 541.743 acres of Combined Overlying Land.
 - b. Wells located within the 447.743 acres of the Contiguous Overlying Land area shall only withdraw the average annual amounts of water determined for that area (totaling 205.3 acre-feet) and wells located within the 94 acres of the Kiowa Overlying Land area shall only withdraw the average annual amount of water determined for that area (42.3 acre-feet) unless the following condition is satisfied:
 - i. Any requests for combined withdrawal from noncontiguous areas must be identified in the well permit application and done in accordance with Rule 5.3.7.2 of the Designated Basins Rules.
 - c. No well shall be located within 600 feet of any existing large-capacity well in the same Aquifer unless a Waiver of Claim of Injury is obtained from the owner of the existing well or unless the Commission, after a hearing, finds that circumstances in a particular instance warrant that a well may be permitted without regard to this limitation.
 - d. The wells must be constructed to withdraw water from only the Arapahoe Aquifer.
 - e. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
 - f. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records, including assignment of all water pumped from each well to each individual allocation, shall be collected and permanently maintained by the well owner and submitted to the Commission.
 - g. The well shall be marked in a conspicuous place with this determination number, the well permit number, and the name of the Aquifer. The well owner shall take necessary means and precautions to preserve these markings.
30. Determination of Water Rights nos. 58-BD, 2197-BD and 2904-BD are hereby superseded by and subsumed into this determination and, from the date of this approval forward, the allocations in those previous determinations shall be used only in accordance with this approval in the absence of any subsequent approvals of the Commission modifying this Order.
31. A copy of this Findings and Order shall be recorded by the Applicant in the public records of the county in which the Combined Overlying Land is located so that a title examination of the

Aquifer: Arapahoe

Applicant: Town of Kiowa and Kiowa Water and Wastewater Authority

above described 541.743 acres of the Combined Overlying Land area, or any part thereof, shall reveal the existence of this determination.

32. The ground water right determined herein is a vested property right with specific ownership. The ground water right may be transferred independent of the land under which the right originated. Any action taken that is intended to convey, transfer, and/or sell the subject water right shall explicitly identify this Determination of Water Right number, the specific aquifer, and the annual volume (based on a 100-year aquifer life) or total volume of ground water that is being conveyed.

Dated this 11th day of July, 2019.

By: *Kevin G. Rein*
Kevin G. Rein, P.E.
Executive Director
Colorado Ground Water Commission

Keith Vander Horst
Keith Vander Horst, P.E.
Chief of Water Supply, Basins

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**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN UNDERLYING NEW LAND; AND A CHANGE IN TYPE OF USE, CHANGE IN PLACE OF USE AND CHANGE IN POINT OF DIVERSION FOR THE WATER ALLOCATED IN DETERMINATION OF WATER RIGHT NOS. 57-BD, 2196-BD AND 2903-BD

DETERMINATION NO.: 3723-BD

AQUIFER: Laramie-Fox Hills

APPLICANT: Town of Kiowa and Kiowa Water and Wastewater Authority

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Town of Kiowa and Kiowa Water and Wastewater Authority (hereinafter "Applicant") submitted an application for determination of water right to designated ground water from the Laramie-Fox Hills Aquifer, and a request for a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 57-BD, 2196-BD and 2903-BD.

FINDINGS

1. The application was received by the Colorado Ground Water Commission on June 7, 2018.
2. Applicant requests a determination of rights to designated ground water in the Laramie-Fox Hills Aquifer (hereinafter "Aquifer") underlying 276 acres, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., in Elbert County. According to a signed Nontributary Ground Water Consent Claim dated February 13, 2018 and February 14, 2018, attached hereto within Exhibit A, the Applicant claims the consent from the owners of the 276 acres of land to withdraw the ground water from the Aquifer underlying the land (such ground water hereinafter "Consent Underlying Ground Water"). The Applicant provided a copy of the ordinance regarding the appropriation of nontributary ground water that was introduced and passed by the Town of Kiowa on January 9, 1996, attached hereto within Exhibit A, as evidence that the Applicant has consent to withdraw the underlying ground water from the 276 acres of overlying land (such land hereinafter "Consent Overlying Land"), pursuant to Rule 5.3.10 of the Designated Basin Rules.
3. The Applicant intends to apply the Consent Underlying Ground Water to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The Applicant's proposed place of use of the Consent Underlying Ground Water is the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
4. The quantity of water in the Aquifer underlying the 276 acres of Consent Overlying Land claimed by the applicant is 8,900 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 15 percent.

