

WATER RESOURCES REPORT

for

WHITE COTTAGE FARMS, LLC

EPC Parcel #: 5119000007

March 2021

Prepared By:



WHITE COTTAGE FARMS, LLC
EPC Parcel # 5119000007

WATER RESOURCES REPORT

March 2021

Prepared for:

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The purpose of this report is to address the specific water needs of a proposed commercial property located at Parcel # 5119000007 in El Paso County, CO.

EXECUTIVE SUMMARY: The water rights and proposed augmentation plan in place for the existing parcel will be adequate to meet the needs of the proposed commercial lot on a 100-year basis.

2.0 PROJECTED LAND USES

2.1 Projected Land Uses

This report pertains to the existing 8.02-acre RR-5 parcel that is proposed to be replatted into a commercial wedding venue. Please refer to the *Land Use Exhibit* in **Appendix A** depicting the proposed replat.

3.0 WATER NEEDS AND PROJECTED DEMANDS

3.1 Water Demand Summary

It is anticipated that the commercial property will use 1.40 acre-feet (AF) of water per year. The property will feature two (2) residence houses known as the bunk house and farm house; lawn, garden, and orchard irrigation; events center and dining hall to support a maximum even of 145 including patrons and staff; and stock watering. Note that the indoor events center (pavilion) will be served by a new septic system while the two residential houses are served by an existing septic system. This estimate is based information provided in Chapter 8 of the *El Paso County Land Development Code* as well as the recently augmentation plan submitted to Division I under case number 21CW3016 and Division II under case number 21CW3005. Copies of the application are located in **Appendix C**. Water demands and wastewater loads are shown Table 3-1 below:

Table 3-1: Summary of Expected Water Demands & Wastewater Loads

Water						Wastewater
# of SFE	Annual Residential 0.25 (AF/YR/SFE)	Annual Event Use (AF/Year)	Irrigation 0.056 (AF/YR)	Domestic Watering 0.011 (AF/Horse/Year)	Total Indoor, Watering, & Irrigation (AF)	ADF (@ 90% Indoor Use) (GPD)
2	<i>Note 1</i> 0.500	<i>Note 2</i> 0.28	<i>Note 3</i> 0.560	<i>Note 4</i> 0.050	1.4	<i>Note 5</i> 625

- Note 1: **0.25 AF/YR/SFE per Section IV.C.i. of Water Court Cases Nos. 21CW3016 and 21CW3005**
- Note 2: **Estimated indoor use pertains to one (1) indoor dining hall, and one (1) outdoor venue to serve a total of 125 individuals (100 patrons and 25 staff) - 0.28 AF/year**
- Note 3: **Irrigation assumes two (2.18) acres of irrigation for lawn and garden at 0.23 AF/year/acre as well as 6 apple trees at 0.01 AF/year for a total of 0.56 AF/year**
- Note 4: **Assumes four (4) to five (5) horses will be raised on the property per Section IV.C.ii. of Water Court Cases Nos. 21CW3016 and 21CW3005**
- Note 5: **Includes 90% of residential use and 90% of the indoor event center water use**

3.2 Unit Water User Characteristics

Unit water user characteristics are counted on a *single family equivalent* (SFE) basis. All single-family homes on the property are counted as one SFE, and user characteristics were based on information provided in the *El Paso County Land Development Code*, Chapter 8 or Water Court Cases 21CW3016 and 21CW3005.

Unit water characteristics for the events were derived from the State of Colorado Code of Colorado Regulations 6 CCR 1010-9 for picnic use as five (5) gallons per capita per day in recreational areas with common faucets and flush toilets. The events staged at the White Cottage Farms wedding venue are of similar concept as a recreational area, thus the five gallons per capita per day was utilized vs. the maximum 125 patrons estimated per event. With a maximum estimated 145 events planned per calendar year the total figure of 0.28 AF/year was estimated for the planned events in the dining pavillion and outdoor events center.

3.3 Demand versus Supply

An overall demand of 1.40 acre-feet for the proposed subdivision is less than the amount of supply listed in the decrees, permits, and pending applications for water rights with court cases 21CW3016 and 21CW3005 (provided in **Appendix C**), and is further discussed in Section 4.0 of this report. Supply of 2.62 AF/year from the Dawson Aquifer on a 300-year basis exceeds the proposed annual demand of 1.39 AF/year.

4.0 WATER RIGHTS AND SUPPLY

4.1 Water Rights

Water rights and determinations are presented in court cases 21CW3016 and 21CW3005 currently pending in Water Division 1 and Water Division 2 water court. Copies of these applications are included in **Appendix C**. Table 4-1 below summarizes the information from said water rights and determinations.

Table 4-1: Water Rights Summary

Land Formation/ Aquifer	Determination	Tributary Status	Area	Total Approp. Total	Annual Allocation 100-Year	Annual Allocation 300-Year
			(Acres)	(AF)	(AF/Year)	(AF/Year)
Dawson	21CW3016/21CW3005	NNT	8.02	785	7.85	2.62
Denver	21CW3016/21CW3005	NT	8.02	698	6.98	2.33
Arapahoe	21CW3016/21CW3005	NT	8.02	330	3.30	1.10
Laramie-Fox Hills	21CW3016/21CW3005	NT	8.02	240	2.40	0.80
Total Legal Supply					20.52	6.84
					<i>100-Year</i>	<i>300-Year</i>

Beneficial Uses: *Domestic Indoor, fire protection, commercial (inc. event center and wedding venue)
Lawn & Garden Irrigation / storage and augmentation purposes
Water for Domestic Animals*

Note that only the Dawson formation is to be used for the proposed supply to the White Cottage Farm. According to the *Water Court Cases* located in **Appendix C**, the following conditions are allowed for the subject property:

- Water in the Dawson may be withdrawn through the existing well. Existing well has been permitted through well permit number 296012. Upon approval of the augmentation plan this well will be re-permitted.
- According to the plan the property may include up to three wells acting as a well field drilled into the Dawson. The total volume which the combined production of the well field can produce will not exceed 1.40 AF/year.
- Annual pumping is estimated to be 1.4 AF/year from the existing well or future well field. Pumping rates from all wells will pump at a minimum rate between 15 gpm to 20 gpm, but will not exceed 100 gpm.
- Estimated household use to the bunk house and farm house is estimated to be 0.50 AF/year. The remaining 0.89 AF/year of annual demands is proposed to be a balance between irrigation, lawn, garden, orchard, wedding venue, stock, and events center. So long as the balance does not exceed 1.40 AF/year.

4.2 Adequacy of Water Rights

Current water rights are adequate for maximum event demands of the wedding venue with associated residences through the planning period of 2040 and 2060 buildout projections on a 300-year basis.

According to Water Court Cases 21CW3016 and 21CW3005 filed with the District Courts in Water Division 1 and Water Division 2 on February 8, 2021 located in **Appendix C**:

- There are 2.62 AF/year available on a 300-year supply basis out of the Dawson Formation, which is greater than the estimated annual demand of 1.40 AF/year for the existing and proposed Dawson Well field.
- Assuming a 0.25 AF/yr domestic use per resident with 90% return flows through the septic system per residence, this results in a 0.225 AF/yr replacement flow back through the septic system per residence, resulting in a 0.225 AF/year replacement volume per year per residence (or 0.45 AF/year total).
- The estimated maximum depletion to the alluvial aquifer from 300-years of pumping from the Dawson formation at 1.4 AF/year results is 0.31 AF/year by year 300. The estimated annual return flows from each residence is in excess of the estimated depletions to the alluvium as shown in the proposed augmentation plan contained in Water court Cases 21CW3016 and 21CW3005 included in **Appendix C**

Conclusion:

The current water rights and augmentation plan in place are adequate to meet the estimated overall demand and resulting alluvial depletions of 1.40 acre-feet for the proposed wedding venue and two (2) associated residences at White Cottage Farms.

4.3 Description of Current Water Rights

The subject area's current water rights involve non-renewable supplies in the Denver Basin, further discussed below.

Non-Renewable Denver Basin Supply

The Denver Basin is a vast, deep-rock aquifer that stretches from southeast of Colorado Springs to Greeley, and from the base of the front range to the eastern end of Elbert County. Rights granted in the Denver basin are based on the ownership of the surface property – the larger the parcel, the larger the allocation. This water is much deeper than typical residential wells, ranging up to 2,650 feet deep.

Denver Basin water is considered finite and therefore non-renewable. In the subject area, there are four main formations that make up the Denver Basin: Dawson, Denver, Arapahoe, and Laramie-Fox Hills (LFH), described from shallowest to deepest.

The subject property has numerous determinations under its existing boundaries, which total 6.84 annual acre-feet on a 300-year basis, and 20.52 annual acre-feet on a 100-year basis.

5.0 WATER SYSTEM FACILITIES AND PHYSICAL SUPPLY

5.1 *Source of Supply*

Supply for the White Cottage Farms wedding venue and two (2) residences on the subject property will continue to be met via the existing well (see well permit in **Appendix C**).

Supply for the two (2) additional wells will be met with a future well completed in the Dawson aquifer. These wells will be drilled, screened, test-pumped, and completed accordance with the Colorado Division of Water Resources rules and regulations. Currently, however, all demands will be met with the existing well located on site.

5.2 *Water Treatment*

Water in the existing well was tested in February of 2021 for constituents required by El Paso County regulations for a confined aquifer. This property is not considered a *Community System* by the Colorado Department of Public Health and Environment. However, the Farm does have an existing treatment system which consists of two cartridge filters and a water softener which currently is not in use. The property owner has been advised to return the treatment system to working operational condition for the purpose of treating the source water.

5.3 *Water Storage*

Water storage exists in the form of a 220 gallon pressure tank. The property owner has been advised to employ the 220 gallon pressure tank for the purpose of providing equalizing storage during large events, maintain adequate service pressures, and reduce starts-and-stops on the existing well.

5.4 *Distribution, Pumping, and Transmission Lines*

Since there is no central water system proposed for this property, no distribution, pumping, or transmission lines will be constructed.

5.5 *Water Quality*

The water quality in the Dawson aquifer in this area has typically been suitable for residential potable use. Water samples were obtained from an existing tap in the basement of the farm house off of the existing well (Well Permit #296012). Water samples were obtained from this tap on February 2nd, 2021, with water quality testing performed by Colorado Analytical Laboratories and ACZ Laboratories, per the El Paso County Land Development Code section 8.4.7(B). Final results from this water quality testing were received on March 2nd, 2021, and can be found in **Appendix D**. The only results of concern were for total coliform.

The water sampled at this location was tested and found to have elevated levels of nitrate, aluminum, and combined radium 226+228. Aluminum is considered a secondary contaminant while nitrate and combined radium 226+228 are

considered chronic contaminants. Water quality results from the existing on-site well are included in **Appendix D**.

