

# **Davis Road Minor Subdivision**

## **WATER RESOURCES REPORT**

**For  
Davis Road  
Minor Subdivision**

**March 20, 2023**

**Prepared By:**



**13511 Northgate Estates Dr., Ste. 250, Colorado Springs, Colorado 80921**

## **Executive Summary:**

### **Water Resources Report – Davis Road Minor Subdivision**

Chris D. Cummins of Monson, Cummins, Shoheit & Farr, LLC, on behalf of the Applicants, Erik M. Murr and Sharon A. Murr, (“Owners”), provides the following Water Resources/Wastewater Disposal Report in support of the Davis Road Minor Subdivision. The undersigned has been practicing water law almost exclusively, for nearly 21 years, and has substantial experience with Denver Basin groundwater resources, augmentation plans, designated basin replacement plans, subdivision proceedings, and rural water usage, and therefore should be considered a “qualified professional” as concerns water resources, as discussed at Section 8.4.7(B)(1)(c) of the El Paso County Land Development Code. This Report, prepared in conjunction with other professionals, is intended to demonstrate to the El Paso County Planning Commission and the BoCC, the sufficiency in terms of quantity and dependability, of the water rights and resources to be utilized in the proposed Davis Road Minor Subdivision (the “Subdivision”), in El Paso County, Colorado.

The Property consists of approximately 37.4 acres located at the current street addresses of 14090 Davis Road, Peyton, CO 80831, in the SE $\frac{1}{4}$  SW $\frac{1}{4}$  of Section 33, Township 13 South, Range 64 West of the 6<sup>th</sup> P.M. Each of the four lots in the Subdivision is to be provided water and sewer/septic services through an on-site individual well and Individual Septic Disposal Systems (“ISDS”). The proposed minor subdivision has one existing residence on the lot containing approximately 21.3 acres, while the remaining three lots are currently unimproved land, and are each approximately 5 acres in size.

It is expected that three of the residential lots in the Subdivision will require an average of 0.50 annual acre-feet of water supply, while the fourth lot will require an average of 0.38 annual acre-feet of water supply, for a total of 1.88 annual acre-feet being withdrawn from the Denver aquifer annually, to be provided through four individual wells to the not-nontributary Denver aquifer, consistent with the Findings and Order issued by the Colorado Ground Water Commission, Determination No. 4366-BD, on June 8, 2022 for the Denver aquifer, and the related Replacement Plan Determination No. 4366-RP, dated June 21, 2022 (“Replacement Plan”). Such water supply demand is similar to other rural residential homes’ historical demand. The Determination No. 4366-BD and Replacement Plan provide for a 300-year water supply for all four lots within the Subdivision, with each lot utilizing an ISDS of a non-evaporative nature.

The water resources to be utilized on the residential lots in the Subdivision are typical of rural residential development in this area of El Paso County, Colorado. The Findings and Order for Determination No. 4366-BD and Replacement Plan 4366-RP issued by the Colorado Ground Water Commission, demonstrates a sufficient quantity and reliability of water to support compliance with El Paso County’s 300-year water supply rules for subdivisions of this nature.

## **I. INTRODUCTION**

The purpose of this report is to provide a preliminary outline of the water resources, associated wastewater requirements, necessary for approval of the Davis Road Minor Subdivision, as proposed.

1.1 New Development Description: The Subdivision consists of approximately 37.4 acres located at the current addresses of 14090 Davis Road, Peyton, CO 80831. The Property will be subdivided into four total lots. **Exhibit A**, attached hereto, is the plan for the Subdivision as proposed, prepared by Oliver E. Watts.

## **II. PROJECTION OF WATER NEEDS**

2.1 Analysis of Water Demands: It is expected that the four residential lots in the Subdivision will utilize four individual wells (one well per lot) drilled to the Denver aquifer for domestic-type uses, including in-house, landscape/irrigation of lawn and gardens, watering of domestic animals and stock, and fire protection. An existing well with Permit No. 87143-F will provide water supply to one of the lots, and a well to be constructed under Permit No. 87436-F will provide water supply to a second lot. The well permits for the remaining two lots have not yet been issued. It is anticipated that the residences on the lots will each utilize 0.26 acre-feet annually for in-house residential purposes in accordance with the El Paso County Land Development Code Section 8.4.7. Three of the lots may pump up to 0.50 acre-feet annually for all permitted uses including in-house, irrigation, and domestic animal and stock watering, while the fourth lot may pump up to 0.38 acre-feet annually in accordance the Replacement Plan. The fourth lot is the only lot subject to the Replacement Plan, which allows the well to-be constructed on the lot to withdraw from the area of actual depletion of the Denver Basin aquifer. Pumping from wells on the other three lots in the Subdivision do not require a replacement plan because pumping on the three lots will occur in that portion of the Denver Basin aquifer which is located more than a mile from contact with the alluvium. The existing well, permitted under Permit No. 87143-F, is constructed to and will produce from the non-tributary Denver aquifer at a flow rate of 10 to 15 gallons per minute, based upon past production.

There are no other wells currently constructed on the property. Based on past experience with the numerous Denver aquifer wells serving rural residential properties throughout El Paso County, this rate of production should be more than sufficient to meet demand for in-house use.

## **III. PROPOSED WATER RIGHTS AND FACILITIES**

3.1 Water Rights: The Colorado Ground Water Commission issued the Findings and Order for Determination No. 4366-BD for the Denver aquifer underlying the Subdivision on June 8, 2022. A Replacement Plan utilizing water from the actual depletion

area of the not-nontributary Denver aquifer (Area A – 6.7 acres) which underlies only a portion of the Subdivision, was approved by the Colorado Ground Water Commission in its Findings and Order for Determination No. 4366-RP on June 21, 2022. A copy of the Replacement Plan is attached hereto as **Exhibit B**. A copy of the associated Determinations of Water Rights for the underlying Denver Basin groundwater in Determination Nos. 4366-BD (Denver), 4365-BD (Arapahoe), and 4364-BD (Laramie-Fox Hills), are collectively attached as **Exhibit C**, including the following specific quantities of water that will meet both legal and physical needs on a 300-year basis:

<b>AQUIFER</b>	<b>Saturated Thickness (ft)</b>	<b>Total Water Adjudicated (Acre Feet)</b>	<b>Annual Average Withdrawal – 100 Years (Acre Feet)</b>	<b>Annual Average Withdrawal – 300 Years (Acre Feet)</b>
Denver (NNT– Actual) (Area A only – 6.7 acres)	110	125	1.25	0.41
Denver (NNT – 4%) (Area B only – 30.7 acres)	110	548	5.48	1.83
Arapahoe (NNT– 4%)	177	1,130	11.30	3.76
Laramie Fox Hills (NT)	215	1,210	12.10	4.03

All depletions are augmented in time, place, and amount through septic return flows during pumping. Three of the wells which will provide water on three of the Subdivision’s lots will pump water from the portion of the Denver aquifer which is located more than a mile from contact with the alluvium (known as NNT – 4%) and therefore do not require a replacement plan to replace a minimum of 4% of depletions from pumping annually (Area B – 30.7 acres).

3.2 Source of Supply: Rural residential water supply demand will be met using an existing not-nontributary – 4% Denver aquifer formation well, and three not-nontributary wells to be constructed to the Denver aquifer. Two of the future wells will be constructed in the NNT- 4% depletion area, one future well will be constructed in the NNT- actual depletion area, pursuant to the Replacement Plan. Consistent with El Paso County Land Development Code Section 8.4.7(B)(3)(c)(v), a minor subdivision utilizing individual wells need not make a further showing as to source of supply.

3.3 Pumping Rates for Service: The Denver aquifer in the location of the Subdivision is generally known to produce approximately 10-15 gallons per minute, more than sufficient for single family residential and accessory uses.

**IV. WASTEWATER AND WASTEWATER TREATMENT** – While soils, geology and geotechnical analysis will be provided by other of Owners’ consultants, the Owners provide a summary of ISDS to be utilized herein, as relates to water usage and resulting return flows which support the approved Replacement Plan.

4.1 Septic/Wastewater Loads: Septic projections are based on similar Denver Basin residential uses on rural residential lots. Average daily wastewater loads are expected to be approximately 160 gallons per day per single-family residence assuming Replacement Plan. Maximum daily wastewater loads are expected to be roughly 210 gallons per day per single-family residence based on the El Paso County Land Development Code residential demand standard of 0.26 acre-feet per year.

