COLORADO
Division of Water Resources
Department of Natural Resources

May 1, 2024

Amber Pacheco, Deputy General Manager
Rio Grande Water Conservation District
8805 Independence Way
Alamosa, CO 81101

RE: 2024 ANNUAL REPLACEMENT PLAN APPROVAL: SPECIAL IMPROVEMENT SUBDISTRICT NO. 4 OF THE RIO GRANDE WATER CONSERVATION DISTRICT

Dear Ms. Pacheco:

Thank you for your April 14, 2024 submission of the Special Improvement District No. 4's proposed Annual Replacement Plan (ARP) for the 2024 Plan Year (**May 1, 2024 through April 30, 2025**).

My staff and I have reviewed the proposed ARP and its appendices, and it is hereby approved. A copy of this approval will be available on the DWR website at:

https://dwr.colorado.gov/division-offices/division-3-office

All information and data related to this approved ARP will be available on our website.

Enclosed, please find my approval of the 2024 ARP.

Very Sincerely,

Jason T. Ullmann, P.E.
Acting State Engineer
Director of Division of Water Resources

cc: Division 3

Review, Findings, and Approval of Subdistrict No. 4's 2023 Annual Replacement Plan

Background

Special Improvement District No. 4 ("Subdistrict"), a political subdistrict of the Rio Grande Water Conservation District ("RGWCD"), formed through Saguache County District Court in Case 2017CV30005, timely submitted its proposed Annual Replacement Plan ("ARP") pursuant to its Plan of Water Management ("PWM") approved by the State Engineer and noticed through Division No. 3 Water Court in Case No. 2020CW3003 on March 13, 2020.

The 2024 Plan Year ARP and its appendices were available for download through a link on the RGWCD website. The ARP, its appendices, and resolutions were provided to the State and Division Engineers on April 15, 2024. Copies of the ARP were made available for viewing at the State and Division Engineers' offices. The ARP, its appendices, resolutions, the Subdistrict's Response Functions, and this letter will be posted on DWR's website. My staff and I have conducted this review of the ARP and comments thereon in accordance with the operational timelines specified in the Court approved Rules Governing the Withdrawal of Groundwater in Water Division No. 3 (the Rio Grande Basin) and Establishing Criteria for the Beginning and End of the Irrigation Season in Water Division No. 3 for all Irrigation Water Rights ("Rules"), Case 2015CW3024.

DWR Review

As set forth in the Rules, I must determine whether the ARP presents "sufficient evidence and engineering analysis to predict where and when Stream Depletions will occur and how the Subdistrict will replace or Remedy Injurious Stream Depletions to avoid injury to senior surface water rights." (Rules 11.3). Also, "the ARP will include: a database of Subdistrict and Contract Wells that will be covered by the ARP; a projection of the groundwater withdrawals from Subdistrict and Contract Wells during the current Water Administration Year; a calculation of the projected stream depletions resulting from groundwater withdrawals from Subdistrict and Contract Wells; a forecast of the flows for Division No. 3 streams; detailed information regarding the methods that will be utilized to replace or remedy injurious stream depletions during the ARP Year, including any contractual agreements used for replacement or remedy of injurious stream depletions that will be in place; any information regarding the fallowing of Subdistrict Lands; information to document progress towards achieving and maintaining a Sustainable Water Supply; and, documentation that sufficient funds are or will be available to carry out the operation of the ARP." (Subdistrict PWM, Section 6.1.2). Finally, I must review the ARP pursuant to the statutory mandates, constitutional requirements, rules and regulations adopted in Division No. 3, and any letters, comments, or other objections submitted by water users regarding the adequacy of the ARP. There were no letters, comments, or other objections submitted regarding the 2024 ARP.

With the foregoing in mind, I turn to a review of the ARP. It would be unwieldy to include in my review every detail of the thorough ARP, so for the purpose of this letter, I incorporate it and its supplements by reference.