- 1) Nitrate – this contaminant is generally found in areas that utilize a lot of fertilizers including farms and ranches. Nitrate is a component commonly found in ammonia based fertilizers and can seep into the shallower groundwater tables after long periods of excessive use. The maximum contaminant limit (MCL) established by the EPA is 10 mg/L. The observed level of nitrates found in the Dawson water at this location is 11.81 mg/L, which is elevated above the MCL. The largest impact from excessive nitrate contamination is a malady known as “blue baby disease”. Generally a syndrome encountered in babies, a high concentration of nitrates in drinking water can cause methemoglobinemia, which hinders oxygen transport to the different cellular structures. While this condition can be potentially fatal to infants, it generally only experienced after prolonged exposure to nitrates in drinking water. In the case of the White Cottage Farms, LLC drinking water it is highly unlikely that any patron would experience any ill health effects from exposure to the well water on an acute, one event basis. However, for staff or residents who have chronic long-term exposure to the water it may be advisable to provide point of use filtration at all drinking water locations or install a reverse osmosis filtration unit at the entry point into the compound off of the well.
- 2) Aluminum – this contaminant is not a naturally occurring contaminant and can either enter the drinking water from leeching off of cement mortar pipes or linings, or be present in aluminum sulfate which is a chemical compound used as a coagulating agent for drinking water purification. The secondary contaminant limit for aluminum is 0.2 mg/L and is seen as an aesthetic contaminant. While aluminum in high doses can be toxic to humans the concentrations found in the Dawson aquifer water serving the White Cottage Farms venue would be considered too low to cause harm to humans (especially in an acute exposure situation). However, as mentioned above, point of use treatment may be advisable to protect long term residents or staff.
- 3) Radium 226+228 – combined radium 226+228 are naturally occurring radioactive constituents which are fairly prevalent in the Dawson formation. In the case of the White Cottage Farms water samples combined radium 226+228 was found to be elevated above the MCL of 5 pCi/l. However, as with the other two constituents this should not be seen as a public hazard for the public who only have acute exposure to the White Cottage Farms water. In fact, for public water systems monitored by the Colorado Department of Health and Environment (CDPHE) this contaminant is generally not sampled for transient public water systems, which White Cottage Farms would be considered. However, as with the other two constituents mentioned above it is advisable that the Farm consider point of use filtration or re-utilization of the existing filtration system.

As mentioned in Section 5.2 White Cottage Farms currently has an existing water treatment system that features two (2) cartridge filter systems and a water softener. The combination water softener and cartridge filter system should be sufficient to reduce the presence of aluminum, nitrates, and combined radium 225+228 in the drinking water. Given that these constituents are either considered secondary (as in the case of aluminum) or chronic (as in the case of nitrates or combined radium) the water should be considered of sufficient quality to be in contact with the public in an acute setting when distributed in conjunction with a re-installed water treatment system as exists on the premises.

6.0 EL PASO COUNTY MASTER PLANNING ELEMENTS

6.1 *County Water Master Plan 2040 and 2060 Projections*

The subject property lies within the El Paso County Water Master Planning area, Region #2.

6.2 *Buildout (Including 2040 and 2060 Buildout):*

Expected buildout of the subject property is for two residential facilities along with wedding venue amenities which can support a total of 145 patrons and staff at maximum capacity. Demands for the entire subdivision are listed in Section 3.0 of this report.

6.3 *Description of Long-Term Planning and Future Sources of Supply*

Per El Paso County criteria, the 300-year supply of water for the subject property appears to be more than adequate for full buildout, which would include both the 2040 and 2060 scenarios. However, the proposed supply in the Dawson aquifer is based on non-renewable sources.

If needed beyond the 300-year supply, the subdivision has water rights in the Denver, Arapahoe, and Laramie-Fox Hills formations, although a portion of the LFH water right is dedicated to augmentation to offset post-pumping depletions. Please refer to the *Plan for Augmentation* in **Appendix C**.

6.4 *Water System Interconnects*

The closest source for a potential interconnect is the Town of Black Forest – approximately 2.8 miles to the southwest.

It is not anticipated (and Black Forest has not been contacted) that an interconnect is needed or warranted.

7.0 CONCLUSION

The subject property has adequate water supply to meet the needs of the proposed subdivision on a 300-year basis.

Appendix A

General Notes

- THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE.
- APPROVAL OF THIS PLAN BY EL PASO COUNTY DOES NOT ASSUME COMPLIANCE WITH ADA OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.
- NEW SEPTIC AND LEECH FIELDS ARE TO SUPPLEMENT EXISTING SEPTIC AND LEECH FIELDS.

Landscape Notes

- ALL PROPOSED PLANT QUANTITY AND QUANTITIES ARE APPROXIMATE AND SHOULD BE CONFIRMED BY INSTALLER BEFORE INSTALLATION OCCURS.
- ALL PLANTINGS BEDS SHOULD HAVE 3 CY OF COMPOST OR SOIL IMPROVEMENT PER 1,000 SF.
- ALL ROCK WILL HAVE COMMERCIAL GRADE LANDSCAPE FABRIC UNDERNEATH.
- ALL ROCK WILL BE APPLIED A MINIMUM OF 3" THICK.
- ALL WOOD MULCH AREAS WILL BE APPLIED A MINIMUM OF 4" THICK WITH NO LANDSCAPE FABRIC APPLIED UNDERNEATH.
- BETWEEN DIFFERENT TYPES OF MATERIALS (I.E. MULCH AND ROCK; ROCK AND TURF; ETC.) A ROLLED STEEL EDGING WILL BE USED TO KEEP MATERIALS SEPARATE.

No.	Revision/Issue	Date

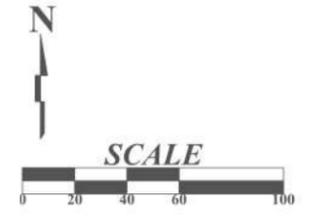
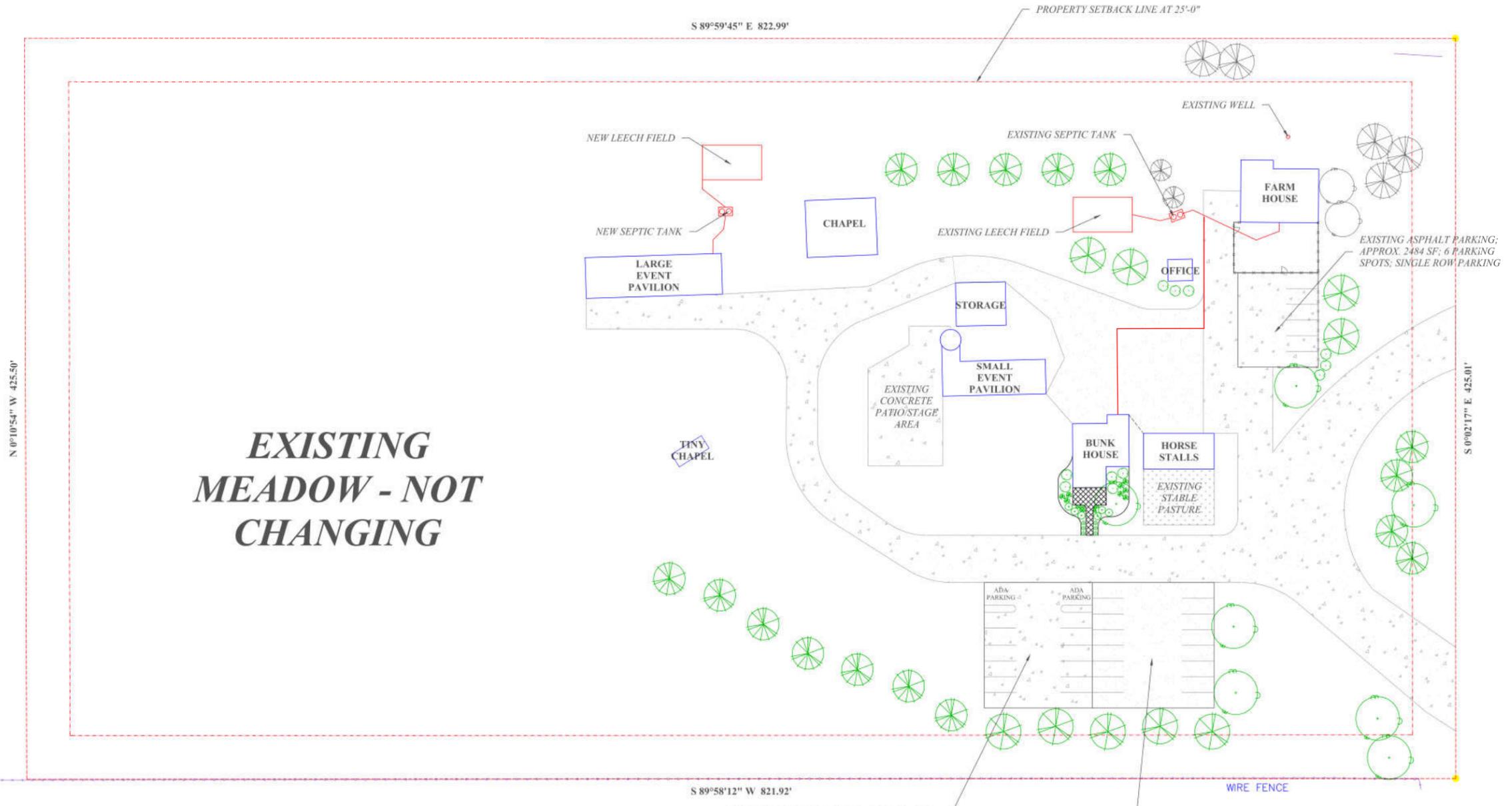
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Project Name and Address
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 OWNER: SHAWNIA SCHOTANUS
 TAX SCHEDULE NUMBER: 51190-00-007
 FILING: 51190 000 07
 ZONING: RR-5

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Project SITE DEVELOPMENT & LANDSCAPE PLAN	Sheet L102
Date 2/24/2021	Scale 1/32" = 1'-0" <small>(PAPER SIZE 24.0 X 36.0)</small>

EXISTING MEADOW - NOT CHANGING



Appendix B

WATER SUPPLY INFORMATION SUMMARY

Section 30-28-133(d), C.R.S. requires that the applicant submit to the County, "Adequate evidence that a Water supply that is sufficient in terms of quantity, quality, and dependability will be available to ensure an adequate supply of water"