4.2 On-Site Wastewater Treatment Systems: The four residential lots within the Subdivision will be served by individual on-site wastewater treatment systems. The on-site wastewater treatment systems have and will be installed according to El Paso County Guidelines and properly maintained to prevent contamination of surface and subsurface water resources.

Respectfully submitted this 20th day of March, 2023.

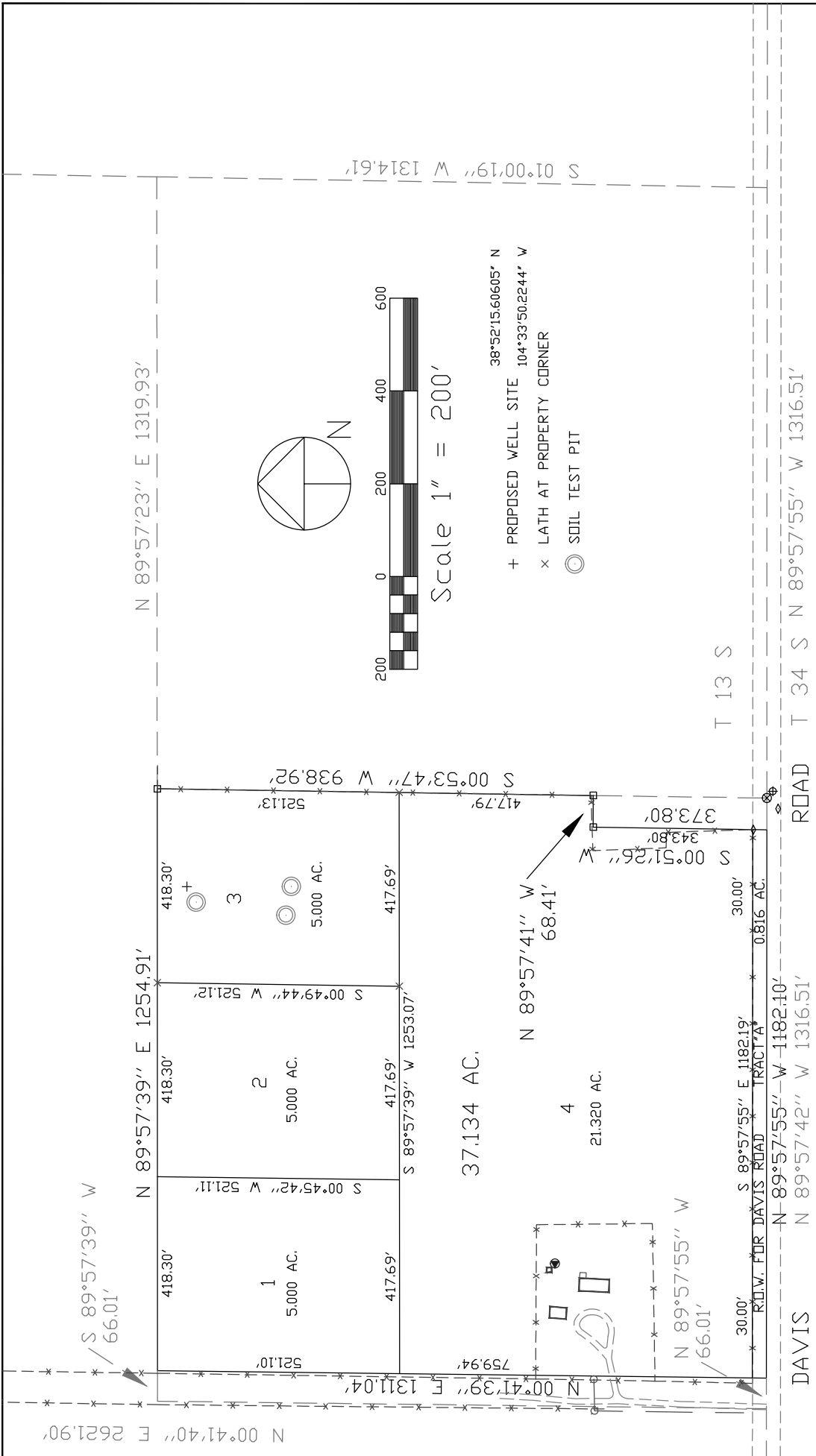
MONSON, CUMMINS, SHOHET & FARR, LLC

*/s/ Chris D. Cummins*

Chris D. Cummins

Exhibits:

- A – Plat of the Property
- B – Replacement Plan
- C – Determinations



DRAWN BY: D.E. WATTS DATE: 10-19-21 DWG. NO.: 21-5660-01 SURVEYED BY: DEW, ESW, 10-20-21		REVISIONS   		OLIVER E. WATTS CONSULTING ENGINEER COLORADO SPRINGS		PROJECT MURR PROPERTY PART SE SW 33-13-64 EL PASO COUNTY		SHT. NAME <h1 style="text-align: center;">SITE PLAN</h1>		SHT. NO. 1 OF 1	
---	--	-----------------------	--	--	--	---	--	---	--	--------------------	--

**COLORADO GROUND WATER COMMISSION  
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR REPLACEMENT PLAN TO ALLOW THE WITHDRAWAL OF GROUNDWATER FROM THE DENVER AQUIFER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUNDWATER BASIN.

---

REPLACEMENT PLAN NO. 4366-RP

FOR DETERMINATION OF WATER RIGHT NO. 4366-BD

AQUIFER: DENVER

APPLICANT: ERIK M. MURR AND SHARON A. MURR

---

In compliance with section 37-90-107.5, C.R.S. and the Designated Basin Rules, 2 CCR 410-1 (Rules or Rule), Erik M. Murr and Sharon A. Murr (Applicant) submitted an application for a replacement plan to allow the withdrawal of groundwater from the Denver Aquifer that has been allocated by Determination of Water Right No. 4366-BD.

**FINDINGS**

1. Pursuant to section 37-90-107(7), C.R.S., in a Findings and Order dated June 21, 2022, the Ground Water Commission (Commission) approved a Determination of a Right to an Allocation of Groundwater, No. 4366-BD, from the Denver Aquifer (Aquifer), summarized as follows.
  - a. The determination quantified an amount of water from beneath 37.4 acres of overlying land described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, in El Paso County (Overlying Land).
  - b. The amount of water in the aquifer that was allocated was 125 acre-feet for the not-nontributary (actual impact replacement) portion of the Denver aquifer and 548 acre-feet for the not-nontributary (4% replacement) portion of the Denver aquifer, and the allowed average annual amount of groundwater to be withdrawn from the aquifer was limited to 1.25 acre-feet per year for the not-nontributary (actual impact replacement) portion of the Denver aquifer and 5.48 acre-feet per year for the not-nontributary (4% replacement) portion of the Denver aquifer (subject to adjustment by the Commission to conform to actual local aquifer characteristics).
  - c. The use of groundwater is limited to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage.
  - d. Withdrawal of the subject not-nontributary (actual impact replacement) groundwater 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, the groundwater is considered to be not-nontributary, and 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 for wells to withdraw the subject groundwater.
2. The subject water is Designated Groundwater located within the boundaries of the Upper Black Squirrel Creek Designated Groundwater Basin and the Upper Black Squirrel Creek Ground

Water Management District. The Commission has jurisdiction over the withdrawal of the water by large capacity wells that are permitted pursuant to section 37-90-107(7).