- b. The average thickness of the saturated permeable material of the Aquifer beneath the Consent Overlying Land that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 215 feet.
5. Pursuant to Section 37-90-107(7)(a), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate the underlying ground water based on ownership of the overlying land and an aquifer life of one hundred years. Should the entire quantity of underlying ground water underlying the Consent Overlying Land be available for allocation, the allowed average annual amount of withdrawal from the Aquifer that could be allocated from beneath the Consent Overlying Land would be 89.0 acre-feet per year.
6. A review of the records in the Office of the State Engineer has disclosed that none of the Consent Underlying Ground Water in the Aquifer beneath the Consent Overlying Land has been previously allocated or permitted for withdrawal.
7. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.
8. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the Aquifer underlying the Consent Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Consent Underlying Ground Water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. Pursuant to the Rules, no more than 98% of the amount of the Consent Underlying Ground Water withdrawn annually shall be consumed.
9. Applicant requests a change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 57-BD, 2196-BD and 2903-BD. The allocation of ground water in determination of water right nos. 57-BD, 2196-BD and 2903-BD, for which the Applicant is seeking a change, is further described below:
 - a. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated June 30, 2000, the Ground Water Commission (hereinafter "Commission") approved a Determination of Water Right, no. 57-BD, for the Laramie-Fox Hills Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 117 acres, generally described as land primarily located in the N1/2 of the SE1/4, located in part of the N1/2 of the S1/2 of the SE1/4, and in part of the S1/2 of the S1/2 of the NE1/4, of Section 20, Township 8 South, Range 63 West of the 6th P.M., shown as the Terra Cotta property on attached Exhibit B and further described on attached Exhibit C ("Terra Cotta Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 37.7 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 3,770 acre-feet, based on a 100 year aquifer life.

- iv. The use of the allocated ground water was limited to the following beneficial uses: residential use in single family homes and multi-family, commercial, and replacement water.
 - v. The place of use was the Terra Cotta Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Terra Cotta Overlying Land.
 - vii. Withdrawal of ground water from the Laramie-Fox Hills aquifer underlying the Terra Cotta Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the underlying ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
- b. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 57-BD and provided a deed dated May 15, 2008 between Terra Cotta Investments, LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Terra Cotta Underlying Ground Water").
- c. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 11, 2009, the Commission approved a Determination of Water Right, no. 2196-BD, for the Laramie-Fox Hills Aquifer, summarized as follows.
- i. The determination quantified an amount of water underlying 54.743 acres, generally described as part of the E1/2 of Section 17, Township 8 South, Range 63 West of the 6th P.M., shown as the Fairgrounds property on attached Exhibit B and further described on attached Exhibit D ("Fairgrounds Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 17.7 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 1,770 acre-feet, based on a 100 year aquifer life.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet, wildlife, and replacement.
 - v. The place of use was the Fairgrounds Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Fairgrounds Overlying Land.
 - vii. Withdrawal of ground water from the Laramie-Fox Hills aquifer underlying the Fairgrounds Overlying Land will not, within one hundred years, deplete the flow

of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the underlying ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