1. NAME OF DEVELOPMENT AS PROPOSED		<u>White Cottage Farms</u>	
2. LAND USE ACTION		<u>Replat</u>	
3. NAME OF EXISTING PARCEL AS RECORDED		<u>Unnamed</u>	
SUBDIVISION	<u>See Above</u>	FILING	<u>N/A</u>
BLOCK	<u>N/A</u>	Lot	<u>N/A</u>
4. TOTAL ACERAGE	<u>8.02</u>	5. NUMBER OF LOTS PROPOSED	<u>1</u>
		PLAT MAPS ENCLOSED	<input checked="" type="checkbox"/>
6. PARCEL HISTORY - Please attach copies of deeds, plats, or other evidence or documentation. (In submittal package)			
A. Was parcel recorded with county prior to June 1, 1972?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
B. Has the parcel ever been part of a division of land action since June 1, 1972?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If yes, describe the previous action			
7. LOCATION OF PARCEL - Include a map delineating the project area and tie to a section corner. (In submittal)			
<u>NW1/4</u> OF <u>SW 1/4</u> SECTION 19		TOWNSHIP <u>11</u>	<input type="checkbox"/> N <input checked="" type="checkbox"/> S RANGE <u>65</u>
PRINCIPAL MERIDIAN:		<input checked="" type="checkbox"/> 6TH <input type="checkbox"/> N.M. <input type="checkbox"/> UTE <input type="checkbox"/> COSTILLA	
8. PLAT - Location of all wells on property must be plotted and permit numbers provided.			
Surveyors plat		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
		If not, scaled hand-drawn sketch <input type="checkbox"/> Y <input type="checkbox"/> NO	
9. ESTIMATED WATER REQUIREMENTS - Gallons per Day or Acre Foot per Year		10. WATER SUPPLY SOURCE	
HOUSEHOLD USE # *	<u>2</u> of units <u>0.250</u> AF/SFE/YR <u>0.500</u> AF	<input checked="" type="checkbox"/> EXISTING <input checked="" type="checkbox"/> DEVELOPED <input checked="" type="checkbox"/> NEW WELLS	WELLS SPRING WELL PERMIT NUMBERS
COMMERCIAL USE #	<u>145</u> People <u>90,625</u> GPD <u>0.28</u> AF	Proposed Aquifers - (Check One)	
IRRIGATION # **	<u>0.2300</u> AF/AC/yr <u>501</u> GPD <u>0.56</u> AF	<input type="checkbox"/> Alluvial <input type="checkbox"/> Upper Arapahoe	
ANIMAL WATERING # ***	<u>4.5</u> Horses <u>0.011</u> AF/Horse/Year <u>0.0495</u> AF	<input checked="" type="checkbox"/> Upper Dawson <input type="checkbox"/> Lower Arapahoe	
TOTAL	<u>1,240</u> GPD <u>1.4</u> AF *	<input type="checkbox"/> Lower Dawson <input type="checkbox"/> Laramie Fox Hills	
* Per Part IV. C. 1. i. of Water Court Cases 21CW3016 and 21CW3005		<input type="checkbox"/> Denver <input type="checkbox"/> Dakota	
# Assuming 145 patrons / staff over 125 events at 5 gpdpc		<input type="checkbox"/> Other	
#*** 2.18 acres @ 0.23 AF/acre/year + 0.01 AF/year for apple trees at 6 apple trees		<input type="checkbox"/> MUNICIPAL <input type="checkbox"/> ASSOCIATION <input type="checkbox"/> COMPANY <input type="checkbox"/> DISTRICT NAME: <u>N/A</u> LETTER OF COMMITMENT FOR SERVICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
11. ENGINEER'S WATER SUPPLY REPORT		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If yes, please forward with this form. (This may be required before our review is completed)			
12. TYPE OF SEWAGE DISPOSAL SYSTEM			
<input checked="" type="checkbox"/> SEPTIC TANK/LEACH FIELD		<input type="checkbox"/> CENTRAL SYSTEM - DISTRICT NAME:	
<input type="checkbox"/> LAGOON		<input type="checkbox"/> VAULT - LOCATION SEWAGE HAULED TO:	
<input type="checkbox"/> ENGINEERED SYSTEM (Attach a copy of engineering design)		<input type="checkbox"/> OTHER:	

Appendix C

DISTRICT COURT, WATER DIVISION 1, CO Court Address: 901 9 th Avenue P.O. Box 2038 Greeley, CO 80632 Phone Number: (970) 475-2510	DATE FILED: February 8, 2021 3:49 PM FILING ID: 8C2D733369714 CASE NUMBER: 2021CW3016
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: SHAWNA SCHOTANUS IN EL PASO COUNTY	<hr/> <p style="text-align: center;">▲ COURT USE ONLY ▲</p> Case No.: 21CW_____
<p style="text-align: center;">APPLICATION FOR ADJUDICATION OF DENVER BASIN GROUNDWATER AND PLAN FOR AUGMENTATION</p>	

I. Name and Address of Applicant:

ShawNa Schotanus
 19770 Capella Dr.
 Monument, CO 80132

Name and Address of Attorneys:

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II. Summary of Application

ShawNa Schotanus (“Applicant”) seeks to quantify the Denver Basin groundwater underlying her approximately 8.02-acre property in El Paso County, Colorado, and approval of a plan for augmentation for the use thereof.

III. Application for Underground Water Rights

A. Legal Description of Wells.

1. Property Description. All wells will be located on Applicant’s approximately 8.02 acre property (“Applicant’s Property”) with current schedule number 5119000007. Applicant’s Property is depicted on the attached **Exhibit A** map, located in the NW¼ SW¼ of Section 19, Township 11 South, Range 65 West of the 6th P.M., and more particularly described as 16890 and 16910 Thompson Road, Colorado Springs, CO 80908, El Paso County, Colorado.

2. Existing Well. There is an existing domestic well with Division of Water Resources Permit No. 296012-A (“White Cottage Farms Well”), permit attached as **Exhibit B**. It is drilled to a total depth of 320 feet to the Dawson aquifer, and located 2554 feet from the South Section Line, and 1385 feet from the West Section Line. Upon approval of this plan for augmentation, this well will be re-permitted.

B. Water Source.

1. Not-Nontributary. The ground water to be withdrawn from the Upper Dawson aquifer underlying the Applicant’s Property is not-nontributary. Pursuant to C.R.S. §37-90-137(9)(c.5), the augmentation requirements for wells in the Upper Dawson aquifer will require the replacement of actual stream depletions.

2. Nontributary. The groundwater that will be withdrawn from the Denver, Upper Arapahoe, and Laramie-Fox Hills aquifers underlying the Applicant’s Property is nontributary.

C. Estimated Rates of Withdrawal and Ground Water Available.

1. Estimated Rates of Withdrawal. Annual pumping is estimated to be 1.4 acre-feet from the existing well or future well field. Pumping from all wells will pump at minimum rates between 15 g.p.m. and 20 g.p.m., but will not exceed 100 g.p.m. The actual pumping rate for well(s) will vary according to aquifer conditions and well production capabilities. . The Applicant requests the right to withdraw ground water at rates of flow necessary to withdraw the entire decreed amounts for the purposes requested herein.

2. Estimated Average Annual Amounts of Ground Water Available. Applicant requests a vested right for the withdrawal of all legally available ground water

in the Denver Basin aquifers underlying the Applicant's Property. Said amounts may be withdrawn over the 300-year life of the aquifers as required by El Paso County, Colorado Land Development Code §8.4.7(C)(1) which is more stringent than the State of Colorado's 100-year life requirement pursuant to C.R.S. §37-90-137(4). Applicant estimates that the following values and average annual amounts are representative of the Denver Basin aquifers underlying Applicant's Property:

AQUIFER	NET SAND (Feet)	Total Appropriation (Acre Feet)	Annual Avg. Withdrawal 100 Years (Acre Feet)	Annual Avg. Withdrawal 300 Years (Acre Feet)
Upper Dawson (NNT)	489.50	785.16	7.85	2.62
Denver (NT)	511.70	697.65	6.98	2.33
Upper Arapahoe (NT)	241.70	329.53	3.30	1.1
Laramie Fox Hills (NT)	199.20	239.64	2.40	0.80

Decreed amounts may vary from the above to conform with the State's Determination of Facts. Pursuant to C.R.S. §37-92-305(11), the Applicant further requests that the Court retain jurisdiction to finally determine the amount of water available for appropriation and withdrawal from each aquifer.

D. Requested Uses. The Applicant requests the right to use the ground water for beneficial uses upon the Applicant's Property consisting of domestic, irrigation, stock water, fire protection, commercial, including event center and wedding venue, and also for storage and augmentation purposes associated with such uses. The Applicant also requests that the nontributary water may be used, reused, and successively used to extinction, both on and off the Applicant's Property subject, however, to the requirement of C.R.S. §37-90-137(9)(b), that no more than 98% of the amount withdrawn annually shall be consumed. Applicant may use such water by immediate application or by storage and subsequent application to the beneficial uses and purposes stated herein. Provided, however, Applicant shall only be entitled to construct wells or use water from the not-nontributary Upper Dawson aquifer pursuant to a decreed augmentation plan entered by this Court, covering the out-of-priority stream depletions caused by the use of such not-nontributary aquifers in accordance with C.R.S. §37-90-137(9)(c.5).

E. Well Fields. Applicant requests that she be permitted to produce the full legal entitlement from the Denver Basin aquifers underlying Applicant's Property through any combination of wells. Applicant requests that these wells be treated as a well field.

F. Averaging of Withdrawals. Applicant requests that she be entitled to withdraw an amount of ground water in excess of the average annual amount decreed

to the aquifers beneath the Applicant's Property, so long as the sum of the total withdrawals from all the wells in the aquifers does not exceed the product of the number of years since the date of issuance of the original well permit or the date of entry of a decree herein, whichever comes first, multiplied by the average annual volume of water which the Applicant is entitled to withdraw from the aquifers underlying the Applicant's Property.

G. Owner of Land Upon Which Wells are to Be Located. The land upon which the wells are and will be located as well as the underlying groundwater is owned by the Applicant.

IV. APPLICATION FOR PLAN FOR AUGMENTATION.

A. Structure to be Augmented. The structure to be augmented is the White Cottage Farms Well, along with any replacement or additional wells associated therewith, which may include up to three wells acting as a well field, constructed to the Dawson aquifer of the Denver Basin underlying the Applicant's Property as requested and described herein.

B. Water Rights to be Used for Augmentation. The water rights to be used for augmentation during pumping are the return flows resulting from the pumping of the not-nontributary Dawson aquifer from the White Cottage Farms Well, together with water rights from the nontributary Arapahoe and Laramie-Fox Hills aquifers for any injurious post pumping depletions.

C. Statement of Plan for Augmentation. Applicant wishes to provide for the augmentation of stream depletions caused by pumping of the not-nontributary Upper Dawson aquifer by one well. Potential water use criteria and their consumptive use component for replacement of actual depletions for the lots are estimated as follows:

1. Uses.

i. Household Use Only: 0.25 acre feet annually within two single family dwellings, with a maximum of ten percent consumptive use based on a nonevaporative septic leach field disposal systems. The annual consumptive use for each residence will therefore be 0.025 acre feet, with return flows of 0.225 acre feet per dwelling, or 0.45 acre-feet per year.

ii. Landscape Irrigation: 0.05 acre feet annually per 1,000 square feet (2.18 acre feet per acre) per year, with an 85% assumed consumptive use rate. The annual consumptive use for each 1,000 square feet of lawn and garden irrigated is therefore 0.042 acre feet.

iii. Horses (or equivalent livestock): 0.011 acre feet annually (10 gallons per day) per head with a one hundred percent consumptive use component.