3. Withdrawal of the subject groundwater would deplete the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin, which, according to Rule 5.2.6.2, has been determined to be over appropriated. Such depletion would unreasonably impair existing large capacity alluvial rights withdrawing water from that alluvial aquifer.
4. Pursuant to Rule 5.6.1.A this plan must be adequate to prevent any material injury to water rights of other appropriators, which for purposes of this plan means large capacity wells withdrawing water from the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin.
5. Pursuant to Rule 5.3.6.2(C) the amount of replacement water shall provide for the depletion of alluvial water for the first 100 years due to all previous pumping and if pumping continues beyond 100 years, shall replace actual impact until pumping ceases.
6. The application for the replacement plan was received by the Commission on December 6, 2021.
7. The Applicant proposes to divert 0.38 acre-feet annually from the not-nontributary (actual impact replacement) portion of Denver Aquifer for a period of 300 years. The Denver aquifer water will be withdrawn through one (1) well to be located on one (1) residential lot. The Denver Aquifer well is proposed to divert 0.38 acre-feet of water annually for in-house use in one (1) residence (with an estimated water demand of 0.26 acre-feet per year); accessory uses of lawn and garden irrigation; and for the watering of domestic animals and livestock. The land on which the wells will be located is the 6.7 acres described as Area A in Determination of Water Right no. 4366-BD which overlies not-nontributary groundwater located closer than one mile from the Aquifer contact with the alluvium described in the Findings and Order of that determination.
8. At a continuous withdrawal of 0.38 acre-feet annually of Denver Aquifer water for 300 years, depletions to the alluvial aquifer system of the Upper Black Squirrel Creek Designated Groundwater Basin would steadily increase to 0.18 acre-feet per year in the 300th year, which is equal to 47.4% of pumping, as shown in Exhibit A.
9. The Applicant proposes to provide 0.18 acre-feet per year of replacement water to the alluvial aquifer system of the Upper Black Squirrel Creek Designated Groundwater Basin. The proposed source of replacement water is septic return flows from the in-house use of the groundwater to be pumped under the plan. The Applicant estimates that return flows from the lot will consist of 90% of the water used for in-house purposes. Assuming the lot uses a minimum total annual amount for in-house use of 0.20 acre-feet, the total return flow under the plan would be 0.18 acre-feet annually.
10. The subject property is located within the drainage of Black Squirrel Creek, and the return flows will flow to the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin. The Applicant proposes to aggregate all replacements to the drainage in which the well or wells will operate, in accordance with Guideline 2007-1.
11. Pursuant to Rule 5.6.1.B this plan must be adequate to prevent unreasonable impairment of water quality. Pursuant to Rule 5.6.1.B.1.b, if the replacement source water is from an



onsite wastewater treatment system permitted by a local health agency and the applicant demonstrates the source is in compliance with that permit there shall be a rebuttable presumption of no unreasonable impairment of water quality.

12. Pursuant to Rule 5.6.1.C this plan, including the proposed uses of the water withdrawn pursuant to the plan, must not be speculative, and must be technically and financially feasible and within the Applicant's ability to complete. The plan, including the proposed uses of the water withdrawn pursuant to the plan, is not speculative. The plan appears technically and financially feasible and within the Applicant's ability to complete.
13. Pursuant to Rule 5.6.1.D this plan must be able to be operated and administered on an ongoing and reliable basis. The plan appears to be able to be operated and administered on an ongoing and reliable basis.
14. Pursuant to Rule 5.6.1.F replacement source water must be physically and legally available in time, place and amount to prevent material injury. As determined in Determination of Water Right No. 4366-BD water is currently available in the amounts and for the number of years proposed to be diverted.
15. Pursuant to Rule 5.6.1.G the replacement source water must be legally available for use. Records in this office indicate that the Applicant controls the water right to be used as the source of replacement water, consisting of Determination of Water Right No. 4366-BD, and such water is legally available for use pursuant to this plan.
16. In accordance with Rule 5.6.4 the application was referred to the Upper Black Squirrel Creek Ground Water Management District on April 14, 2022. No response was received from the District.
17. In accordance with sections 37-90-107.5 and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on April 21, 2022 and April 28, 2022. No objections to the application were received within the time limit set by statute.
18. According to Rule 5.6.1:
  - a. The Applicant has the burden of proving the adequacy of the plan in all respects.
  - b. If the applicant meets its burden of proof, the Commission shall grant approval of the plan which shall include any terms and conditions established the Commission.
19. The Commission Staff has evaluated the application pursuant to section 37-90-107.5, and the requirements of Rule 5.3.6.2(C) and Rule 5.6, finds that the requirements have been meet, and the plan may be approved to allow diversions from the Denver Aquifer if operated subject to the conditions given below.

### **ORDER**

In accordance with section 37-90-107.5, and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for a replacement plan to allow the withdrawal of groundwater from the Denver Aquifer underlying 37.4 acres that are the subject of Determination of Water Right no. 4366-BD is approved subject to the following conditions:

20. The Denver Aquifer water will be withdrawn through one (1) well to be located on one (1) residential lot. The allowed use of groundwater for the well under this plan is in-house use, accessory uses of lawn and garden irrigation, and for the watering of domestic animals and livestock. The land on which the wells will be located is the 6.7 acres described as Area A in Determination of Water Right no. 4366-BD which overlies not-nontributary groundwater located closer than one mile from the Aquifer contact with the alluvium described in the Findings and Order of that determination.
21. The allowed annual amount of groundwater to be withdrawn from the Aquifer by the well operating under this plan shall not exceed 0.38 acre-feet.
22. A totalizing flow meter shall be installed on each well. The well owner shall maintain the meter in good working order.
23. Permanent records of all withdrawals of groundwater from each well shall be recorded at least annually by the well owners, permanently maintained, and provided to the Commission and the Upper Black Squirrel Creek Ground Water Management District on an annual basis for the previous calendar year, by February 15<sup>th</sup> of the following year, or more often upon request.
24. Pumping under this plan is limited to a period of 300 years. The year of first use of this replacement plan shall be the calendar year of construction of a well permitted pursuant to this plan or permitting of an existing well pursuant to the plan.
25. Return flows from in-house use of groundwater shall occur through individual on-lot non-evaporative septic systems located within the 37.4 acres of Overlying Land that are the subject of Determination of Water Right No. 4366-BD. The septic systems must be constructed and operated in compliance with a permit issued by a local health agency.
26. Replacement of depletions must be provided annually in the acre-feet amounts shown in Exhibit A. Annual replacement requirements may be computed by pro-rating between the values given on Exhibit A, or for simplicity may be taken as the amount shown in the next succeeding 5 year increment.
27. The Applicant or their successor(s) are responsible for ensuring that replacement water is provided to the alluvial aquifer as required by this plan. The annual replacement requirement and the annual amount of replacement water provided shall be calculated and reported on a form acceptable to the Commission. The annual amount of replacement water provided must be no less than the annual replacement requirement on a yearly basis. No credit shall be claimed by the Applicant for an oversupply of replacement water provided to the alluvium during previous years.
28. The Applicant must provide the required annual amount of replacement water for the first 100 years, or for as long as a well is operated pursuant to this plan, whichever is longer.
29. To assure adequate return flows, the well must be serving an occupied single-family dwelling that is generating return flows via a non-evaporative septic system before any irrigation or animal watering is allowed to be served by the well.
30. So long as the well continues to pump and supply an occupied dwelling, the plan's required replacement obligations, shown in Exhibit A, will be met. Should the well cease pumping for in-house use within the first 100 years an amended or alternate replacement plan must be

obtained that will replace actual depletions to the alluvial aquifer so as to prevent any material injury to water rights of other appropriators.

31. The Applicant (and their successors) must gather and maintain permanent records of all information pertaining to operation of this plan, which shall include, but is not be limited to, those items identified below. The Applicant must submit records to the Commission and the Upper Black Squirrel Creek Ground Water Management District on forms acceptable to the Commission, on an annual basis for the previous calendar year, by February 15th of the following year, or more often upon request.
  - a. Identification of the well permits issued and well constructed under this plan.
  - b. The amount of water diverted by the well, both annually and cumulatively since operation of the plan began.
  - c. The number of occupied dwellings served by the well.
  - d. The return flows occurring from use of all wells operating under the plan, assuming 0.18 acre-feet per year per occupied single family dwelling (90% of the water used for in-house purposes) enters the alluvial aquifer as replacement water.
  - e. Any other information the Commission deems relevant and necessary to operation, monitoring, accounting, or administration of the plan.
32. The Applicant (and their successors) are fully responsible for the operation, monitoring, and accounting of the replacement plan. In the event a lot with a well permitted or operating pursuant to this plan is sold, identification of the well that was sold and evidence that the new owner has been notified of their responsibilities under the replacement plan shall accompany that year's accounting.
33. Any covenants adopted for this subdivision should contain a description of the replacement plan, including the limitations on diversions and use of water for each well and lot, the requirement to meter and record all well pumping, and information on how records are to be reported and the plan is to be administered.
34. In the event the permitted well or wells are not operated in accordance with the conditions of this replacement plan, they shall be subject to administration, including orders to cease diverting groundwater.
35. All terms and conditions of Determination of Water Right No. 4366-BD must be meet.
36. Pursuant to Rule 5.6.1.E, a copy of this Findings and Order shall be recorded by the Applicant in the clerk and recorder's records of El Paso County, so that a title examination of the land on which the structures involved in this plan are located reveals the existence of this plan.

