

COLVIN HERITAGE FARMS Minor Subdivision

WATER RESOURCES and WATER QUALITY REPORT For Colvin Heritage Farms Minor Subdivision

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Prepared By:



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Executive Summary:

Water Resources/Quality Report – Colvin Heritage Farms Minor Subdivision

Chris D. Cummins of Monson, Cummins & Shohet, LLC, on behalf of the Applicant, Michelle Colvin and Kevin Colvin, (“Owner”), provides the following Water Resources/Water Quality/Wastewater Disposal Report in support of the Colvin Heritage Farms Minor Subdivision. The undersigned has been practicing water law almost exclusively, for over 16 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, dependability, and quality, of the water rights and resources to be utilized in the proposed Colvin Heritage Farms Minor Subdivision (the “Subdivision”), near Black Forest in El Paso County, Colorado.

The Property consists of approximately 19.8 acres located at the current street address of 11545 and 11660 Green Acres Lane, Colorado Springs, CO 80908, in the E½ SE¼ SE¼ all in Section 15, Township 12 South, Range 65 West of the 6th P.M. Each of the 2 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 includes two residential lots. Lot 1 has an existing residence and will be approximately 10.1 acres, while Lot 2, which is currently unimproved land, will be approximately 9.7 acres in size.

It is expected that each of the residential homes on each residential lot in the Subdivision will require an average of 1.0 annual acre-feet of water supply, for a total of 2.0 annual acre-feet, to be provided through two individual wells to the not-nontributary Dawson aquifer, consistent with the Determination of Water Right No. 3655-BD, and associated Replacement Plan, as approved by the Colorado Ground Water Commission. Such water supply demand is consistent with other rural residential homes’ historical demand. The Determination of Water Right provides for a 300-year water supply for both lots within the Subdivision, with each lot utilizing ISDS of a non-evaporative nature.

The water resources to be utilized on the residential lots in the Subdivision is typical of rural residential development in areas east of the Black Forest in El Paso County, Colorado. The Determination of Water Right and associated Replacement Plan approved 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, and the well-established water quality in the Dawson Aquifer in this part of the County, demonstrates a sufficient water quality consistent with Section 8.4.7(3)(d) as well as quality testing completed for one of the

Dawson aquifer wells existing on the property, demonstrates a sufficient water quality.

I. INTRODUCTION

The purpose of this report is to provide a preliminary outline of the water resources, associated wastewater requirements, and water quality, necessary for approval of the CHF minor subdivision, as proposed.

1.1 New Development Description: The Subdivision consists of approximately 19.8 acres located at 11545 and 11660 Green Acres Lane, Colorado Springs, CO 80908 in the E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ all in Section 15, Township 12 South, Range 65 West of the 6th P.M. The Property will be subdivided into two lots. **Exhibit A**, attached hereto, is a final plat for the Subdivision as proposed, prepared by Compass Surveying & Mapping, LLC, including an area/vicinity map.

II. PROJECTION OF WATER NEEDS

2.1 Analysis of Water Demands: It is expected that the two residential lots in the Subdivision, utilizing two individual wells drilled to the Dawson, to be utilized for domestic-type uses, including in-house, landscape/irrigation of lawn and gardens, and watering of domestic animals and stock, and limited pasture irrigation from one individual well existing on the Property and one individual well to be constructed on the Property. An existing non-exempt well with Permit No. 84459-F will provide water supply to one of the lots, while the to-be constructed non-exempt well with Permit No. 84460-F will serve the other lot. Both well locations are depicted on attached **Exhibit B**. It is anticipated that the residences on both lots will utilize a maximum total of 1.0 annual acre feet of water, for in-house residential purposes, consistent with Section 8.4.7(B)(7)(d). The existing well, permitted under Permit No. 84459-F, is constructed to and will produce from the not-nontributary Dawson 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; however, the Applicant has obtained Permit No. 84460-F to drill a non-exempt well upon approval of the Subdivision. Based on past experience with the numerous Dawson 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: A Replacement Plan for utilizing the underlying Dawson aquifer was approved by the Colorado Ground Water Commission on May 14, 2020. A copy of the recorded Replacement Plan is attached hereto as **Exhibit C**, and a copy of the associated Determinations of Water Rights for the underlying Denver Basin groundwater in Determination Nos. 3655-BD (Dawson), 3654-BD (Denver), 3653-BD (Arapahoe), and 3652-BD (Laramie-Fox Hills), are collectively attached as **Exhibit D**, including the following specific quantities of water:

AQUIFER	Saturated Thickness (ft)	Total Water Adjudicated (Acre Feet)	Annual Average Withdrawal – 100 Years (Acre Feet)
Dawson (NNT)	310	1,230	4.1 ¹
Denver 4% (NNT)	320	1,030	10.3
Arapahoe (NT)	250	842	8.42
Laramie Fox Hills (NT)	180	535	5.35

All depletions are augmented in time, place and amount through septic return flows during pumping. Post-pumping depletions are not considered in obtaining a Replacement Plan in the designated basin, and therefore the deeper nontributary supplies remain available for other uses. The available supplies will meet both legal and physical needs on a 300-year basis.

3.2 Source of Supply: Rural residential water supply demand will be met using an existing not-nontributary Dawson aquifer formation well and a to-be-constructed not-nontributary Dawson aquifer formation well. 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 Water Quality and Treatment: The water quality in the Dawson aquifer in this area is well established as being suitable for potable use with only in-house filtration for mineral deposits, with an estimated 27,000 households in El Paso County currently utilizing Denver Basin wells. See June 15, 2015 Gazette article – “*Where there is a well, there is a way...*”, attached hereto as **Exhibit E**. The existing well has been utilized for water service to a single family home, with all legal requirements regarding bacterial/inorganics testing presumably satisfied. Applicant has obtained new water quality testing for the to-be-constructed well with Permit No. 84460-F, including bacterial and inorganic testing, so as to ensure compliance with Land Development code Section 8.4.7(B)(3)(d), and copies of those testing results are collectively attached hereto as **Exhibit F**. The to-be-constructed well will meet all applicable regulatory requirements regarding quality testing before being utilized as a residential water source.

3.4 Pumping Rates for Service: The Dawson 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, and such production is consistent with the historical use of Permit No. 84559-F.

IV. WASTEWATER AND WASTEWATER TREATMENT – While soils, geology and geotechnical analysis has been provided by other of Applicant’s consultants, Applicant provides a summary of ISDS to be utilized herein, as relates to water usage and

¹ The Dawson aquifer annual withdrawal figures represent not the 100-year aquifer life discussed at C.R.S. §37-90-137(4), but rather a 300-year aquifer life consistent with provision of a 300-year water supply in compliance with El Paso County, Colorado land development code as applicable to the subdivision of Applicant’s Property. The 100-year aquifer life average annual amount is 12.3 acre-feet.

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 180 gallons per day per single family residence. Maximum daily wastewater loads are expected to be roughly 200 gallons per day per single family residence, assuming residential in-house use at the 0.25 acre foot per year rate described in the approved Replacement Plan.

4.2 On-Site Wastewater Treatment Systems: The two residential lots within the Subdivision will be served by individual on-site wastewater treatment systems. There is an existing and approved on-site wastewater treatment system on one lot, and the other will be constructed to the other lot upon approval of the Subdivision. Based on such historical use, the site is suitable for on-site wastewater treatment system/ISDS. The on-site wastewater treatment system will be evaluated and installed according to El Paso County Guidelines and properly maintained to prevent contamination of surface and subsurface water resources.

Respectfully submitted this ___ day of _____, 2020.

MONSON, CUMMINS & SHOHET, LLC

/s/ Chris D. Cummins

Chris D. Cummins

cc: Client

Exhibits:

- A – Final Plat of the Property
- B – Location of the Wells
- C – Replacement Plan
- D - Determinations of Water Rights
- E - Gazette article
- F - Well Testing Results