11.1.1 Database of All Wells to be Covered by the ARP

Structure Identification Number (WDID) (Section 1 of 11.1.1 of the ARP)

A comprehensive list of wells included in the ARP is necessary in order to allow DWR to verify which wells are authorized to operate in accordance with the ARP. To that end, the Subdistrict submitted the most current tabulation of the structure identification number (WDID) of each well included in the Subdistrict (see Appendix A of the ARP). The Subdistrict also supplied a spreadsheet to DWR of the list of Subdistrict Wells as a supplement to the 2024 ARP. Appendix A lists 154 wells. Two wells, WDIDs 2505044 and 2505045, were petitioned into the Subdistrict, but are decreed as alternate points to surface water rights. They are still included in the well list, but their pumping is not added to the Response Function run.

No new wells were added to the Well List for 2024. The contract wells accepted by the Subdistrict in prior ARP Years are listed in Appendix B. The Subdistrict listed four wells to be deleted from the 2024 Subdistrict Well list. WDIDs 2505217, 2505222, 2505511 and 2505537 at the request of the owner. All historical groundwater withdrawals from these wells are still included in the Response Function calculations.

Other Well Identification Information (Section 2 of 11.1.1 of the ARP)

The requirement to provide the database of wells the Subdistrict has accepted as part of this ARP was satisfied under 11.1.1.1.

Subdistrict Wells with Plans for Augmentation (Section 3 of 11.1.1 of the ARP)

The Subdistrict indicates the ARP Well List includes some wells that may be either fully or partially augmented by an approved plan for augmentation which is administered separately of the Subdistrict's PWM. No wells covered by plans for augmentation were identified by the Subdistrict. Therefore, all wells on the ARP list will be treated as Subdistrict Wells and the Subdistrict will remedy injurious stream depletions and post-plan injurious stream depletions attributable to the well's total groundwater withdrawals as part of this ARP so long as the production is legal, with the exception of wells WDIDs 2505044 and 2505045, which were described above in section 1 of 11.1.1. "The Subdistrict and this Plan of Water Management or ARP cannot be used as a source of water for new or expanded consumptive use of groundwater which is not within the terms and conditions of a valid permit or decree which was in effect as of July 21, 2017, or for new or expanded plans for augmentation or other replacement plans without the approval of both the courts and the Subdistrict's Board of Managers." (PWM at 2.4.6)

I have reviewed Appendix A and Appendix B of the ARP and consulted with staff and, after adjusting the list for wells DWR determined cannot be covered by the 2023 ARP, find it to be an accurate inventory of Subdistrict Wells that meets the requirements of Rule 11.1.1.

Total Projected Annual Diversion for All Subdistrict Wells (Section 4 of 11.1.1 of the ARP)

For Subdistrict ARP Wells listed in this ARP, total metered groundwater withdrawals per DWR records as of April 10, 2024, for the 2023 Water Administration Year were 8,671 acre-feet. In 2021 & 2023, stream flows and antecedent conditions were very similar to the 2024 forecast. Using this comparison, the Subdistrict ARP Well groundwater withdrawals in 2024 are projected to be ±**11,142 acre-feet**.

Subdistrict Well Metered Pumping (acre-feet)
Entered in Table 1 of the Response Function

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
12,893	13,491	11,748	13,135	9,236	11,151	12,027	12,014	9,682	10,079

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
10,324	7,576	11,142							

The majority of metered groundwater withdrawals in the Plan Year will be used for irrigation through center pivot sprinklers, 77 percent. Approximately 10 percent of groundwater withdrawals will be applied to flood irrigation and 12 percent to other uses.

Expected Methods of Irrigation, the Combined Projected Number of Acres Irrigated and the Total Projected Acreage by Each Irrigation Method (Section 5 of 11.1.1 of the ARP)

Subdistrict ARP wells are projected to irrigate approximately 12,000 acres during the Plan Year, including 8,000 acres irrigated by center pivot sprinklers and 4,000 acres irrigated by flood application. The Subdistrict made this projection based on review of the breakdown of acres in the RGWCD's annual Irrigated Ag Census and information submitted with Participation or Inclusion Contracts.

Non-Irrigation Subdistrict Wells – Calculation of All Projected Withdrawals and Projected Net Groundwater Consumptive Use (Section 6 of 11.1.1 of the ARP)

Included in the ARP Well List are a number of wells with beneficial uses other than irrigation. The Subdistrict utilized information provided by DWR to estimate consumptive use rates used in the RGDSS Model to calculate stream impacts and returns. Beneficial uses include municipal, domestic, commercial, industrial, and aquaculture. A spreadsheet was prepared by the Subdistrict to calculate the composite Consumptive Use Ratio that is

a necessary input in the Response Functions. A spreadsheet of the calculation prepared for use in the 2024 ARP was submitted as supplement to this ARP.