Replacement Plan - Determination No.: 4366-BD  
Aquifer: Denver  
Applicant: Erik M. Murr and Sharon A. Murr

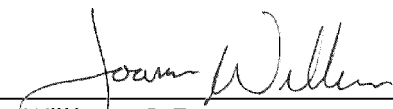
Page 6

Dated this 21st day of June, 2022.



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

By: \_\_\_\_\_

  
Joanna Williams, P.E.  
Water Resource Engineer

F&O4366-RP.docx  
Prepared by: wad

Exhibit A  
Replacement Plan - Determination No.: 4366-BD  
Page 1 of 1

Designated Basin Summary Table for Erik M. Murr and Sharon A. Murr Pumping Rate of 0.38 acre-feet per year for 300 Years from the Denver aquifer Section(s): Sec. 33, T13S, R64W, 6th P.M.							
Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)	Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)
5	0.38	0.001	0.3	155	0.38	0.127	33.5
10	0.38	0.004	1.0	160	0.38	0.130	34.2
15	0.38	0.007	1.8	165	0.38	0.133	34.9
20	0.38	0.011	2.9	170	0.38	0.135	35.5
25	0.38	0.015	4.1	175	0.38	0.138	36.2
30	0.38	0.020	5.3	180	0.38	0.140	36.8
35	0.38	0.026	6.7	185	0.38	0.142	37.4
40	0.38	0.031	8.1	190	0.38	0.144	37.9
45	0.38	0.036	9.5	195	0.38	0.146	38.5
50	0.38	0.042	11.0	200	0.38	0.149	39.0
55	0.38	0.047	12.4	205	0.38	0.151	39.6
60	0.38	0.053	13.8	210	0.38	0.152	40.1
65	0.38	0.058	15.2	215	0.38	0.154	40.6
70	0.38	0.063	16.5	220	0.38	0.156	41.1
75	0.38	0.068	17.8	225	0.38	0.158	41.6
80	0.38	0.073	19.1	230	0.38	0.160	42.0
85	0.38	0.077	20.3	235	0.38	0.162	42.5
90	0.38	0.082	21.5	240	0.38	0.163	42.9
95	0.38	0.086	22.7	245	0.38	0.165	43.3
100	0.38	0.090	23.8	250	0.38	0.166	43.8
105	0.38	0.094	24.8	255	0.38	0.168	44.2
110	0.38	0.098	25.8	260	0.38	0.169	44.6
115	0.38	0.102	26.8	265	0.38	0.171	44.9
120	0.38	0.106	27.8	270	0.38	0.172	45.3
125	0.38	0.109	28.7	275	0.38	0.174	45.7
130	0.38	0.112	29.6	280	0.38	0.175	46.1
135	0.38	0.116	30.4	285	0.38	0.176	46.4
140	0.38	0.119	31.2	290	0.38	0.178	46.7
145	0.38	0.122	32.0	295	0.38	0.179	47.1
150	0.38	0.125	32.7	300	0.38	0.180	47.4

Created by Wenli Dickinson on March 29, 2022

Values for 'Depletion as a % of Pumping' (q/Q) are not calculated when the pumping rate (Q) is changed to anything but zero

**COLORADO GROUND WATER COMMISSION  
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR A DETERMINATION OF A RIGHT TO AN ALLOCATION OF  
GROUNDWATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUNDWATER BASIN

---

DETERMINATION NO.: 4366-BD

AQUIFER: Denver

APPLICANT: Erik M. Murr and Sharon A. Murr

---

In compliance with section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Erik M. Murr and Sharon A. Murr (Applicant) submitted an application to the Colorado Ground Water Commission (Commission) for a determination of a right to an allocation of designated groundwater from the Denver Aquifer.

**FINDINGS**

1. The application was received by the Commission on December 6, 2021.
2. The Applicant requests a determination of right to an allocation of designated groundwater (Determination) in the Denver aquifer (Aquifer) underlying 37.4 acres, described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, in El Paso County (Overlying Land). According to a Nontributary Groundwater Landownership Statement dated November 29, 2021, attached hereto as Exhibit A, the Applicant owns the 37.4 acres of land, which are further described in said Ownership Statement, and claims control of the right to the groundwater in the Aquifer underlying the land.
3. The Overlying Land is located within the boundaries of the Upper Black Squirrel Creek Designated Groundwater Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Commission has jurisdiction over the designated groundwater that is the subject of this Determination.
4. The Commission's Staff has evaluated the application relying on the claims to control of the groundwater in the Aquifer underlying the Overlying Land made by the Applicant.
5. The Applicant intends to apply the groundwater in the Aquifer underlying the Overlying Land to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage. The Applicant's proposed place of use of the groundwater in the Aquifer underlying the Overlying Land is the above described 37.4 acres of Overlying Land.
6. Pursuant to section 37-90-107(7)(a), and in accordance with the Designated Basin Rules, the Commission shall allocate the groundwater in the Aquifer underlying the Overlying Land on the basis of the ownership of the Overlying Land.
7. The replacement water requirement for withdrawal of groundwater from the Aquifer consists of two different requirements, which effectively divides the Overlying Land into two areas. The amount of groundwater in the Aquifer and a maximum annual amount

available for allocation will be determined specifically for the Aquifer underlying each of the two areas. These areas are designated and described as follows:

- a. Area A - 6.7 acres being a portion of the E 1/2 of the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., which overlies not-nontributary ground water located closer than one mile from the Aquifer contact with the alluvium; and
- b. Area B - 30.7 acres being the remaining portion of the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M. excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, which overlies not-nontributary ground water located farther than one mile from the Aquifer contact with the alluvium.

These two areas are further depicted on a map attached hereto as Exhibit B.

8. The amount of water in storage in the Aquifer underlying the 37.4 acres of Overlying Land claimed by the Applicant is as follows: 125 acre-feet for Area A and 574 acre-feet for Area B. This determination was based on the following as specified in the Designated Basin Rules.
  - a. The average specific yield of those saturated aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use is 17 percent.
  - b. The average thickness of those saturated aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use is 110 feet for both Area A and Area B.
9. A review of the records in the Office of the State Engineer has disclosed that a well operating pursuant to section 37-90-105, C.R.S., (i.e. a small-capacity well), permit no. 196038, is located on Area B of the Overlying Land and is permitted to withdraw 1 acre-foot per year of groundwater from the Aquifer from beneath Area B of the Overlying Land. The applicant has indicated that permit no. 196038 will be cancelled and the well re-permitted to operate pursuant to this Determination. The amount of water considered to have been historically withdrawn from the aquifer by this well is 26 acre-feet. In applying Rule 5.3.2.5 of the Designated Basin Rules to computing the amount of water available for allocation in this Determination, the amount of groundwater in the Aquifer underlying Area B of the Overlying Land available for allocation in this Determination is reduced by 26 acre-feet to 548 acre-feet. Except for that well, review of the records in the Office of the State Engineer finds no other previous allocations or permitted withdrawals from the Aquifer underlying the Overlying Land.
10. Pursuant to section 37-90-107(7)(c)(III), an approved determination of a right to an allocation shall be considered a final determination of the amount of groundwater 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.
11. Pursuant to section 37-90-107(7)(d), the Commission has authority to issue well permits pursuant to subsection 107(7) (i.e. permits for large capacity wells) for the withdrawal of designated groundwater from the Aquifer. Pursuant to section 37-90-107(7)(a) the Commission shall adopt the necessary rules to carry out the provisions of subsection (7).

Pursuant to section 37-90-111(h), C.R.S., the Commission is empowered to adopt rules necessary to carry out the provisions of Article 90 of Title 37. In accordance with that authority, the Commission has adopted the Rules and Regulations for the Management and Control of Designated Ground Water (2 CCR 410-1) (“Designated Basin Rules”, or “Rules”).