2. The well will pump a maximum of 1.4 acre feet of water per year from the Dawson aquifer. Such use shall be a combination of household use, irrigation of lawn, garden and orchard, commercial, including event center and wedding venue, and the watering of horses or equivalent livestock. An example breakdown of this combination of use, utilizing the factors described above, is household use of 0.25 acre feet of water for two residences, with the additional 0.9 acre feet per year available for irrigation of lawn, garden, and orchard, wedding venue and event center facilities, and the watering of up to three horses or equivalent livestock.

3. Depletions. Applicant's consultant has determined that maximum stream depletions over the 300 year pumping period for the Upper Dawson aquifer amounts to approximately 22.28% of pumping. Maximum annual depletions for total pumping are therefore 0.31 acre feet in year 300. Should Applicant's pumping be less than the 1.4 total described herein, resulting depletions and required replacements will be correspondingly reduced.

4. Augmentation of Depletions During Pumping. Pursuant to C.R.S. §37-90-137(9)(c.5), Applicant is required to replace actual stream depletions attributable to pumping of the White Cottage Farms well. Applicant's consultant has determined that depletions during pumping will be effectively replaced by residential return flows from non-evaporative septic systems. The annual consumptive use for non-evaporative septic systems is 10% per year per residence. At a household use rate of 0.25 acre feet per residence per year, total of 0.50 acre feet, 0.45 acre feet is replaced to the stream system per year, utilizing non-evaporative septic systems. Thus, during pumping, stream depletions will be more than adequately augmented.

5. Augmentation for Post Pumping Depletions. For the replacement of any injurious post-pumping depletions which may be associated with the use of the White Cottage Farms well, Applicant will reserve a portion of the nontributary Arapahoe aquifer and up to the entirety of the nontributary Laramie Fox Hills aquifer, accounting for actual stream depletions replaced during the plan pumping period, as necessary to replace any injurious post pumping depletions. Applicant also reserves the right to substitute other legally available augmentation sources for such post pumping depletions upon further approval of the Court under its retained jurisdiction. Even though this reservation is made, under the Court's retained jurisdiction, Applicant reserves the right in the future to prove that post pumping depletions will be noninjurious. The reserved nontributary Arapahoe and Laramie-Fox Hills groundwater will be used to replace any injurious post-pumping depletions. Upon entry of a decree in this case, the Applicant will be entitled to apply for and receive a new well permit for the White Cottage Farms well for the uses in accordance with this Application and otherwise in compliance with C.R.S. §37-90-137.

V. Remarks.

A. This Application was filed in both Water Divisions 1 and 2 because depletions from the pumping of the Dawson aquifer may occur in both the South Platte

and the Arkansas River systems. The return flows set forth herein will accrue to tributaries of the South Platte River system where the majority of such depletions will occur, and it is Applicant's intent to consolidate the instant matter with pending Division 2 application in Water Division 1 upon completion of publication. Applicant requests that the total amount of depletions to both the South Platte River and the Arkansas River systems be replaced to the South Platte River as set forth herein, and for a finding that those replacements are sufficient.

B. Applicant requests a finding that she has complied with C.R.S. §37-90-137(4), and that the ground water requested herein is legally available for withdrawal by the requested not-nontributary wells upon the entry of a decree approving an augmentation plan pursuant to C.R.S. §37-90-137(9)(c.5).

C. The term of this augmentation plan is for 300 years, however the length of the plan for a particular well may be extended beyond such time provided the total plan pumping allocated thereto is not exceeded. Post pumping stream depletions accrue to a particular well or wells only to the extent related to that well's actual pumping.

D. The Court will retain jurisdiction over this matter to provide for the adjustment of the annual amount of ground water withdrawals to be allowed in order to conform to actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

E. The Applicant requests a finding that vested water rights of others will not be materially injured by the withdrawals of ground water and the proposed plan for augmentation.

F. The wells shall be installed and metered as reasonably required by the State Engineer. Each well must be equipped with a totalizing flow meter and Applicant shall submit diversion records to the Division Engineer on an annual basis or as otherwise requested by the Division Engineer. The Applicant shall also provide accountings to the Division Engineer and Water Commissioner as required by them to demonstrate compliance under this plan of augmentation.

G. The Applicant intends to waive the 600 feet well spacing requirement for any wells to be located upon the Applicant's Property.

H. PennyMac has a lienholder interest in the Applicant's Property. Pursuant to § 37-92-302(2)(b), C.R.S., Applicants will notify PennyMac of the filing of this application by certified or registered mail, return receipt requested, no later than 14 days after the filing of this application. Thereafter, the Applicant will complete and file with the Court a Certificate of Notice as evidence that the required notice was given.

RESPECTFULLY SUBMITTED this 8th day of February, 2021.

MONSON, CUMMINS & SHOHEI, LLC

*(E-filed pursuant to C.R.C.P. 121 §1-26 via Colorado Courts E-Filing Service
A printed or printable copy of this document bearing the original, electronic,
or scanned signature is on file at the offices of Monson, Cummins & Shohet,
LLC)*

/s/ Emilie B. Polley

David M. Shohet, #36675

Emilie B. Polley, #51296

13511 Northgate Estates Dr., Ste. 250

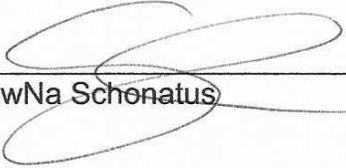
Colorado Springs, CO 80921

(719) 471-1212

VERIFICATION

I, ShawNa Schonatus, declare under penalty of perjury under the law of Colorado that that I have read the foregoing and that all of the statements contained therein are true and accurate to the best of my knowledge and information.

Executed on this 8th day of February, 2021, in El Paso County, Colorado.



ShawNa Schonatus

DISTRICT COURT, WATER DIVISION 2, CO Court Address: 501 North Elizabeth Street, Suite 116 Pueblo, CO 81003 Phone Number: (719) 404-8832	DATE FILED: February 8, 2021 3:55 PM FILING ID: 495B8ECA63C5 CASE NUMBER: 2021CW3005
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: SHAWNA SCHOTANUS IN EL PASO COUNTY	
<u>Attorneys for Applicant:</u> David M. Shohet, #36675 Emilie B. Polley, #51296 MONSON, CUMMINS & SHOHET, LLC 13511 Northgate Estates Dr., Ste. 250 Colorado Springs, Colorado 80921 Phone Number: (719) 471-1212 Fax Number: (719) 471-1234 E-mail: dms@cowaterlaw.com ebp@cowaterlaw.com	<p style="text-align: center;">▲ COURT USE ONLY ▲</p> Case No.: 21CW_____
APPLICATION FOR ADJUDICATION OF DENVER BASIN GROUNDWATER AND PLAN FOR AUGMENTATION	

I. Name and Address of Applicant:

ShawNa Schotanus
 19770 Capella Dr.
 Monument, CO 80132

Name and Address of Attorneys:

David M. Shohet, #36675
 Emilie B. Polley, #51296
 MONSON, CUMMINS & SHOHET, LLC
 13511 Northgate Estates Dr., Ste. 250
 Colorado Springs, Colorado 80921
 (719) 471-1212
 E-mail: dms@cowaterlaw.com; ebp@cowaterlaw.com

II. Summary of Application

ShawNa Schotanus (“Applicant”) seeks to quantify the Denver Basin groundwater underlying her approximately 8.02-acre property in El Paso County, Colorado, and approval of a plan for augmentation for the use thereof.

III. Application for Underground Water Rights

A. Legal Description of Wells.

1. Property Description. All wells will be located on Applicant’s approximately 8.02 acre property (“Applicant’s Property”), with current schedule number 5119000007. Applicant’s Property is depicted on the attached **Exhibit A** map, located in the NW¼ SW¼ of Section 19, Township 11 South, Range 65 West of the 6th P.M., and more particularly described as 16890 and 16910 Thompson Road, Colorado Springs, CO 80908, El Paso County, Colorado.

2. Existing Well. There is an existing domestic well with Division of Water Resources Permit No. 296012-A (“White Cottage Farms Well”), permit attached as **Exhibit B**. It is drilled to a total depth of 320 feet to the Dawson aquifer, and located 2554 feet from the South Section Line, and 1385 feet from the West Section Line. Upon approval of this plan for augmentation, this well will be re-permitted.

B. Water Source.

1. Not-Nontributary. The ground water to be withdrawn from the Upper Dawson aquifer underlying the Applicant’s Property is not-nontributary. Pursuant to C.R.S. §37-90-137(9)(c.5), the augmentation requirements for wells in the Upper Dawson aquifer will require the replacement of actual stream depletions.

2. Nontributary. The groundwater that will be withdrawn from the Denver, Upper Arapahoe, and Laramie-Fox Hills aquifers underlying the Applicant’s Property is nontributary.

C. Estimated Rates of Withdrawal and Ground Water Available.

1. Estimated Rates of Withdrawal. Annual pumping is estimated to be 1.4 acre-feet from the existing well or future well field. Pumping from all wells will pump at minimum rates between 15 g.p.m. and 20 g.p.m., but will not exceed 100 g.p.m. The actual pumping rate for well(s) will vary according to aquifer conditions and well production capabilities. The Applicant requests the right to withdraw ground water at rates of flow necessary to withdraw the entire decreed amounts for the purposes requested herein.

2. Estimated Average Annual Amounts of Ground Water Available. Applicant requests a vested right for the withdrawal of all legally available ground water

in the Denver Basin aquifers underlying the Applicant's Property. Said amounts may be withdrawn over the 300-year life of the aquifers as required by El Paso County, Colorado Land Development Code §8.4.7(C)(1) which is more stringent than the State of Colorado's 100-year life requirement pursuant to C.R.S. §37-90-137(4). Applicant estimates that the following values and average annual amounts are representative of the Denver Basin aquifers underlying Applicant's Property:

AQUIFER	NET SAND (Feet)	Total Appropriation (Acre Feet)	Annual Avg. Withdrawal 100 Years (Acre Feet)	Annual Avg. Withdrawal 300 Years (Acre Feet)
Upper Dawson (NNT)	489.50	785.16	7.85	2.62
Denver (NT)	511.70	697.65	6.98	2.33
Upper Arapahoe (NT)	241.70	329.53	3.30	1.1
Laramie Fox Hills (NT)	199.20	239.64	2.40	0.80

Decreed amounts may vary from the above to conform with the State's Determination of Facts. Pursuant to C.R.S. §37-92-305(11), the Applicant further requests that the Court retain jurisdiction to finally determine the amount of water available for appropriation and withdrawal from each aquifer.

D. Requested Uses. The Applicant requests the right to use the ground water for beneficial uses upon the Applicant's Property consisting of domestic, irrigation, stock water, fire protection, commercial, including event center and wedding venue, and also for storage and augmentation purposes associated with such uses. The Applicant also requests that the nontributary water may be used, reused, and successively used to extinction, both on and off the Applicant's Property subject, however, to the requirement of C.R.S. §37-90-137(9)(b), that no more than 98% of the amount withdrawn annually shall be consumed. Applicant may use such water by immediate application or by storage and subsequent application to the beneficial uses and purposes stated herein. Provided, however, Applicant shall only be entitled to construct wells or use water from the not-nontributary Upper Dawson aquifer pursuant to a decreed augmentation plan entered by this Court, covering the out-of-priority stream depletions caused by the use of such not-nontributary aquifers in accordance with C.R.S. §37-90-137(9)(c.5).