- d. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2196-BD and provided a deed dated December 11, 1990 between the County of Elbert and the Town of Kiowa and a deed dated October 15, 2018 between Elbert County BOCC and the Towns of Kiowa as evidence of that ownership (hereinafter "Fairgrounds Underlying Ground Water").
- e. Pursuant to Section 37-90-107(7), CRS, in a Findings and Order dated September 7, 2012, the Commission approved a Determination of Water Right, no. 2903-BD, for the Laramie-Fox Hills Aquifer, summarized as follows.
 - i. The determination quantified an amount of water underlying 94 acres of land, generally described as part of the SE1/4 of the NE1/4 of Section 21 and part of the NW1/4 of Section 22, Township 8 South, Range 63 West of the 6th P.M., shown as the Kiowa Heights property on attached Exhibit B and further described on attached Exhibit E ("Kiowa Heights Overlying Land").
 - ii. The allowed average annual amount of ground water to be withdrawn was 28.2 acre-feet.
 - iii. The total volume of underlying ground water that was allocated was 2,820 acre-feet.
 - iv. The use of the allocated ground water was limited to the following beneficial uses: irrigation, domestic, commercial, livestock, replacement, fish and wildlife, pond and industrial.
 - v. The place of use was the Kiowa Heights Overlying Land.
 - vi. Withdrawal of the allocated water was limited to wells located on the Kiowa Heights Overlying Land.
 - vii. Withdrawal of ground water from the Laramie-Fox Hills aquifer underlying the Kiowa Heights Overlying Land will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the Underlying Ground Water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
- f. The Applicant claims ownership of the ground water allocated in Determination of Water Right no. 2903-BD and provided a deed dated May 24, 2018 between Kiowa

Heights Development Co. LLC and the Town of Kiowa as evidence of that ownership (hereinafter "Kiowa Heights Underlying Ground Water").

10. The Applicant is seeking a change of type of use for the water allocated in determination of water right nos. 57-BD, 2196-BD and 2903-BD from the uses specified in those determinations, and described above, to municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation.
11. The Applicant is seeking a change in place of use for the water allocated in determination of water right nos. 57-BD, 2196-BD and 2903-BD from the places of use specified in those determinations and described above to the current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa.
12. The Applicant is seeking a change in point of diversion for the water allocated in determination of water right nos. 57-BD, 2196-BD and 2903-BD from the Overlying Land associated with each determination, as described above, to any location on the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land and Kiowa Heights Overlying Land (hereinafter "Combined Overlying Land").
13. The Applicant is seeking approval to divert the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water together from any well located on the Combined Overlying Land, in the manner of a well field.
14. The Applicant's request for changes to Determination of Water Right nos. 57-BD, 2196-BD, and 2903-BD essentially results in subsuming the existing allocations of Determination of Water Right nos. 57-BD, 2196-BD, and 2903-BD into a single new Determination of Water Right containing the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, and the Kiowa Heights Underlying Ground Water. The existing allocations of Determination of Water Right nos. 57-BD, 2196-BD, and 2903-BD may be subsumed into a single new Determination of Water right so long as, pursuant to section 37-90-107(7)(c)(III), C.R.S., the amounts of ground water allocated in those existing allocations are final amounts of ground water so determined from beneath their respective overlying lands; except that the Commission shall retain jurisdiction for subsequent adjustment of such amounts to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes. In order to ensure the amounts of water withdrawn from beneath each of the Consent Overlying Land, Terra Cotta Overlying Land, Fairgrounds Overlying Land, and Kiowa Heights Overlying Land areas do not exceed each individual allocation, all water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation as it is withdrawn.
15. The Consent Overlying Land, Fairgrounds Overlying Land and Terra Cotta Overlying Land together total 447.743 acres and are contiguous to each other (hereinafter "Contiguous Overlying Land"). The Kiowa Heights Overlying Land contains 94 acres and is noncontiguous to the Contiguous Overlying Land, as shown on attached Exhibit B.
16. The Combined Overlying Land is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Commission has jurisdiction over the ground water that is the subject of this Finding and Order.