12. Large capacity well permits issued pursuant to section 37-90-107(7) are subject to the following provisions of statute and the Designated Basin Rules.
  - a. Pursuant to section 37-90-107(7)(a) well permits issued pursuant to subsection 107(7) shall allow withdrawals on the basis of an aquifer life of one hundred years. The 125 acre-feet for Area A and 548 acre-feet for Area B of water in the Aquifer underlying the Overlying Land available for allocation in this Determination, if permitted for withdrawal by large capacity wells on the basis of an aquifer life of one hundred years, would result in an allowed average annual amount of withdrawal of 1.25 acre-feet per year for Area A and 5.48 acre-feet per year for Area B.
  - b. Any amounts of groundwater in the Aquifer allocated in this Determination that are permitted for withdrawal pursuant to section 37-90-105, by small capacity well permits issued after the issuance of this Determination reduce the amount of water, and the allowed average annual amount of withdrawal, that may be withdrawn by wells permitted pursuant to section 37-90-107(7).
  - c. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that the replacement water requirements for withdrawal of groundwater from the Aquifer underlying the Overlying Land is as follows:
    - i. Area A - Withdrawal of groundwater from the Aquifer underlying Area A will, within one hundred years, deplete the flow of a natural stream or an alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the groundwater in the Aquifer underlying Area A is considered to be not-nontributary groundwater as defined in Rule 4.2.23 of the Designated Basin Rules. Also, the location of Area A is closer than one mile from the Aquifer contact with the alluvium. Withdrawal of water from the Aquifer underlying Area A would impact the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin, 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, that provides for the replacement of the actual depletion to the alluvial aquifer and is adequate to prevent any material injury to existing water rights of other appropriators, is required prior to approval of well permits for wells to be located on this land area to withdraw the groundwater in the Aquifer underlying Area A.
    - ii. Area B - Withdrawal of groundwater from the Aquifer underlying Area B will, within one hundred years, deplete the flow of a natural stream or an alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the groundwater in the Aquifer underlying Area B is considered to be not-nontributary groundwater as defined in Rule 4.2.23 of the Designated Basin Rules. Also, the location of Area B is farther than one mile from the Aquifer contact with the alluvium. Pursuant to the Rules, at least four percent (4%) of the amount of the underlying water withdrawn annually must be returned to the alluvial



aquifer in the vicinity of the permitted point or points of withdrawal, unless other locations are approved by the Commission.

13. Pursuant to section 37-90-105(1), the State Engineer has the authority to approve small capacity well permits. While water withdrawn from the Aquifer from beneath the Overlying Land by small capacity wells may consist of the groundwater allocated herein, the Commission recognizes that in approving small capacity permits the State Engineer is not bound by the terms and conditions of this Determination, and may approve small capacity permits based on standards and with such conditions as the State Engineer considers appropriate.
14. The ability of wells permitted to withdraw the authorized amount of water from this nonrenewable 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.
15. On April 14, 2022, in accordance with Rule 9.1 of the Designated Basin Rules, written recommendations concerning this application were requested from the Upper Black Squirrel Creek Ground Water Management District. No written recommendations from the District were received.
16. 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 April 21, 2022 and April 28, 2022. No objections to the application were received within the time limit set by statute.

#### **ORDER**

In accordance with section 37-90-107(7) and the Designated Basin Rules, the Commission hereby determines a right to an allocation of designated groundwater in the Denver Aquifer underlying 37.4 acres of land, described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, further described in Exhibit A, subject to the following conditions.

17. The amount (i.e. volume) of water in the Aquifer underlying the 37.4 acres of Overlying Land allocated herein is 125 acre-feet for Area A and 548 acre-feet for Area B (Underlying Groundwater).
18. The amount (i.e. volume) of Underlying Groundwater allocated herein shall be considered final, 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, if such information indicates that the initial estimate of the amount of Underlying Groundwater in the Aquifer was incorrect.
19. Approval of this Determination meets the requirements of section 37-90-107(7)(d)(II), that requires a determination of groundwater to be withdrawn by a well be made prior to the granting of a well permit pursuant to section 37-90-107(7).
20. Well permits issued pursuant to section 37-90-107(7), (i.e. large capacity wells) and this Determination are subject to the following conditions.

- a. The total amount of Underlying Groundwater that may be withdrawn from the Aquifer by all large capacity wells permitted pursuant to this Determination may not exceed a volume of 125 acre-feet for Area A and 548 acre-feet for Area B, less any amount of the Underlying Groundwater allocated herein permitted to be withdrawn by small capacity wells issued permits pursuant to section 37-90-105 after the issuance of this Determination. The amounts of water permitted to be withdrawn by such small capacity wells shall be considered to be one-hundred times the annual withdrawals permitted to be withdrawn by those wells.
- b. The allowed average annual amount of withdrawal by any large capacity well (or well field) permitted to withdraw the allocated water shall be equal to the volume of water permitted to be withdrawn by that well (or well field) divided by one-hundred years.
- c. The allowed maximum annual amount of withdrawal by any large capacity well (or well field) permitted to withdraw the allocated water may exceed the allowed average annual amount of withdrawal allowed by the well permit(s) as long as the total volume of water withdrawn by such well(s) does not exceed the product of the number of years since the date(s) of issuance of the well permit(s) times the allowed average annual amount of withdrawal allowed by the well permit(s).
- d. The Applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount 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.
- e. Replacement water requirements shall be as follows:
  - i. For the aquifer underlying the above described 6.7 acres of Area A Commission approval of a replacement plan, that provides for the replacement of the actual depletion to the alluvial aquifer and is adequate to prevent any material injury to existing water rights of other appropriators in the alluvial aquifer, is required prior to approval of well permits that allow the withdraw of the Underlying Groundwater. The replacement plan shall provide for the depletion of the alluvial water for the first 100 years due to all previous pumping, and if pumping continues beyond 100 years shall replace actual impact until pumping ceases, assuming water table conditions in the Aquifer.
    1. Upon withdrawal of the total allowed average amount of water underlying Area A, in any calendar year, the allowed average annual amount of water underlying the above described Area B may be withdrawn through wells located on Area A, subject to Commission approval of a replacement plan, that provides for the replacement of the actual depletion to the alluvial aquifer and is adequate to prevent any material injury to existing water rights of other appropriators in the alluvial aquifer.
  - ii. For the aquifer underlying the above described 30.7 acres of Area B, at least four percent (4%) of the amount of Underlying Groundwater withdrawn annually must be returned to the alluvial aquifer in the vicinity of the permitted point or points of withdrawal, unless other locations are approved by the Commission. The Applicant may at any time be required to identify the proposed, or actual, location of the

delivery of the replacement water and how the required four percent (4%) of water diverted will be, or is being, delivered into the alluvial aquifer.

1. Upon withdrawal of the total allowed average amount of water underlying Area B, in any calendar year, the allowed average annual amount of water underlying the above described Area A may be withdrawn through wells located on Area B, subject to Commission approval of a replacement plan, that provides for the replacement of the actual depletion to the alluvial aquifer and is adequate to prevent any material injury to existing water rights of other appropriators in the alluvial aquifer.
  - f. The use of the Underlying Groundwater shall be limited to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage. The place of use of the Underlying Groundwater shall be limited to the above described 37.4 acres of Overlying Land. The Underlying Groundwater 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. The Underlying Groundwater is located within the Upper Black Squirrel Creek Ground Water Management District where local District rules apply which may further limit the withdrawal and use of the subject designated groundwater.
  - g. The wells must be located on the above described 37.4 acres of Overlying Land.
  - h. 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.
  - i. The wells must be constructed to withdraw water from only the Denver Aquifer.
  - j. The entire depth of each well must be geophysically logged prior to installing the casing in the same manner as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
  - k. 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 shall be collected and permanently maintained by the well owner and submitted to the Commission and the Upper Black Squirrel Creek Ground Water Management District upon request.
  - l. 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.
21. Existing well permit no. 196038 must be canceled and a new permit issued for that well to operate pursuant to this Determination.
  22. A copy of this Determination shall be recorded by the Applicant in the public records of the county in which the Overlying Land is located so that a title examination of the above

Aquifer: Denver

Applicant: Erik M. Murr and Sharon A. Murr

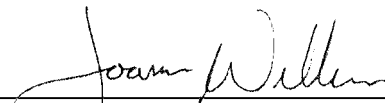
described 37.4 acres of Overlying Land area, or any part thereof, shall reveal the existence of this Determination.

23. The right to an allocation of designated groundwater determined herein is a vested property right with specific ownership. Some or all of the 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 number, the specific Aquifer, and the total amount (i.e. volume) of the right that is being conveyed.

Dated this 8th day of June, 2022.



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

By:   
Joanna Williams, P.E.  
Water Resource Engineer

Prepared by: wad  
F&O4366-BD.doc

**COLORADO GROUND WATER COMMISSION  
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR A DETERMINATION OF A RIGHT TO AN ALLOCATION OF  
GROUNDWATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUNDWATER BASIN

---

DETERMINATION NO.: 4365-BD

AQUIFER: Arapahoe

APPLICANT: Erik M. Murr and Sharon A. Murr

---

In compliance with section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Erik M. Murr and Sharon A. Murr (Applicant) submitted an application to the Colorado Ground Water Commission (Commission) for a determination of a right to an allocation of designated groundwater from the Arapahoe Aquifer.