E. Well Fields. Applicant requests that she be permitted to produce the full legal entitlement from the Denver Basin aquifers underlying Applicant's Property through any combination of wells. Applicant requests that these wells be treated as a well field.

F. Averaging of Withdrawals. Applicant requests that she be entitled to withdraw an amount of ground water in excess of the average annual amount decreed

to the aquifers beneath the Applicant's Property, so long as the sum of the total withdrawals from all the wells in the aquifers does not exceed the product of the number of years since the date of issuance of the original well permit or the date of entry of a decree herein, whichever comes first, multiplied by the average annual volume of water which the Applicant is entitled to withdraw from the aquifers underlying the Applicant's Property.

G. Owner of Land Upon Which Wells are to Be Located. The land upon which the wells are and will be located as well as the underlying groundwater is owned by the Applicant.

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A. Structure to be Augmented. The structure to be augmented is the White Cottage Farms Well, along with any replacement or additional wells associated therewith, which may include up to three wells acting as a well field, constructed to the Dawson aquifer of the Denver Basin underlying the Applicant's Property as requested and described herein.

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C. Statement of Plan for Augmentation. Applicant wishes to provide for the augmentation of stream depletions caused by pumping of the not-nontributary Upper Dawson aquifer by one well. Potential water use criteria and their consumptive use component for replacement of actual depletions for the lots are estimated as follows:

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iii. Horses (or equivalent livestock): 0.011 acre feet annually (10 gallons per day) per head with a one hundred percent consumptive use component.

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3. Depletions. Applicant's consultant has determined that maximum stream depletions over the 300 year pumping period for the Upper Dawson aquifer amounts to approximately 22.28% of pumping. Maximum annual depletions for total pumping are therefore 0.31 acre feet in year 300. Should Applicant's pumping be less than the 1.4 total described herein, resulting depletions and required replacements will be correspondingly reduced.

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V. Remarks.

A. This Application was filed in both Water Divisions 1 and 2 because depletions from the pumping of the Dawson aquifer may occur in both the South Platte

and the Arkansas River systems. The return flows set forth herein will accrue to tributaries of the South Platte River system where the majority of such depletions will occur, and it is Applicant's intent to consolidate the instant matter with pending Division 1 application in Water Division 1 upon completion of publication. Applicant requests that the total amount of depletions to both the South Platte River and the Arkansas River systems be replaced to the South Platte River as set forth herein, and for a finding that those replacements are sufficient.

B. Applicant requests a finding that she has complied with C.R.S. §37-90-137(4), and that the ground water requested herein is legally available for withdrawal by the requested not-nontributary wells upon the entry of a decree approving an augmentation plan pursuant to C.R.S. §37-90-137(9)(c.5).

C. The term of this augmentation plan is for 300 years, however the length of the plan for a particular well may be extended beyond such time provided the total plan pumping allocated thereto is not exceeded. Post pumping stream depletions accrue to a particular well or wells only to the extent related to that well's actual pumping.

D. The Court will retain jurisdiction over this matter to provide for the adjustment of the annual amount of ground water withdrawals to be allowed in order to conform to actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

E. The Applicant requests a finding that vested water rights of others will not be materially injured by the withdrawals of ground water and the proposed plan for augmentation.

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H. PennyMac has a lienholder interest in the Applicant's Property. Pursuant to § 37-92-302(2)(b), C.R.S., Applicants will notify PennyMac of the filing of this application by certified or registered mail, return receipt requested, no later than 14 days after the filing of this application. Thereafter, the Applicant will complete and file with the Court a Certificate of Notice as evidence that the required notice was given.

RESPECTFULLY SUBMITTED this 8th day of February, 2021.

MONSON, CUMMINS & SHOHEI, LLC

*(E-filed pursuant to C.R.C.P. 121 §1-26 via Colorado Courts E-Filing Service
A printed or printable copy of this document bearing the original, electronic,
or scanned signature is on file at the offices of Monson, Cummins & Shohet,
LLC)*

/s/ Emilie B. Polley

David M. Shohet, #36675

Emilie B. Polley, #51296

13511 Northgate Estates Dr., Ste. 250

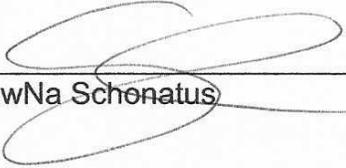
Colorado Springs, CO 80921

(719) 471-1212

VERIFICATION

I, ShawNa Schonatus, declare under penalty of perjury under the law of Colorado that that I have read the foregoing and that all of the statements contained therein are true and accurate to the best of my knowledge and information.

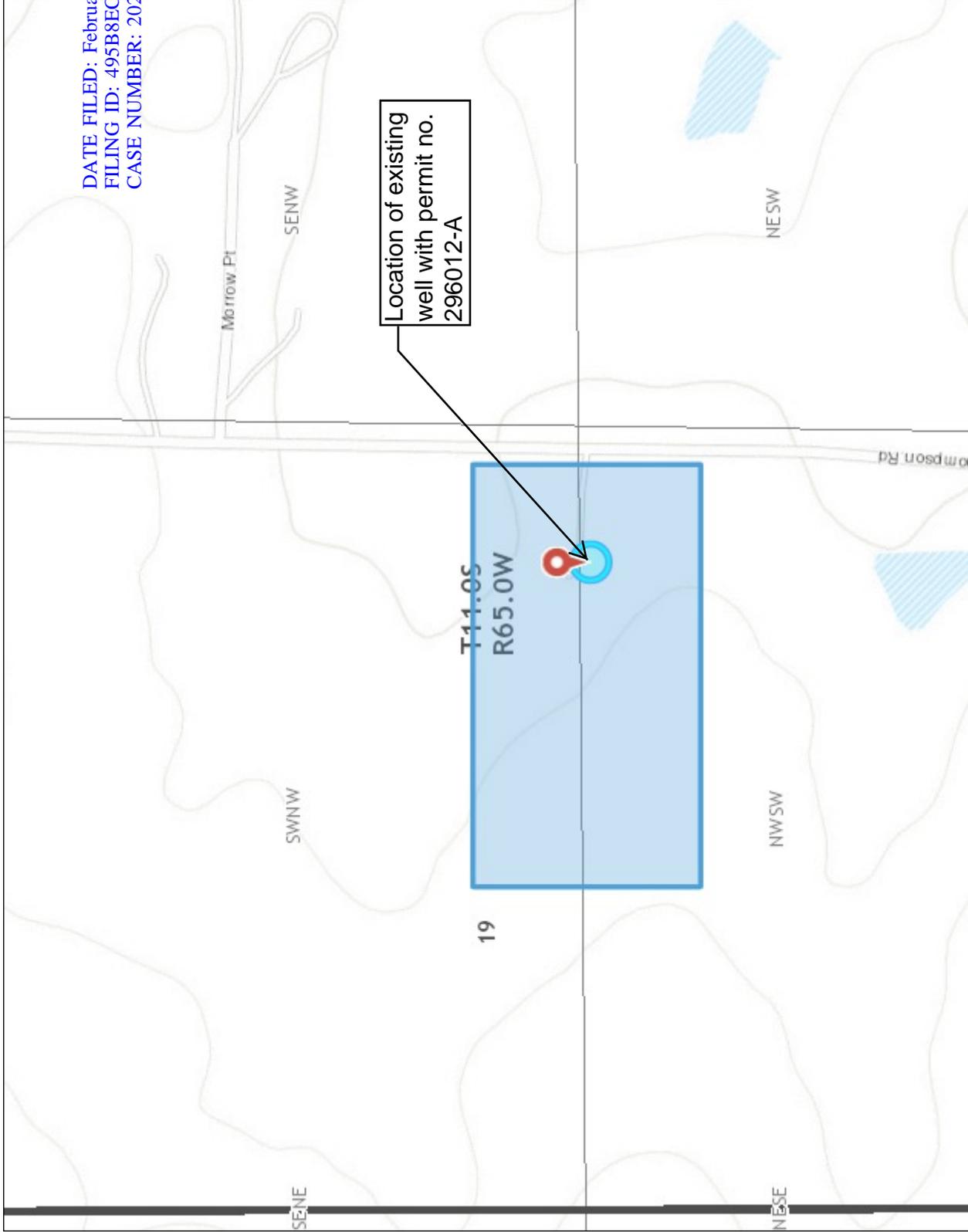
Executed on this 8th day of February, 2021, in El Paso County, Colorado.



ShawNa Schonatus

Approximate Location of Property

EXHIBIT A



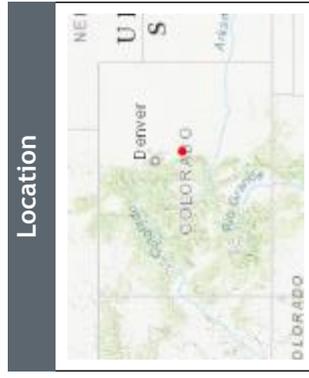
Legend

Township

Section

County

DATE FILED: February 18, 2021 10:55 PM
 FILING ID: 495B8ECAAG30210
 CASE NUMBER: 2021CW3005



Notes

This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



1: 3,508

Date Prepared: 1/25/2021 5:19:13 PM

Form No. GWS-25

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES
818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203
(303) 866-3581

WELL PERMIT NUMBER 296012 DATE ISSUED February 8, 2016 3:55 PM
DIV. 1 WD 8 DISBASIN 495B8ECMA63C5
CASE NUMBER: 2021CW3005

APPLICANT

MARILYN GODFREY
205 E HIGHWAY 71
RAWLINS, WY 82301-

(719) 651-5110

APPROVED WELL LOCATION
EL PASO COUNTY
NW 1/4 SW 1/4 Section 19
Township 11 S Range 65 W Sixth P.M.

DISTANCES FROM SECTION LINES
2618 Ft. from South Section Line
1286 Ft. from West Section Line

UTM COORDINATES (Meters, Zone: 13.NAD83)
Easting: 524654 Northing: 4325488

PERMIT TO CONSTRUCT A WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT
CONDITIONS OF APPROVAL

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-92-602(3)(c) for the relocation of an existing well, permit no. 296012. The old well must be plugged in accordance with Rule 16 of the Water Well Construction Rules within ninety-one (91) days of completion of the new well. The enclosed Well Abandonment Report form must be completed and submitted to affirm that the old well was plugged.
4) The use of ground water from this well is limited to fire protection, ordinary household purposes inside not more than 1 single family dwelling(s), the irrigation of not more than 0.25 acre of home gardens and lawns, and the watering of domestic animals and poultry.
5) The total depth of the well shall not exceed 1065 feet, which corresponds to the base of the Dawson aquifer. At a minimum, plain casing shall be installed and grouted through all unconsolidated materials and shall extend a minimum of ten feet into the bedrock formation to prevent production from other zones.
6) The pumping rate of this well shall not exceed 15 GPM.
7) This well shall be constructed not more than 200 feet from the location specified on this permit.