17. The Commission Staff has evaluated the application relying on the claims to control of the Consent Underlying Ground Water, Terra Cotta Underlying Ground Water, Fairgrounds Underlying Ground Water and Kiowa Heights Underlying Ground Water (hereinafter "Underlying Ground Water") in the Aquifer made by the Applicant.
18. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable Aquifer may be less than the one hundred years upon which the amount of water in the Aquifer is allocated, due to anticipated water level declines.
19. In accordance with Sections 37-90-107(7)(c)(II) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 16, 2019 and May 23, 2019. No objections to the application were received within the time limit set by statute.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of right to designated ground water in the Laramie-Fox Hills Aquifer underlying 276 acres of land, generally described as a portion of the S1/2 of Section 17, a portion of the SW1/4 of the SW1/4 of Section 16, a portion of the N1/2 of Section 20 and a portion of the NW1/4 of Section 21, all in Township 8 South, Range 63 West, 6th P.M., further described in Exhibit A; and orders the request for the change in type of use, change in place of use and change in point of diversion for the water allocated in determination of water right nos. 57-BD, 2196-BD and 2903-BD, is approved subject to the following conditions:

20. The allowed average annual amount of withdrawal of Underlying Ground Water from the Aquifer shall not exceed 172.6 acre-feet, consisting of the following individual allowed average annual amounts of withdrawal:
 - a. Contiguous Overlying Land = 144.4 acre-feet, consisting of:
 - i. the 89 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,
 - ii. the 17.7 acre-feet previously allocated in Determination of Water Right no. 2196-BD for the Fairgrounds Overlying Land, and
 - iii. the 37.7 acre-feet previously allocated in Determination of Water Right no. 57-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 28.2 acre-feet previously allocated in Determination of Water Right no. 2903-BD for the Kiowa Overlying Land.
21. The total volume of Underlying Ground Water that may be withdrawn from the Aquifer pursuant to this Determination of Water Right shall not exceed 17,260 acre-feet, consisting of the following individual volumes of Underlying Ground Water that may be withdrawn:
 - a. Contiguous Overlying Land = 14,440 acre-feet, consisting of:
 - i. the 8,900 acre-feet determined herein to be available for allocation underlying the Consent Overlying Land Area,

- ii. the 1,770 acre-feet previously allocated in Determination of Water Right no. 2196-BD for the Fairgrounds Overlying Land, and
 - iii. the 3,770 acre-feet previously allocated in Determination of Water Right no. 57-BD for the Terra Cotta Overlying Land.
 - b. Kiowa Overlying Land = the 2,820 acre-feet previously allocated in Determination of Water Right no. 2903-BD for the Kiowa Overlying Land.
22. The Commission may adjust the total individual volumes and the individual allowed average annual amounts of withdrawal of Underlying Ground Water that may be withdrawn from the Aquifer to conform to actual Aquifer characteristics based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimates of the amounts of Underlying Ground Water in the Aquifer was incorrect.
23. The individual allowed maximum annual amounts of withdrawal may exceed the individual allowed average annual amounts of withdrawal as long as the total individual volumes of Underlying Ground Water withdrawn do not exceed the sum of the product of the number of years since the dates of approval of the each Determination of Water Right for each separate overlying land area (the date of this Determination for the Consent Overlying Land, June 30, 2000 for the Terra Cotta Overlying Land, September 11, 2009 for the Fairgrounds Overlying Land, and September 7, 2012 for the Kiowa Heights Overlying Land) times the individual allowed average annual amounts of withdrawal allowed by each determination.
24. The Applicant may pump the allowed average annual amounts of withdrawal and the allowed maximum annual amounts of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.
25. All water diverted by any well on the Combined Overlying Land must be assigned to an individual allocation, i.e. to the Consent Underlying Ground Water, the Terra Cotta Underlying Ground Water, the Fairgrounds Underlying Ground Water, or the Kiowa Heights Underlying Ground Water, as it is withdrawn.
26. No more than 98% of the allowed amounts of Underlying Ground Water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the underlying ground water withdrawn is being consumed.
27. The use of the allowed amounts of Underlying Ground Water from this allocation shall be limited to the following beneficial uses: municipal (including but not limited to domestic, commercial, industrial, irrigation, stockwatering, and recreational), and replacement and augmentation. The place of use shall be limited to current municipal service area and future municipal service area for the Kiowa Water and Wastewater Authority, including the Town of Kiowa. Subject to the limitation in paragraph 26, the ground water that is the subject of this Determination may be reused and successively used to extinction to the extent dominion and control over the water is maintained and its volume can be distinguished from the volume of any stream system into which it is introduced to the satisfaction of the Commission.