**FINDINGS**

1. The application was received by the Commission on December 6, 2021.
2. The Applicant requests a determination of right to an allocation of designated groundwater (Determination) in the Arapahoe aquifer (Aquifer) underlying 37.4 acres, described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, in El Paso County (Overlying Land). According to a Nontributary Groundwater Landownership Statement dated November 29, 2021, attached hereto as Exhibit A, the Applicant owns the 37.4 acres of land, which are further described in said Ownership Statement, and claims control of the right to the groundwater in the Aquifer underlying the land.
3. The Overlying Land is located within the boundaries of the Upper Black Squirrel Creek Designated Groundwater Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Commission has jurisdiction over the designated groundwater that is the subject of this Determination.
4. The Commission's Staff has evaluated the application relying on the claims to control of the groundwater in the Aquifer underlying the Overlying Land made by the Applicant.
5. The Applicant intends to apply the groundwater in the Aquifer underlying the Overlying Land to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage. The Applicant's proposed place of use of the groundwater in the Aquifer underlying the Overlying Land is the above described 37.4 acres of Overlying Land.
6. Pursuant to section 37-90-107(7)(a), and in accordance with the Designated Basin Rules, the Commission shall allocate the groundwater in the Aquifer underlying the Overlying Land on the basis of the ownership of the Overlying Land.
7. The amount of water in storage in the Aquifer underlying the 37.4 acres of Overlying Land claimed by the Applicant is 1,130 acre-feet. This determination was based on the following as specified in the Designated Basin Rules.

- a. The average specific yield of those saturated aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use is 17 percent.
  - b. The average thickness of those saturated aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use is 177 feet.
8. A review of the records in the Office of the State Engineer has disclosed that none of the groundwater in the Aquifer underlying the Overlying Land has been either previously determined to be allocated by the Commission, has been permitted for withdrawal by large capacity wells that have rights that were initiated prior to November 19, 1973 that are subject to section 37-90-107(7)(b), or has been permitted for withdrawal by existing small capacity wells withdrawing water under permits issued pursuant to section 37-90-105, C.R.S. The amount of designated groundwater in the Aquifer underlying the Overlying Land that is available for allocation in this Determination is 1,130 acre-feet.
  9. Pursuant to section 37-90-107(7)(c)(III), an approved determination of a right to an allocation shall be considered a final determination of the amount of groundwater 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.
  10. Pursuant to section 37-90-107(7)(d), the Commission has authority to issue well permits pursuant to subsection 107(7) (i.e. permits for large capacity wells) for the withdrawal of designated groundwater from the Aquifer. Pursuant to section 37-90-107(7)(a) the Commission shall adopt the necessary rules to carry out the provisions of subsection (7). Pursuant to section 37-90-111(h), C.R.S., the Commission is empowered to adopt rules necessary to carry out the provisions of Article 90 of Title 37. In accordance with that authority, the Commission has adopted the Rules and Regulations for the Management and Control of Designated Ground Water (2 CCR 410-1) (“Designated Basin Rules”, or “Rules”).
  11. Large capacity well permits issued pursuant to section 37-90-107(7) are subject to the following provisions of statute and the Designated Basin Rules.
    - a. Pursuant to section 37-90-107(7)(a) well permits issued pursuant to subsection 107(7) shall allow withdrawals on the basis of an aquifer life of one hundred years. The 1,130 acre-feet of water in the Aquifer underlying the Overlying Land available for allocation in this Determination, if permitted for withdrawal by large capacity wells on the basis of an aquifer life of one hundred years, would result in an allowed average annual amount of withdrawal of 11.3 acre-feet per year.
    - b. Any amounts of groundwater in the Aquifer allocated in this Determination that are permitted for withdrawal pursuant to section 37-90-105, by small capacity well permits issued after the issuance of this Determination reduce the amount of water, and the allowed average annual amount of withdrawal, that may be withdrawn by wells permitted pursuant to section 37-90-107(7).
    - c. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of groundwater from the Aquifer underlying the Overlying Land will, within one hundred years, deplete the flow of a natural stream or an alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the groundwater in the Aquifer underlying the Overlying Land is considered to

be not-nontributary groundwater as defined in Rule 4.2.23 of the Designated Basin Rules. Also, the location of the land claimed by the Applicant is farther than one mile from the Aquifer contact with the alluvium. Pursuant to the Rules, at least four percent (4%) of the amount of the underlying water withdrawn annually must be returned to the alluvial aquifer in the vicinity of the permitted point or points of withdrawal, unless other locations are approved by the Commission. Pursuant to the Rules the Applicant may at any time be required to identify the proposed, or actual, location of the delivery of the replacement water and how the required four percent (4%) of water diverted will be, or is being, delivered into the alluvial aquifer.

12. Pursuant to section 37-90-105(1), the State Engineer has the authority to approve small capacity well permits. While water withdrawn from the Aquifer from beneath the Overlying Land by small capacity wells may consist of the groundwater allocated herein, the Commission recognizes that in approving small capacity permits the State Engineer is not bound by the terms and conditions of this Determination, and may approve small capacity permits based on standards and with such conditions as the State Engineer considers appropriate.
13. The ability of wells permitted to withdraw the authorized amount of water from this nonrenewable 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.
14. On April 14, 2022, in accordance with Rule 9.1 of the Designated Basin Rules, written recommendations concerning this application were requested from the Upper Black Squirrel Creek Ground Water Management District. No written recommendations from the District were received.
15. 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 April 21, 2022 and April 28, 2022. No objections to the application were received within the time limit set by statute.

#### **ORDER**

In accordance with section 37-90-107(7) and the Designated Basin Rules, the Commission hereby determines a right to an allocation of designated groundwater in the Arapahoe Aquifer underlying 37.4 acres of land, described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, further described in Exhibit A, subject to the following conditions.

16. The amount (i.e. volume) of water in the Aquifer underlying the 37.4 acres of Overlying Land allocated herein is 1,130 acre-feet (Underlying Groundwater).
17. The amount (i.e. volume) of Underlying Groundwater allocated herein shall be considered final, 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, if such information indicates that the initial estimate of the amount of Underlying Groundwater in the Aquifer was incorrect.

18. Approval of this Determination meets the requirements of section 37-90-107(7)(d)(II), that requires a determination of groundwater to be withdrawn by a well be made prior to the granting of a well permit pursuant to section 37-90-107(7).
19. Well permits issued pursuant to section 37-90-107(7), (i.e. large capacity wells) and this Determination are subject to the following conditions.
  - a. The total amount of Underlying Groundwater that may be withdrawn from the Aquifer by all large capacity wells permitted pursuant to this Determination may not exceed a volume of 1,130 acre-feet, less any amount of the Underlying Groundwater allocated herein permitted to be withdrawn by small capacity wells issued permits pursuant to section 37-90-105 after the issuance of this Determination. The amounts of water permitted to be withdrawn by such small capacity wells shall be considered to be one-hundred times the annual withdrawals permitted to be withdrawn by those wells.
  - b. The allowed average annual amount of withdrawal by any large capacity well (or well field) permitted to withdraw the allocated water shall be equal to the volume of water permitted to be withdrawn by that well (or well field) divided by one-hundred years.
  - c. The allowed maximum annual amount of withdrawal by any large capacity well (or well field) permitted to withdraw the allocated water may exceed the allowed average annual amount of withdrawal allowed by the well permit(s) as long as the total volume of water withdrawn by such well(s) does not exceed the product of the number of years since the date(s) of issuance of the well permit(s) times the allowed average annual amount of withdrawal allowed by the well permit(s).
  - d. The Applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount 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.
  - e. At least four percent (4%) of the amount of Underlying Groundwater withdrawn annually must be returned to the alluvial aquifer in the vicinity of the permitted point or points of withdrawal, unless other locations are approved by the Commission. The Applicant may at any time be required to identify the proposed, or actual, location of the delivery of the replacement water and how the required four percent (4%) of water diverted will be, or is being, delivered into the alluvial aquifer.
  - f. The use of the Underlying Groundwater shall be limited to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage. The place of use of the Underlying Groundwater shall be limited to the above described 37.4 acres of Overlying Land. The Underlying Groundwater 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. The Underlying Groundwater is located within the Upper Black Squirrel Creek Ground Water Management District where local District rules apply which may further limit the withdrawal and use of the subject designated groundwater.
  - g. The wells must be located on the above described 37.4 acres of Overlying Land.