NOTE: The ability of this well to withdraw its authorized amount of water from this non-renewable aquifer may be less than the 100 years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

NOTE: To ensure a maximum productive life of this well, perforated casing should be set through the entire producing interval of the approved zone or aquifer indicated above.

NOTE: This permit will expire on the expiration date unless the well is constructed by that date. A Well Construction and Yield Estimate Report (GWS-31) must be submitted to the Division of Water Resources to verify the well has been constructed. An extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: http://www.water.state.co.us

APPROVED
JMW

Dick Wolfe by
State Engineer

Joan Willett
By

Receipt No. 3676332

DATE ISSUED 09-14-2016

EXPIRATION DATE 09-14-2018

COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 SHERMAN ST., Ste 821, DENVER, CO 80203
Main: (303) 866-3581 dwrpermitonline@state.co.us

Office Use Only Form GWS-44 (7/2012)
RECEIVED
SEP 08 2016
WATER RESOURCES
STATE ENGINEER COLO.

RESIDENTIAL Note: Also use this form to apply for livestock watering
Water Well Permit Application
Review form instructions prior to completing form.
Hand completed forms must be completed in black or blue ink or typed.

1. Applicant Information
Name(s)
MARILYN GODFREY
Mailing address
205 E HIGHWAY 71
City State Zip code
RAWLINS WY 82301
Telephone (w/area code) E-mail
719-651-5110 mgodfrey1754@gmail.com

6. Use Of Well (check applicable boxes)
See instructions to determine use(s) for which you may qualify
 A. Ordinary household use in one single-family dwelling (no outside use)
 B. Ordinary household use in 1 to 3 single-family dwellings:
Number of dwellings: 2
 Home garden/lawn irrigation, not to exceed one acre:
area irrigated .25 sq. ft. acre
 Domestic animal watering - (non-commercial)
 C. Livestock watering (on farm/ranch/range/pasture)

2. Type Of Application (check applicable boxes)
 Construct new well Change source (aquifer)
 Replace existing well Reapplication (expired permit)
 Use existing well Rooftop precip. collection
 Change or increase use Other:

7. Well Data (proposed)
Maximum pumping rate gpm 15 Annual amount to be withdrawn acre-feet 1
Total depth feet 400 Aquifer DAWSON

3. Refer To (if applicable)
Well permit # 296012 Water Court case #
Designated Basin Determination # Well name or #

8. Water Supplier
Is this parcel within boundaries of a water service area? YES NO
If yes, provide name of supplier:

4. Location Of Proposed Well (Important! See Instructions)
County EL PASO SW 1/4 of the NW 1/4
Section Township N or S Range E or W Principal Meridian
19 11 N S 65 E W 6th
Distance of well from section lines (section lines are typically not property lines)
2400 Ft. from N S 1535 Ft. from E W
For replacement wells only - distance and direction from old well to new well
30 feet Direction
Well location address (Include City, State, Zip) Check if well address is same as in Item 1.
16910 THOMPSON RD, COLORADO SPRINGS 80906

9. Type Of Sewage System
 Septic tank / absorption leach field
 Central system: District name: _____
 Vault: Location sewage to be hauled to: _____
 Other (explain) _____

Optional: GPS well location information in UTM format. GPS unit settings are as follows:
Format must be UTM
 Zone 12 or Zone 13
Units must be Meters
Datum must be NAD83
Unit must be set to true north
Was GPS unit checked for above? YES
Easting: _____
Northing: _____
Remember to set Datum to NAD83

10. Proposed Well Driller License #(optional): 8
11. Sign or Enter Name of Applicant(s) or Authorized Agent
The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.
Sign or enter name(s) of person(s) submitting application Date (mm/dd/yyyy)
MARILYN GODFREY 09/08/2016
If signing print name and title

5. Parcel On Which Well Will Be Located
(You must attach a current deed for the subject parcel)
A. You must check and complete one of the following:
 Subdivision: Name
Lot _____ Block _____ Filing/Unit _____
 County exemption (attach copy of county approval & survey)
Name/# _____ Lot # _____
 Parcel less than 35 acres, not in a subdivision attach a deed with metes & bounds description recorded prior to June 1, 1972, and current deed
 Mining claim (attach copy of deed or survey) Name/#: _____
 Square 40 acre parcel as described in Item 4
 Parcel of 35 or more acres (attach metes & bounds description or survey)
 Other: (attach metes & bounds description or survey)

Office Use Only
USGS map name DWR map no. Surface elev. 7500
296012LR
1stfd
Five
Acres
0.25 acre
loc?
AQUAMAP ✓
WE ✓
WR ✓
CWCB ✓
TOPO ✓
MYLAR ✓
SB5
Receipt area only
UTMs 524654E
4325488N
261855L, 128605L
Transaction #: 3676332
Date: 9/8/2016 11:34:05 AM
Transaction Total: \$100.00
CREDIT CARD \$100.00
DIV 1 WD 8 BA MD

B. # of acres in parcel 8 C. Are you the owner of this parcel? YES NO
D. Will this be the only well on this parcel? YES NO (if no - list other wells)
E. State Parcel ID# (optional)

L1sfid see attached

FORM NO. GWS-31 04/2005	WELL CONSTRUCTION AND TEST REPORT STATE OF COLORADO, OFFICE OF THE STATE ENGINEER 1313 Sherman St., Room 818, Denver, CO 80203 Phone - Info (303) 866-3587 Main (303) 866-3581 Fax (303) 866-3589 http://www.water.state.co.us	For Office Use Only <div style="text-align: center; color: blue; font-weight: bold; font-size: 1.2em;"> RECEIVED NOV 04 2016 WATER RESOURCES STATE ENGINEER COLO </div>
-------------------------------	--	--

1. WELL PERMIT NUMBER: 296012A

2. WELL OWNER INFORMATION

NAME OF WELL OWNER: Marilyn Godfrey

MAILING ADDRESS: 205 E Highway 71

CITY: Rawlins STATE: WY ZIP CODE: 82301

TELEPHONE NUMBER: (719) 651-5110

3. WELL LOCATION AS DRILLED: 1/4, NW1/4, Sec. 19, Twp. 11 N or S, Range 65 E or W

DISTANCES FROM SEC. LINES: 2554 ft. from N or S section line and 1385 ft. from E or W section line.

SUBDIVISION: _____, LOT _____, BLOCK _____, FILING (UNIT) _____

Optional GPS Location: GPS Unit must use the following settings: Format must be **UTM**, Units must be **meters**, Datum must be **NAD83**, Unit must be set to **true N**, Zone 12 or Zone 13

STREET ADDRESS AT WELL LOCATION: 16890 Thompson Road

Owner's Well Designation: _____
Easting: 524684
Northing: 4325533

4. GROUND SURFACE ELEVATION _____ feet DRILLING METHOD Air Rotary

DATE COMPLETED 9/21/16 TOTAL DEPTH 320 feet DEPTH COMPLETED 320 feet

5. GEOLOGIC LOG:

Depth	Type	Grain Size	Color	Water Loc.
0-3	Loam		Brown	
3-10	Clay		Brown	
10-38	Sand			
38-52	Clay		Yellow	
52-76	Sand			
76-138	Loam		Yellow	
138-208	Sand			***
208-218	Clay		Yellow	
218-243	Sand			***
243-260	Clay		Yellow/Red	
260-316	Sand			***
316-320	Clay		Green	
320	Bottom			

6. HOLE DIAM (in.)

From (ft)	To (ft)
0	42
42	320

7. PLAIN CASING:

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
6 5/8	Steel	.188	+1	42
4 1/2	PVC	.237	7	165
4 1/2	PVC	.237	200	220

PERFORATED CASING: Screen Slot Size (in): .030

From (ft)	To (ft)
165	200
220	320

8. FILTER PACK: Material Sand Size 8-12 Interval 165'-320'

9. PACKER PLACEMENT: Type _____ Depth _____

Remarks: _____

10. GROUTING RECORD

Material	Amount	Density	Interval	Placement
Cement	6 bags	36 gals	6'-42'	Pos Disp

11. DISINFECTION: Type HTH Amt. Used .5 Cup

12. WELL TEST DATA: Check box if Test Data is submitted on Form Number GWS 39 Supplemental Well Test.

TESTING METHOD Bailer

Static Level 100 ft. Date/Time measured: 09/21/16 Production Rate 20 gpm.

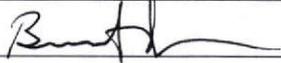
Pumping Level 170 ft. Date/Time measured 09/21/16 Test Length (hrs) 4

Remarks: Air Test - 60 gpm @ 320'

13. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402-2. [The filing of a document that contains false statements is a violation of section 37-91-108(1)(e), C.R.S., and is punishable by fines up to \$5000 and/or revocation of the contracting license.]

Company Name: <u>Hier Drilling Co.</u>	Phone: <u>(303)688-3012</u>	License Number: <u>8</u>
--	-----------------------------	--------------------------

Mailing Address: PO Box 250 Castle Rock, Co. 80104

Signature: 	Print Name and Title <u>Bruce A. Hier, President</u>	Date <u>10/10/2016</u>
--	---	---------------------------

Appendix D

***El Paso County Land Development Code
Water Quality Requirements and Results
Dawson Confined Aquifer
for White Cottage Farms, LLC
Sampled February 2, 2021***

Compound	Units	MCL/SMCL	Result
Antimony	mg/l	0.006	<0.0012
Arsenic	mg/l	0.01	0.0007
Barium	mg/l	2	0.2812
Beryllium	mg/l	0.004	0.0002
Cadmium	mg/l	0.005	<0.0001
Chromium	mg/l	0.1	0.0024
Cyanide (Total)	mg/l	0	<0.005
Fluoride	mg/l	4	0.29
Mercury	mg/l	0.002	<0.0002
Nitrate as N	mg/l	10	11.81
Nitrite as N	mg/l	1	<0.03
Total Nitrate/Nitrite as N	mg/l	10	11.81
Selenium	mg/l	0.05	0.002
Thallium	mg/l	0.002	<0.0002
Aluminum	mg/l	0.05 - 0.2	0.392
Chloride	mg/l	250	24.2
Langlier Index			-1.15
Iron	mg/l	0.3	0.18
Manganese	mg/l	0.05	0.0051
pH		6.5 - 8.5	6.85
Silver	mg/l	0.1	<0.0005
Sulfate	mg/l	250	27.26
TDS	mg/l	500	256
Zinc	mg/l	5	0.017
Gross Alpha	pCi/l	15	12
Gross Beta	pCi/l	50	13
Combined Radium 226+228	pCi/l	5	7.3
Total Coliform	#/100 ml	Absent	Absent

Green = Result below MCL - Acceptable Water Quality



Analytical Results

TASK NO: 210202028

Report To: Stephanie Schwenke

Company: JDS Hydro Consultants
5540 Tech Center Dr.
Suite 100
Colorado Springs CO 80919