Other Data Necessary to Support the Projected Stream Depletions (Section 7 of 11.1.1 of the ARP)

No other data was provided.

Other Information Required by the State and Division Engineers and Reasonably Necessary to Evaluate the Proposed ARP (Section 8 of 11.1.1 of the ARP)

The supplemental information needed to evaluate the 2024 ARP and provided to the State Engineer included:

1. A spreadsheet version of the Response Functions used to prepare the tables included in this ARP.
2. The list of Subdistrict Wells included in the 2024 ARP in spreadsheet format matching the list presented in Appendix A
3. A spreadsheet showing the Subdistrict's breakdown of "Other" wells used to calculate the composite Consumptive Use Ratio in the Response Function.
4. A Resolution from RGWCD approving the Subdistrict 2024 ARP.
5. The Subdistrict explanation of streamflow forecast used in the Response Functions.
6. An MOU between the Subdistrict and the Saguache Subdistrict (Subdistrict No. 5) regarding the remedying of the Saguache Subdistrict depletions owed to San Luis Creek.
7. A Well Injury Payment (or Forbearance) Yield Analysis. This is a description of the Subdistrict's approach to estimate the probable yield of replacement sources for the various forbearance contracts with ditches under WIP agreements.
8. Operational Requests to the Division Engineer for the 2024 ARP
    - The Subdistrict requests to aggregate depletions between Stream Reaches as part of the anticipated operation in 2024.
    - The Subdistrict requests to aggregate depletions with other Subdistricts during the 2024 ARP year.

11.1.2 Projected Stream Depletions from the Wells Covered by the ARP based on the Applicable Response Function or Approved Alternative Method

Section 2 of the ARP presents the data utilized to quantify stream depletions to San Luis Creek and Crestone Creek as a result of the Plan Year's groundwater withdrawals from Subdistrict ARP Wells. The Response Function outputs identify total projected stream depletions for the Plan Year, a breakdown of the monthly stream depletions for San Luis and Crestone Creeks and a projection of the Post-Plan Stream Depletions calculated as a result of the Plan Year groundwater withdrawals from Subdistrict ARP Wells. The

Subdistrict used the current 6P98 Response Functions to calculate projected stream depletions for this ARP.

The United States Department of Agriculture's Natural Resources Conservation Service ("NRCS") streamflow statistics are calculated over a 30-year period and updated each decade, in agreement with World Meteorological Organization (WMO) standards. This 30-year reference period was chosen to characterize the current hydro climatology at each station. The current medians and averages have been updated to include data for the water years 1991-2020. The current year streamflow projection is compared to the 30-year reference period to determine the percent of "normal" streamflow. The NRCS forecasts were reported as percent of the median in this report.

The annual streamflow forecasts included in Appendix C of the ARP includes the NRCS April 1, 2024, forecasts. The NRCS April - September flow for Saguache Creek near Saguache is **41,000 acre-feet** (50% exceedance). Based upon a review of additional data, including current Snotel data, other NRCS forecasts in the San Luis Valley, prior year's stream flows comparison and area field inspections, DWR believes the 41,000 acre-feet forecast on Saguache Creek to be an anomaly and should be adjusted down.

The Subdistrict provided a memorandum describing their own analysis and agrees that 41,000 is too high. They have used a forecast of 35,000 acre-feet which is the 70% exceedance level projected by the NRCS. DWR forecast estimates drop below the 35,000 used by the Subdistrict but accepts their number as it is more conservative towards the Response Function output. The April - September flow for Saguache Creek is 35,000 acre-feet for use in the Response Functions for 2024.

The NRCS does not prepare a forecast for North Crestone Creek. The Subdistrict made a comparison of snowpack from previous years and found the 2024 snowpack on San Luis Creek was most similar to the 2021 snowpack. So, they determined the projected streamflow on Crestone Creek for 2024 would be similar to the actual streamflow on North Crestone Creek from 2021.