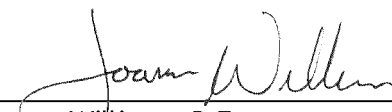


- h. No well shall be located within 600 feet of any existing large-capacity well in the same Aquifer unless a Waiver of Claim of Injury is obtained from the owner of the existing well or unless the Commission, after a hearing, finds that circumstances in a particular instance warrant that a well may be permitted without regard to this limitation.
  - i. The wells must be constructed to withdraw water from only the Arapahoe Aquifer.
  - j. The entire depth of each well must be geophysically logged prior to installing the casing in the same manner as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
  - k. 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 shall be collected and permanently maintained by the well owner and submitted to the Commission and the Upper Black Squirrel Creek Ground Water Management District upon request.
  - l. 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.
20. A copy of this Determination shall be recorded by the Applicant in the public records of the county in which the Overlying Land is located so that a title examination of the above described 37.4 acres of Overlying Land area, or any part thereof, shall reveal the existence of this Determination.
21. The right to an allocation of designated groundwater determined herein is a vested property right with specific ownership. Some or all of the 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 number, the specific Aquifer, and the total amount (i.e. volume) of the right that is being conveyed.

Dated this 8th day of June, 2022.



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

By:   
Joanna Williams, P.E.  
Water Resource Engineer

**COLORADO GROUND WATER COMMISSION  
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR A DETERMINATION OF A RIGHT TO AN ALLOCATION OF  
GROUNDWATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUNDWATER BASIN

---

DETERMINATION NO.: 4364-BD

AQUIFER: Laramie-Fox Hills

APPLICANT: Erik M. Murr and Sharon A. Murr

---

In compliance with section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Erik M. Murr and Sharon A. Murr (Applicant) submitted an application to the Colorado Ground Water Commission (Commission) for a determination of a right to an allocation of designated groundwater from the Laramie-Fox Hills Aquifer.

**FINDINGS**

1. The application was received by the Commission on December 6, 2021.
2. The Applicant requests a determination of right to an allocation of designated groundwater (Determination) in the Laramie-Fox Hills aquifer (Aquifer) underlying 37.4 acres, described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, in El Paso County (Overlying Land). According to a Nontributary Groundwater Landownership Statement dated November 29, 2021, attached hereto as Exhibit A, the Applicant owns the 37.4 acres of land, which are further described in said Ownership Statement, and claims control of the right to the groundwater in the Aquifer underlying the land.
3. The Overlying Land is located within the boundaries of the Upper Black Squirrel Creek Designated Groundwater Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Commission has jurisdiction over the designated groundwater that is the subject of this Determination.
4. The Commission's Staff has evaluated the application relying on the claims to control of the groundwater in the Aquifer underlying the Overlying Land made by the Applicant.
5. The Applicant intends to apply the groundwater in the Aquifer underlying the Overlying Land to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage. The Applicant's proposed place of use of the groundwater in the Aquifer underlying the Overlying Land is the above described 37.4 acres of Overlying Land.
6. Pursuant to section 37-90-107(7)(a), and in accordance with the Designated Basin Rules, the Commission shall allocate the groundwater in the Aquifer underlying the Overlying Land on the basis of the ownership of the Overlying Land.
7. The amount of water in storage in the Aquifer underlying the 37.4 acres of Overlying Land claimed by the Applicant is 1,210 acre-feet. This determination was based on the following as specified in the Designated Basin Rules.

- a. The average specific yield of those saturated aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use is 15 percent.
  - b. The average thickness of those saturated aquifer materials containing sufficient water that can be drained by gravity and placed to beneficial use is 215 feet.
8. A review of the records in the Office of the State Engineer has disclosed that none of the groundwater in the Aquifer underlying the Overlying Land has been either previously determined to be allocated by the Commission, has been permitted for withdrawal by large capacity wells that have rights that were initiated prior to November 19, 1973 that are subject to section 37-90-107(7)(b), or has been permitted for withdrawal by existing small capacity wells withdrawing water under permits issued pursuant to section 37-90-105, C.R.S. The amount of designated groundwater in the Aquifer underlying the Overlying Land that is available for allocation in this Determination is 1,210 acre-feet.
9. Pursuant to section 37-90-107(7)(c)(III), an approved determination of a right to an allocation shall be considered a final determination of the amount of groundwater 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.
10. Pursuant to section 37-90-107(7)(d), the Commission has authority to issue well permits pursuant to subsection 107(7) (i.e. permits for large capacity wells) for the withdrawal of designated groundwater from the Aquifer. Pursuant to section 37-90-107(7)(a) the Commission shall adopt the necessary rules to carry out the provisions of subsection (7). Pursuant to section 37-90-111(h), C.R.S., the Commission is empowered to adopt rules necessary to carry out the provisions of Article 90 of Title 37. In accordance with that authority, the Commission has adopted the Rules and Regulations for the Management and Control of Designated Ground Water (2 CCR 410-1) ("Designated Basin Rules", or "Rules").
11. Large capacity well permits issued pursuant to section 37-90-107(7) are subject to the following provisions of statute and the Designated Basin Rules.
- a. Pursuant to section 37-90-107(7)(a) well permits issued pursuant to subsection 107(7) shall allow withdrawals on the basis of an aquifer life of one hundred years. The 1,210 acre-feet of water in the Aquifer underlying the Overlying Land available for allocation in this Determination, if permitted for withdrawal by large capacity wells on the basis of an aquifer life of one hundred years, would result in an allowed average annual amount of withdrawal of 12.1 acre-feet per year.
  - b. Any amounts of groundwater in the Aquifer allocated in this Determination that are permitted for withdrawal pursuant to section 37-90-105, by small capacity well permits issued after the issuance of this Determination reduce the amount of water, and the allowed average annual amount of withdrawal, that may be withdrawn by wells permitted pursuant to section 37-90-107(7).
  - c. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of groundwater from the Aquifer underlying the 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 groundwater in the Aquifer underlying the Overlying Land is

nontributary groundwater as defined in Rule 4.2.22 of the Designated Basin Rules. Pursuant to the Rules, no more than 98% of the amount of the groundwater in the Aquifer underlying the Overlying Land withdrawn annually shall be consumed.

12. Pursuant to section 37-90-105(1), the State Engineer has the authority to approve small capacity well permits. While water withdrawn from the Aquifer from beneath the Overlying Land by small capacity wells may consist of the groundwater allocated herein, the Commission recognizes that in approving small capacity permits the State Engineer is not bound by the terms and conditions of this Determination, and may approve small capacity permits based on standards and with such conditions as the State Engineer considers appropriate.
13. The ability of wells permitted to withdraw the authorized amount of water from this nonrenewable 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.
14. On April 14, 2022, in accordance with Rule 9.1 of the Designated Basin Rules, written recommendations concerning this application were requested from the Upper Black Squirrel Creek Ground Water Management District. No written recommendations from the District were received.
15. 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 April 21, 2022 and April 28, 2022. No objections to the application were received within the time limit set by statute.

#### **ORDER**

In accordance with section 37-90-107(7) and the Designated Basin Rules, the Commission hereby determines a right to an allocation of designated groundwater in the Laramie-Fox Hills Aquifer underlying 37.4 acres of land, described as the SE 1/4 of the SW 1/4 of Section 33, Township 13 South, Range 64 West of the 6th P.M., excepting the westerly 66.00 feet and excepting the eastern 68.40 feet of the southerly 373.80 feet, further described in Exhibit A, subject to the following conditions.

16. The amount (i.e. volume) of water in the Aquifer underlying the 37.4 acres of Overlying Land allocated herein is 1,210 acre-feet (Underlying Groundwater).
17. The amount (i.e. volume) of Underlying Groundwater allocated herein shall be considered final, 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, if such information indicates that the initial estimate of the amount of Underlying Groundwater in the Aquifer was incorrect.
18. Approval of this Determination meets the requirements of section 37-90-107(7)(d)(II), that requires a determination of groundwater to be withdrawn by a well be made prior to the granting of a well permit pursuant to section 37-90-107(7).
19. Well permits issued pursuant to section 37-90-107(7), (i.e. large capacity wells) and this Determination are subject to the following conditions.