Bill To: Stephanie Schwenke

Company: JDS Hydro Consultants
5540 Tech Center Dr.
Suite 100
Colorado Springs CO 80919

Task No.: 210202028	Date Received: 2/2/21
Client PO:	Date Reported: 2/3/21
Client Project: White Cottage Farm	Matrix: Water - Ground

Lab Number	Customer Sample ID	Sample Date/Time	Test	Result	Method	Date Analyzed
210202028-01	White Cottage Farm #4	2/1/21 10:15 AM	Total Coliform	Absent	SM 9223	2/3/21
			E-Coli	Absent	SM 9223	2/3/21

Abbreviations/ References:

Absent = Coliform Not Detected
 Present = Coliform Detected - Chlorination Recommended
 Date Analyzed = Date Test Completed
 SM = "Standard Methods for the Examination of Water and Wastewater"; APHA; 19th Edition; 1995

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Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507

Chain of Custody Form



Commerce City Lab
 10411 Heinz Way
 Commerce City CO 80640

Lakewood Service Center
 12860 W. Cedar Dr, Suite 100A
 Lakewood CO 80228

 Phone: 303-659-2313
www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	Project Name / Number
Company Name: <u>JDS-Hydro</u>	Company Name: _____	<u>White Cottage Farm</u>
Contact Name: <u>Stephanie Schwentke</u>	Contact Name: _____	
Address: <u>5540 TechCenter Dr Ste 100</u>	Address: _____	Task Number (Lab Use Only)
City: <u>City of Spsg</u> State: <u>CO</u> Zip: <u>80919</u>	City: _____ State: _____ Zip: _____	<u>CAL Task</u>
Phone: <u>719-227-0072</u>	Phone: _____	<u>210202028</u>
Email: <u>SSchwentke@jds-hydro.com</u>	Email: _____	<u>JML</u>
Sample Collector: <u>Stephanie Schwentke</u>		
Sample Collector Phone: <u>719-227-0072</u>	PO No.: _____	

Sample Matrix (Select One Only)		Drinking Water <input type="checkbox"/>	No. of Containers	Grab or (Check One Only) Composite	Tests Requested					Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>	
Waste Water <input type="checkbox"/>	Soil <input type="checkbox"/>				Ground Water <input checked="" type="checkbox"/>	Sludge <input type="checkbox"/>	Surface Water <input type="checkbox"/>	Inorganics	AIK		NHate/NH4
Date: <u>2/1</u> Time: <u>10:00am</u>	Sample ID: <u>#1</u>		<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<u>#2</u>		<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<u>#3</u>		<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<u>#4</u>		<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Instructions: <u>Please analyze all compounds on enclosed WOD</u>											
Relinquished By: <u>Stephanie Schwentke</u> Date/Time: <u>2/1/21 11:5am</u>			Received By: <u>[Signature]</u> Date/Time: <u>2/2/21</u>			Relinquished By: <u>[Signature]</u> Date/Time: <u>2/2/21</u>			Received By: <u>[Signature]</u> Date/Time: <u>2/2/21</u>		
C/S Info: <u>5</u>			Deliver Via: <u>URS</u>			C/S Charge <input type="checkbox"/>			Temp. °C/Ice <u>2</u> Sample Pres. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

**EPC Confined Aquifer Sampling Requirements
– No Radiologicals**

Field Measurements

pH
Temp

Inorganics

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cyanide (Total)
Fluoride
Mercury
Nitrate
Nitrite
Selenium
Thallium

Secondary MCLs

Aluminum
Chloride
Corrosivity
Iron
Manganese
Silver
Sulfate
Zinc
TDS

Bacteriological:
Total Coliform



Analytical Results

TASK NO: 210202024

Report To: Stephanie Schwenke
Company: JDS Hydro Consultants
 5540 Tech Center Dr.
 Suite 100
 Colorado Springs CO 80919

Bill To: Stephanie Schwenke
Company: JDS Hydro Consultants
 5540 Tech Center Dr.
 Suite 100
 Colorado Springs CO 80919

Task No.: 210202024	Date Received: 2/2/21
Client PO:	Date Reported: 3/2/21
Client Project: White Cottage Farm	Matrix: Water - Ground

Customer Sample ID White Cottage Farm 1-3
Sample Date/Time: 2/1/21 10:15 AM
Lab Number: 210202024-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Chloride	24.20 mg/L	EPA 300.0	0.01 mg/L	2/3/21	MAT
Cyanide-Total	< 0.005 mg/L	EPA 335.4	0.005 mg/L	2/4/21	CES
Fluoride	0.29 mg/L	EPA 300.0	0.09 mg/L	2/3/21	MAT
Nitrate Nitrogen	11.81 mg/L	EPA 300.0	0.05 mg/L	2/3/21	MAT
Nitrite Nitrogen	< 0.03 mg/L	EPA 300.0	0.03 mg/L	2/3/21	MAT
Sulfate	27.26 mg/L	EPA 300.0	0.01 mg/L	2/3/21	MAT
Total					
Aluminum	0.392 mg/L	EPA 200.8	0.001 mg/L	2/4/21	IPC
Antimony	< 0.0012 mg/L	EPA 200.8	0.0012 mg/L	2/2/21	IPC
Arsenic	0.0007 mg/L	EPA 200.8	0.0006 mg/L	2/2/21	IPC
Barium	0.2812 mg/L	EPA 200.8	0.0007 mg/L	2/2/21	IPC
Beryllium	0.0002 mg/L	EPA 200.8	0.0001 mg/L	2/2/21	IPC
Cadmium	< 0.0001 mg/L	EPA 200.8	0.0001 mg/L	2/2/21	IPC
Chromium	0.0024 mg/L	EPA 200.8	0.0015 mg/L	2/2/21	IPC
Iron	0.180 mg/L	EPA 200.7	0.005 mg/L	2/4/21	MBN
Manganese	0.0051 mg/L	EPA 200.8	0.0008 mg/L	2/4/21	IPC
Mercury	< 0.0002 mg/L	EPA 245.7	0.0002 mg/L	2/9/21	MLT
Nickel	0.0026 mg/L	EPA 200.8	0.0009 mg/L	2/2/21	IPC
Selenium	0.0020 mg/L	EPA 200.8	0.0008 mg/L	2/2/21	IPC
Silver	< 0.0005 mg/L	EPA 200.8	0.0005 mg/L	2/4/21	IPC
Sodium	15.9 mg/L	EPA 200.7	0.1 mg/L	2/4/21	MBN

Abbreviations/ References:

ML = Minimum Level = LRL = RL
 mg/L = Milligrams Per Liter or PPM
 ug/L = Micrograms Per Liter or PPB
 mpn/100 mls = Most Probable Number Index/ 100 mls
 Date Analyzed = Date Test Completed

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 Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507



Analytical Results

TASK NO: 210202024

Report To: Stephanie Schwenke
Company: JDS Hydro Consultants
 5540 Tech Center Dr.
 Suite 100
 Colorado Springs CO 80919

Bill To: Stephanie Schwenke
Company: JDS Hydro Consultants
 5540 Tech Center Dr.
 Suite 100
 Colorado Springs CO 80919

Task No.: 210202024 Client PO: Client Project: White Cottage Farm	Date Received: 2/2/21 Date Reported: 3/2/21 Matrix: Water - Ground
--	---

Customer Sample ID White Cottage Farm 1-3
Sample Date/Time: 2/1/21 10:15 AM
Lab Number: 210202024-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
<i>Total</i>					
Thallium	< 0.0002 mg/L	EPA 200.8	0.0002 mg/L	2/2/21	IPC
Zinc	0.017 mg/L	EPA 200.8	0.001 mg/L	2/4/21	IPC

Abbreviations/ References:

ML = Minimum Level = LRL = RL
 mg/L = Milligrams Per Liter or PPM
 ug/L = Micrograms Per Liter or PPB
 mpn/100 mls = Most Probable Number Index/ 100 mls
 Date Analyzed = Date Test Completed

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 10411 Heinz Way
 Commerce City CO 80640

Lakewood Service Center
 12860 W. Cedar Dr, Suite 100A
 Lakewood CO 80228

 Phone: 303-659-2313
www.coloradolab.com

Report To Information		Bill To Information (If different from report to)		Project Name / Number	
Company Name: <u>JDS-Hydro</u>		Company Name: _____		<u>White Cottage Farm</u>	
Contact Name: <u>Stephanie Schwentke</u>		Contact Name: _____		Task Number (Lab Use Only)	
Address: <u>5540 TechCenter Dr Ste 100</u>		Address: _____		<u>CAL Task</u>	
City: <u>Colorado Spg</u> State: <u>CO</u> Zip: <u>80919</u>		City: _____ State: _____ Zip: _____		<u>210202024</u>	
Phone: <u>719-227-0072</u>		Phone: _____		<u>JML</u>	
Email: <u>SSchwentke@jdshydro.com</u>		Email: _____		Sample Number	
Sample Collector: <u>Stephanie Schwentke</u>		Sample Collector: _____		PO No.:	
Sample Collector Phone: <u>719-227-0072</u>		Sample Collector Phone: _____		_____	

Sample Matrix (Select One Only)		Drinking Water <input type="checkbox"/>		Tests Requested												
Waste Water <input type="checkbox"/>	Soil <input type="checkbox"/>	Ground Water <input checked="" type="checkbox"/>	Sludge <input type="checkbox"/>	Grab or (Check One Only) Composite		No. of Containers		Inorganics	AK	Nitrate/Nitrite	Sulfate	Fluoride	Cyanide	Total Coli/2.0 Col	Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>	
Date	Time			Sample ID											Temp. °C/Ice	Sample Pres. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<u>2/1</u>	<u>10:40 am</u>			<u>#1</u>	<u>1</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>2</u>	<u>X</u>
<u>↓</u>	<u>10:12 am</u>			<u>#2</u>	<u>2</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		
<u>↓</u>	<u>10:14 am</u>			<u>#3</u>	<u>1</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		
<u>↓</u>	<u>10:15 am</u>			<u>#4</u>	<u>1</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		
<u>5</u>																
Instructions: <u>Please analyze all compounds on enclosed WOOD</u> Relinquished By: <u>Stephanie Schwentke</u> Date/Time: <u>2/1/21 11:15 am</u> Received By: <u>J Adams</u> Date/Time: <u>2/2/21</u>																
Relinquished By: <u>Stephanie Schwentke</u> Date/Time: <u>2/1/21 11:15 am</u> Received By: <u>J Adams</u> Date/Time: <u>2/2/21</u>																

**EPC Confined Aquifer Sampling Requirements
– No Radiologicals**

Field Measurements

pH
Temp

Inorganics

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cyanide (Total)
Fluoride
Mercury
Nitrate
Nitrite
Selenium
Thallium

Secondary MCLs

Aluminum
Chloride
Corrosivity
Iron
Manganese
Silver
Sulfate
Zinc
TDS

Bacteriological:

Total Coliform



Analytical Results

TASK NO: 210202024

Report To: Stephanie Schwenke
Company: JDS Hydro Consultants
 5540 Tech Center Dr.
 Suite 100
 Colorado Springs CO 80919