28. Approval of this determination meets the requirements of Section 37-90-107(7)(d)(II) that requires a determination of ground water be made prior to the granting of a well permit pursuant to Section 37-90-107(7).
29. Wells withdrawing the allowed amounts of Underlying Ground Water allocated herein are subject to the following conditions:
- a. The wells must be located on the above described 541.743 acres of Combined Overlying Land.
 - b. Wells located within the 447.743 acres of the Contiguous Overlying Land area shall only withdraw the average annual amounts of water determined for that area (totaling 144.4 acre-feet) and wells located within the 94 acres of the Kiowa Overlying Land area shall only withdraw the average annual amount of water determined for that area (28.2 acre-feet) unless the following condition is satisfied:
 - i. Any requests for combined withdrawal from noncontiguous areas must be identified in the well permit application and done in accordance with Rule 5.3.7.2 of the Designated Basins Rules.
 - c. No well shall be located within 600 feet of any existing large-capacity well in the same Aquifer unless a Waiver of Claim of Injury is obtained from the owner of the existing well or unless the Commission, after a hearing, finds that circumstances in a particular instance warrant that a well may be permitted without regard to this limitation.
 - d. The wells must be constructed to withdraw water from only the Laramie-Fox Hills Aquifer.
 - e. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
 - f. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records, including assignment of all water pumped from each well to each individual allocation, shall be collected and permanently maintained by the well owner and submitted to the Commission.
 - g. The well shall be marked in a conspicuous place with this determination number, the well permit number, and the name of the Aquifer. The well owner shall take necessary means and precautions to preserve these markings.
30. Determination of Water Rights nos. 57-BD, 2196-BD and 2903-BD are hereby superseded by and subsumed into this determination and, from the date of this approval forward, the allocations in those previous determinations shall be used only in accordance with this approval in the absence of any subsequent approvals of the Commission modifying this Order.
31. A copy of this Findings and Order shall be recorded by the Applicant in the public records of the county in which the Combined Overlying Land is located so that a title examination of the above described 541.743 acres of the Combined Overlying Land area, or any part thereof, shall reveal the existence of this determination.

Aquifer: Laramie-Fox Hills

Applicant: Town of Kiowa and Kiowa Water and Wastewater Authority

32. The ground water right determined herein is a vested property right with specific ownership. The ground water right may be transferred independent of the land under which the right originated. Any action taken that is intended to convey, transfer, and/or sell the subject water right shall explicitly identify this Determination of Water Right number, the specific aquifer, and the annual volume (based on a 100-year aquifer life) or total volume of ground water that is being conveyed.

Dated this 11th day of July, 2019.

By: 

Kevin G. Rein, P.E.
Executive Director
Colorado Ground Water Commission



Keith Vander Horst, P.E.
Chief of Water Supply, Basins

Prepared by: jmw
F&O3723-BD.doc

APPENDIX B OPINIONS OF PROBABLE CAPITAL COSTS

Wright Water Engineers, Inc.



Client:	KIOWA WATER AND WASTEWATER AUTHORITY
Project:	POTABLE WATER SYSTEM

DRAFT
OPINION OF PROBABLE
CAPITAL COSTS
 (+/- 30 Percent)
Groundwater Well & Water System
Improvements

Project No: 201-087.000
Sheet 1 of 1
By: JMN Ckd: WFL
Date: 12/5/25 Date: 12/5/25
Rev: Date:

DESCRIPTION	COMMENTS/REFERENCES	QTY.	UNIT MEAS.	UNIT COST				TOTAL COST
				MATER.	LABOR	EQUIP.	TOTAL	
Well Development	Drill, Construct, and Test 1 Well 12" casing Arapahoe top @ 1200 feet deep	1,700	LF				\$960	\$1,630,000
Sound Barrier	rental during well drilling	1	EA				\$160,000	\$160,000
Well Equipment	Pump, Motors, Controls	1	LS				\$270,000	\$270,000
New Well & Chlorination Building	Previous Project	400	SF				\$430	\$172,000
Liquid Chlorine System	Previous Project	1	LS				\$35,000	\$35,000
Valves and Metering	Previous Project	1	LS				\$43,000	\$43,000
Site Piping & Connection Into Existing Piping to Storage Tank		1	LS				\$85,000	\$85,000
Site Work and Fencing		1	LS				\$20,000	\$20,000
Backup Power Generator & Automatic Transfer Switch		1	LS				\$270,000	\$270,000
GESC		1	LS				\$25,000	\$25,000
Subtotal								\$2,710,000
Contingency (20%)								\$542,000
Subtotal								\$3,252,000
Environmental Assessment w/ Cultural and Archeological Survey		1	LS				\$44,000	\$44,000
Engineering Design Phase (15%)								\$490,000
Office Engineer Construction Phase (5%)								\$163,000
Engineer Resident Project Representative	Assume funding requires nearly fulltime construction observation for 26 weeks	1,100	Hourly				\$156	\$172,000
Funding Requirement Compliance (3%)	American Iron and Steel, Davis Bacon Wages and compliance paperwork							\$98,000
Electrical Power Hookup	Guestimate from prior projects							\$50,000
TOTAL								\$4,270,000

Notes:

1. Assumes existing power service requires size increase for new well equipment.
2. Assumes rate of inflation increase does not continue at historic levels.
3. Excludes administrative and legal fees.

Wright Water Engineers, Inc.

Wright Water Engineers, Inc.



Client:	KIOWA WATER AND WASTEWATER AUTHORITY
Project:	POTABLE WATER SYSTEM

DRAFT
OPINION OF PROBABLE
CAPITAL COSTS
 (+/- 30 Percent)
Groundwater Well & Water System
Improvements

Project No: 201-087.000
Sheet 1 of 1
By: JMN Ckd: WFL
Date: 12-5-25 Date: 12-5-25
Rev: Date:

DESCRIPTION	COMMENTS/REFERENCES	QTY.	UNIT MEAS.	UNIT COST				TOTAL COST
				MATER.	LABOR	EQUIP.	TOTAL	
Well Development	Drill, Construct, and Test 1 Well 12" casing Arapahoe top @ 1200 feet deep	1,700	LF				\$960	\$1,600,000
Greensand filters and gear	200 gpm	1	EA				\$1,000,000	\$1,000,000
Sound Barrier	rental during well drilling	1	EA				\$160,000	\$160,000
Well Equipment	Pump, Motors, Controls	1	LS				\$270,000	\$270,000
New Well & Chlorination Building	Previous Project	840	SF				\$430	\$361,200
Liquid Chlorine System	Previous Project	1	LS				\$35,000	\$35,000
Valves and Metering	Previous Project	1	LS				\$43,000	\$43,000
Site Piping & Connection Into Existing Piping to Storage Tank		1	LS				\$85,000	\$85,000
Site Work and Fencing		1	LS				\$25,000	\$25,000
Backup Power Generator & Automatic Transfer Switch		1	LS				\$270,000	\$270,000
GESC		1	LS				\$25,000	\$25,000
Subtotal								\$3,874,000
Contingency (20%)								\$800,000
Subtotal								\$4,670,000
Engineering Design Phase (15%)								\$700,000
Office Engineer Construction Phase (5%)								\$230,000
Engineer Resident Project Representative	Assume funding requires nearly fulltime construction observation for 26 weeks	1,100	Hourly				\$156	\$170,000
Funding Requirement Compliance (3%)	American Iron and Steel, Davis Bacon Wages and compliance paperwork							\$140,000
Electrical Power Hookup	Guestimate from prior projects							\$50,000
TOTAL								\$5,960,000

Notes:

1. Assumes existing power service requires size increase for new well equipment.
2. Assumes rate of inflation increase does not continue at historic levels.
3. Excludes administrative and legal fees.

Wright Water Engineers, Inc.