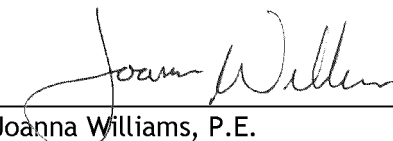
- a. The total amount of Underlying Groundwater that may be withdrawn from the Aquifer by all large capacity wells permitted pursuant to this Determination may not exceed a volume of 1,210 acre-feet, less any amount of the Underlying Groundwater allocated herein permitted to be withdrawn by small capacity wells issued permits pursuant to section 37-90-105 after the issuance of this Determination. The amounts of water permitted to be withdrawn by such small capacity wells shall be considered to be one-hundred times the annual withdrawals permitted to be withdrawn by those wells.
- b. The allowed average annual amount of withdrawal by any large capacity well (or well field) permitted to withdraw the allocated water shall be equal to the volume of water permitted to be withdrawn by that well (or well field) divided by one-hundred years.
- c. The allowed maximum annual amount of withdrawal by any large capacity well (or well field) permitted to withdraw the allocated water may exceed the allowed average annual amount of withdrawal allowed by the well permit(s) as long as the total volume of water withdrawn by such well(s) does not exceed the product of the number of years since the date(s) of issuance of the well permit(s) times the allowed average annual amount of withdrawal allowed by the well permit(s).
- d. The Applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount 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.
- e. No more than 98% of the amount of Underlying Groundwater withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the Underlying Groundwater withdrawn annually is being consumed.
- f. The use of the Underlying Groundwater shall be limited to the following beneficial uses: domestic in-house; irrigation of lawn, garden, and greenhouse; domestic animal and stock watering; commercial; firefighting; piscatorial; and replacement, either directly or after storage. The place of use of the Underlying Groundwater shall be limited to the above described 37.4 acres of Overlying Land. The Underlying Groundwater 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. The Underlying Groundwater is located within the Upper Black Squirrel Creek Ground Water Management District where local District rules apply which may further limit the withdrawal and use of the subject designated groundwater.
- g. The wells must be located on the above described 37.4 acres of Overlying Land.
- h. 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.
- i. The wells must be constructed to withdraw water from only the Laramie-Fox Hills Aquifer.

- j. The entire depth of each well must be geophysically logged prior to installing the casing in the same manner as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
  - k. 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 shall be collected and permanently maintained by the well owner and submitted to the Commission and the Upper Black Squirrel Creek Ground Water Management District upon request.
  - l. 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.
20. A copy of this Determination shall be recorded by the Applicant in the public records of the county in which the Overlying Land is located so that a title examination of the above described 37.4 acres of Overlying Land area, or any part thereof, shall reveal the existence of this Determination.
21. The right to an allocation of designated groundwater determined herein is a vested property right with specific ownership. Some or all of the 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 number, the specific Aquifer, and the total amount (i.e. volume) of the right that is being conveyed.

Dated this 8th day of June, 2022.



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

By:   
Joanna Williams, P.E.  
Water Resource Engineer



April 3, 2023

Ryan Howser  
El Paso County – Planning and Community Development Department  
2880 International Circle, Suite 110  
Colorado Springs, CO 80910

Dear Mr. Howser:

**RE: 4-Lot Development for Murr Subdivision at 14090 Davis Road  
El Paso County Parcel #4333000016  
Finding of Sufficient Water Quality According to Section 8.4.7.B.10(a) of the Amended El  
Paso County Land Development Code (LDC-19-007)**



### **FINDING OF SUFFICIENT WATER QUALITY**

Sharon and Erik Murr own approximately 40 acres on the above-described property, located at 14090 Davis Road, Colorado Springs, CO, 80908 (EPC Receipt No.: 4333000016). The Murr's wish to subdivide the 40 acres into four (4) lots through the El Paso County Land Development and Planning process. As part of the subdivision process the Murr's have prepared a Water Resources report to support sufficient water quantity over a 300-year evaluation period. The water resources report supports sufficient quantity but no sufficient quality according to Section 8.4.7.B.10(a) of the Amended El Paso County Land Development Code. The Murr's subsequently reached out to JDS-Hydro, a Division of RESPEC to complete water quality sufficiency sampling and analysis according to the aforementioned section of the Code and provide an engineering opinion of the analysis.

Section 8.4.7.B.10(a) in the Amended El Paso County Land Development Code (EPC-LDC) requires that the applicant obtain analyses results for twenty-one (21) Volatile Organic Chemical (VOC) Contaminants, twenty-nine (29) Synthetic Organic Chemical Contaminants (SOC), fourteen (14) Inorganic Chemicals, ten (10) Secondary Maximum Contaminants, indicators of bacteriological pathogens (i.e. E. coli), inorganic anions, and two (2) radionuclides. According to Case No. 21CW3119, which is included in the Water Resources Report, the proposed five (5) lot subdivision will be supplied with water from the underlying not-nontributary Dawson formation, which is considered a confined Denver Basin Aquifer. Therefore, according to paragraph two (2) from Section 8.4.7.B.10(a) VOCs and SOCs are not required as part of the stipulated chemical analysis.

On July 18, 2022, representatives with JDS-Hydro sampled the existing Denver aquifer well located on the existing property at 14090 Davis Road. The representative Denver aquifer well was originally permitted under Permit No. 196038 and re-permitted as Permit No. 87143-F to Erik and Sharon Murr. Well samples were taken on the 18<sup>th</sup> and overnighted to Colorado Analytical Laboratories to meet specified holding times for certain constituents. Results from all chemical analyses were received by JDS-Hydro via email on August 15, 2022. Results were tabulated and compared vs. primary and secondary Maximum Contaminant Limits as established by the Colorado Department of Public Health and Environment's (CDPHE) latest drinking water standards. From the evaluation, two of the constituents were found to exceed any established primary or secondary drinking water standards. (Please see tabulated results and associated analytical results from Colorado Analytical Laboratories in the enclosure.) A

5540 TECH CENTER DRIVE  
SUITE 100  
COLORADO SPRINGS, CO 80919  
719.227.0072

[respec.com](http://respec.com)

RS(COS)-W0343.21001.001  
MURR SUBDIVISION – WATER QUALITY SUFFICIENCY



RESPEC



A Division of RESPEC Company, LLC

second sampling trip occurred on August 3, 2022 due to a delivery company sample delivery delay. E. coli was resampled and analyzed within the required twenty-four hour hold time and returned the result of absent for both Total Coliform and E. coli.

The compounds that exceeded their MCLs were fluoride and pH:

**Fluoride:** The MCL for fluoride is 4 mg/l and the concentration from the well was 4.36 mg/l. Excess fluoride in drinking water can cause fluorosis which can discolor teeth or impact the strength of the skeletal structure. Fluoride can be removed from drinking water with an under-the-sink point-of-use carbon filter that can be purchased at a large box store or through a certified water treatment manufacturer.

**pH:** Ideally, pH for drinking water should range from 6.5 – 8.5. The pH result on the day of sampling was reported as 8.85. This means the water is more alkaline than neutral. With a more alkaline water, scaling can occur in copper piping used for water distribution from the well to the home water fixtures.

After reviewing the analytical results, JDS-Hydro does not find cause for concern in utilizing the underlying Denver Aquifer for public consumption or irrigation uses within the proposed subdivision. However, it is the recommendation of the engineer to install a point-of-use under kitchen sink carbon water filter to remove fluoride from the drinking water. The engineer also recommends using a poly pipe plumbing for distribution of water from the well throughout the house to the water fixtures. This will reduce the impact of scaling on the water distribution system. The above recommendations are JDS-Hydro's recommendations for additional treatment within the proposed residences to bring the source water into compliance with established Colorado Drinking Water Standards.

Should the El Paso County Planning and Development Department have any additional comments, questions, or concerns please do not hesitate to contact Douglas E. Schwenke, P.E. with JDS-Hydro a Division of RESPEC at 719-227-0072 Ext. 1447 or at dschwenke@jdshydro.com.

Sincerely,

Douglas E. Schwenke, P.E.  
Principal Engineer

DES

Enclosure: DWR Permit No. 196038  
DWR Permit No. 87143-F  
Tabulated Water Quality Sufficiency Results from July 18, 2022 Sample Trip to 14090 Davis Road  
Analytical Results from Colorado Analytical, Task No.: 220720066 – Total Coliform and E.coli  
Analytical Results from Colorado Analytical, Task No.: 220720066 – Langoliers and Chemical Constituents  
Analytical Report from Haxen, Task No.: 220720066-01D – Radiologicals  
Analytical Report from El Paso County – Second sample trip for E. coli – August 3, 2022

cc: Project Central File: W0347.21001.001 — Category: External Letter