Bill To: Stephanie Schwenke
Company: JDS Hydro Consultants
 5540 Tech Center Dr.
 Suite 100
 Colorado Springs CO 80919

Task No.: 210202024
Client PO:
Client Project: White Cottage Farm

Date Received: 2/2/21
Date Reported: 3/2/21
Matrix: Water - Ground

Customer Sample ID White Cottage Farm 1-3
Sample Date/Time: 2/1/21 10:15 AM
Lab Number: 210202024-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	84.1 mg/L as CaCO3	SM 2320-B	4	2/3/21	ECM
Calcium as CaCO3	107.5 mg/L	EPA 200.7	0.1	2/4/21	MBN
Carbonate	< 4 mg/L as CaCO3	SM 2320-B	4	2/3/21	ECM
Hydroxide	< 4 mg/L as CaCO3	SM 2320-B	4	2/3/21	ECM
Langelier Index	-1.15 units	SM 2330-B		2/9/21	SAN
pH	6.85 units	SM 4500-H-B	0.01	2/1/21	Sampler
Temperature	13 °C	SM 4500-H-B	1	2/1/21	Sampler
Total Alkalinity	84.1 mg/L as CaCO3	SM 2320-B	4	2/3/21	ECM
Total Dissolved Solids	256 mg/L	SM 2540-C	5	2/4/21	ISG

Abbreviations/ References:

ML = Minimum Level = LRL = RL
 mg/L = Milligrams Per Liter or PPM
 ug/L = Micrograms Per Liter or PPB
 mpn/100 mls = Most Probable Number Index/ 100 mls
 Date Analyzed = Date Test Completed

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210202024

1/1

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 Commerce City CO 80640

Lakewood Service Center
 12860 W. Cedar Dr, Suite 100A
 Lakewood CO 80228

 Phone: 303-659-2313
www.coloradolab.com

Report To Information		Bill To Information (If different from report to)		Project Name / Number	
Company Name: <u>JDS-Hydro</u>		Company Name: _____		<u>White Cottage Farm</u>	
Contact Name: <u>Stephanie Schwentke</u>		Contact Name: _____		Task Number (Lab Use Only)	
Address: <u>5540 TechCenter Dr Ste 100</u>		Address: _____		<u>CAL Task</u>	
City: <u>LoDo Spg</u> State: <u>CO</u> Zip: <u>80919</u>		City: _____ State: _____ Zip: _____		<u>210202024</u>	
Phone: <u>719-227-0072</u>		Phone: _____		JML	
Email: <u>SSchwentke@jds-hydro.com</u>		Email: _____		Sample Collector: <u>Stephanie Schwentke</u>	
Sample Collector Phone: <u>719-227-0072</u>		PO No.: _____			

Sample Matrix (Select One Only)		Drinking Water <input type="checkbox"/>		Tests Requested								
Waste Water <input type="checkbox"/>	Soil <input type="checkbox"/>	Ground Water <input checked="" type="checkbox"/>	Sludge <input type="checkbox"/>	Grab or (Check One Only) Composite	No. of Containers	Inorganics	AK	Nitrate/Nitrite	Sulfate	Fluoride	Cyanide	Total Coli/E.coli
Date	Time	Sample ID										
<u>2/1</u>	<u>10:40am</u>	<u>#1</u>		<input checked="" type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>						
<u>↓</u>	<u>10:12am</u>	<u>#2</u>		<input checked="" type="checkbox"/>	<u>2</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				
<u>↓</u>	<u>10:14am</u>	<u>#3</u>		<input checked="" type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>						
<u>↓</u>	<u>10:15am</u>	<u>#4</u>		<input checked="" type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
Instructions: <u>Please analyze all compounds on enclosed WOOD</u> C/S Info: _____ Deliver Via: <u>UPS</u>						Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>						
Relinquished By: <u>Stephanie Schwentke</u> Date/Time: <u>2/1/21 11:15am</u>						Relinquished By: <u>WPS</u> Date/Time: _____						
Received By: <u>Adam</u> Date/Time: <u>2/2/21</u>						Received By: _____ Date/Time: _____						

**EPC Confined Aquifer Sampling Requirements
– No Radiologicals**

Field Measurements

pH
Temp

Inorganics

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cyanide (Total)
Fluoride
Mercury
Nitrate
Nitrite
Selenium
Thallium

Secondary MCLs

Aluminum
Chloride
Corrosivity
Iron
Manganese
Silver
Sulfate
Zinc
TDS

Bacteriological:

Total Coliform

March 03, 2021

Report to:

Mario DiPasquale
JDS Hydro Consultants, Inc.
5540 Tech Center Drive

Colorado Springs, CO 80919

cc: Ryan Mangino

Bill to:

Shelby West
JDS Hydro Consultants, Inc.
5540 Tech Center Drive
Suite 100
Colorado Springs, CO 80919

Project ID:

ACZ Project ID: L64012

Mario DiPasquale:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 02, 2021. This project has been assigned to ACZ's project number, L64012. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L64012. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 02, 2021. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Sue Webber has reviewed and approved this report.



JDS Hydro Consultants, Inc.

Project ID:
 Sample ID: #1 #2
 Locator:

ACZ Sample ID: **L64012-01**
 Date Sampled: 02/01/21 10:21
 Date Received: 02/02/21
 Sample Matrix: *Drinking Water*

Gross Alpha & Beta, total
 M900.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	02/15/21 0:00		12	3.4	1.5	pCi/L		fdw
Gross Beta	02/15/21 0:00		13	2.4	1.7	pCi/L		fdw

Radium 226, total
 M903.1

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, total	02/15/21 0:30		1.5	0.13	0.04	pCi/L		amk

Radium 228, total
 M904.0

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	03/02/21 13:57		5.8	0.74	0.53	pCi/L	*	fdw

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Error(+/-)</i>	Calculated sample specific uncertainty
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>LCL</i>	Lower Control Limit, in % (except for LCSS, mg/Kg)
<i>LLD</i>	Calculated sample specific Lower Limit of Detection
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RER</i>	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>UCL</i>	Upper Control Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>DUP</i>	Sample Duplicate	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBS</i>	Prep Blank - Soil
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBW</i>	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.
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Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

JDS Hydro Consultants, Inc.

ACZ Project ID: **L64012**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alpha M900.0 Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG513830																
L63971-01DUP	DUP-RPD	02/15/21			4.8	2.4	6.5	3.5	2.1	11				31	20	RG
L64012-01DUP	DUP-RPD	02/15/21			12	3.4	1.5	14	3.5	1.3				15	20	
L64012-01MSA	MS	02/15/21	PCN62436	66.67	12	3.4	1.5	70	7.7	1.5	87	67	144			
WG513830LCSWA	LCSW	02/15/21	PCN62436	66.67		5.7	0.9	67	5.7	0.9	101	67	144			
WG513830PBW	PBW	02/15/21				0.47	0.84	-2	0.47	0.84			1.68			
L63971-01DUP	DUP-RER	02/15/21			4.8	2.4	6.5	3.5	2.1	11				0.41	2	

Beta M900.0 Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG513830																
WG513830PBW	PBW	02/15/21						.72	1.7	1.8				3.6		
L63971-01DUP	DUP-RPD	02/15/21			3.2	2.6	5.2	4.8	2.8	11				40	20	RG
L63971-01DUP	DUP-RER	02/15/21			3.2	2.6	5.2	4.8	2.8	11				0.42	2	
L63971-01MSB	MS	02/15/21	RC200602-10	99.9	3.2	2.6	5.2	110	6.7	9	107	82	122			
L64012-01DUP	DUP-RPD	02/15/21			13	2.4	1.7	12	2.3	1.7				8	20	
WG513830LCSWB	LCSW	02/15/21	RC200602-10	66.6		4.2	1.6	66	4.2	1.6	99	82	122			

Radium 226, total M903.1 Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG513951																
WG513951PBW	PBW	02/15/21						-.06	0.09	0.1				0.2		
WG513951LCSW	LCSW	02/15/21	PCN62879	20		0.67	0.12	25	0.67	0.12	125	43	148			
L63971-01DUP	DUP-RPD	02/15/21			0.36	0.1	0.13	.33	0.16	0.18				9	20	
L63994-01MS	MS	02/15/21	PCN62879	20	0.06	0.07	0.08	17	0.45	0.07	85	43	148			
L64012-01DUP	DUP-RPD	02/15/21			1.5	0.13	0.04	1.5	0.21	0.12				0	20	

JDS Hydro Consultants, Inc.

ACZ Project ID: **L64012**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Radium 228, total M904.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG514938																
L64130-01DUP	DUP-RPD	03/02/21			2.6	0.76	1.6	2.4	0.91	2.1				8	20	
WG514938LCSW	LCSW	03/02/21	PCN61541	9.17				10	1.3	0.96	109	47	123			
WG514938PBW	PBW	03/02/21						.7	0.75	0.75			1.5			
L64214-02MS	MS	03/02/21	PCN61541	12.39	-0.77	0.95	2	16	1.8	2.8	135	47	123			M1
L64222-02DUP	DUP-RPD	03/02/21			25	1.8	2.4	23	1.6	1.9				8	20	

JDS Hydro Consultants, Inc.

ACZ Project ID: **L64012**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L64012-01	NG514938	Radium 228, total	M904.0	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.

JDS Hydro Consultants, Inc.

ACZ Project ID: **L64012**

No certification qualifiers associated with this analysis

Sample Receipt

JDS Hydro Consultants, Inc.

ACZ Project ID: L64012
 Date Received: 02/02/2021 12:07
 Received By:
 Date Printed: 2/3/2021

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? ¹	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
6802	4.9	NA	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

JDS Hydro Consultants, Inc.

ACZ Project ID: L64012

Date Received: 02/02/2021 12:07

Received By:

Date Printed: 2/3/2021

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Laboratories, Inc. L64012

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Stephanie Schwenke	Address: 5540 Tech Center Dr Ste 100
Company: JDS-Hydro	CS, CO 80909
E-mail: sschwenke@jds-hydro.com	Telephone: 719-321-5341

Copy of Report to:

Name: Doug Schwenke	E-mail: dschwenke@jds-hydro.com
Company: JDS-Hydro	Telephone: 719-227-0072

Invoice to:

Name: Stephanie Schwenke	Address:
Company: JDS-Hydro Consultants	
E-mail: sschwenke@jds-hydro.com	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes No

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ Sampler's Site Information State _____ Zip code _____ Time Zone _____

*Sampler's Signature: _____ I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: BO 46626	# of Containers	X	Retain	Gross Alpha/B																			
PO#:																							
Reporting state for compliance testing:																							
Check box if samples include NRC licensed material?																							
SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Retain	Gross Alpha/B																		
#1	2/1/21 10:20am	GW	2	X																			
#2	2/1/21 6:21am	GW	1		X																		

Matrix SW (Surface Water) GW (Ground Water) WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

White Cottage Farm

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Stephanie Schwenke	2/1/21 11:30am	[Signature]	2/2/21 12:07

L64012 Chain of Custody