2024 Stream Flow – Saguache & North Crestone Creeks (Section 1 of 11.1.2 of the ARP)

The April - September flow for Saguache Creek of **35,000 acre-feet** and January – December flow for North Crestone Creek of **7,115 acre-feet** were used in the Response Functions for 2024 as shown in the table below.

Stream Flow Forecast - Saguache Creek, Crestone Creek

San Luis Creek Stream Flow Analysis	Apr-Sep (acre-feet)	% of median	Estimated Additional (acre-feet)	Jan-Dec (acre-feet)
NRCS 'April 1st' Forecast (50% exceedance)	(1)	(2)	(3)	
Saguache Creek near Saguache	41,000	146%		
NRCS 'April 1st' Forecast (70% exceedance)				
Saguache Creek near Saguache	35,000	125%		

RGWCD snowpack estimate, 4/10/2024				
North Crestone Creek				7115

(1) projected exceedance streamflow at the gaging station per NRCS projection
(2) NRCS 30-yr Average Flow: Saguache- 28,000 (recently adjusted from Saguache- 32,000). DWR stream gage 30-yr Average Flow: Crestone Creek 8,081
(3) January through March and October through December

The response function calculations for dry, average and wet are different from the NRCS 30-year average and are based on more than just snowpack numbers and yearly snowpack comparisons, so SNOTEL numbers are only part of the percent estimates.

Based on a DWR analysis, the Crestone Creek forecast provided by the Subdistrict in the ARP is higher than what our staff estimates. This amount of difference between the two calculations does impact the depletion table output and should be noted. Because the Subdistricts estimate is conservatively high and creates larger stream depletions in the response function, the Subdistricts forecast will be used. DWR's analysis is based on snowpack numbers on the east range of the valley which shows consistency in the flows on Crestone Creek over the last four years. The Subdistrict adopted this analysis approach this year.

Projected Plan Year Stream Depletions (Section 2 of 11.1.2 of the ARP)

Subdistrict staff predicted stream depletions for the Plan Year caused by Subdistrict ARP Wells by utilizing the Response Functions developed for the San Luis Creek Response Area under the RGDSS Groundwater Model Phase 6P98.

The Response Function spreadsheet was built to be used for the whole Response Area. Two instruction sheets were prepared by DWR for additional inputs to the Response Functions when there is a need to use it for individual or groups of wells. The instruction sheet, “How to Use the Application Workbook for a Subset (individual/group) of Wells” (9/23/2015), describes how to adjust the spreadsheet inputs to stream reaches that have been modeled with point source returns to streams. The instruction sheet, “How to Adjust the Application Workbook for use with a Subset of Wells” (10/15/2015), describes how to use the “Ratio Method” for Response Areas where it is necessary to apply this method.

The first step in using the current 6P98 Response Function is to input data for the whole Response Area, i.e., historical groundwater withdrawals for sprinkler irrigation, flood irrigation, “Other” pumping with corresponding “Other” consumptive use ratios for the years 2011 through 2023 and predicted values for 2024.

The Subdistrict ARP Well List currently includes nearly 100% of the wells that are operating in the Response. The San Luis Creek Response Area requires adjustments for both point source return flows and the stream ratios, as listed below.

- San Luis Creek Response Area - Reach 2 (Crestone Creek) from the Town of Crestone and the Baca Water & Sanitation District.

- San Luis: Reach 1 Calculations Ratio, and Reach 2 Calculations Ratio,

Using the whole Response Area results, adjustments are made on appropriate pages of the Response Function spreadsheet. The Subdistrict ARP Wells do include the Town of Crestone and the Baca Water & Sanitation District wells associated with the point source return flow. Adjustments for the Ratio Method must be made for Reach 1: San Luis Creek below Arthur Young and Kerber Creek and Reach 2: Crestone Creek.

Once these preliminary steps are completed, the next step in calculating stream depletions using the Response Functions is updating Table 2.1 to derive the annual net groundwater consumptive use. The consumptive use ratios for sprinkler and flood irrigation used in the Model are standard factors of 83% and 60%, respectively. The consumptive use ratio for "Other" wells is specific to the uses of those wells and can vary widely. The "Other Consumptive Use Ratio" for the whole Response Area is a composite derived from the individual well withdrawals and consumptive uses.

The Subdistrict provided a spreadsheet of "Other" wells included in the Subdistrict ARP Well list as a supplement to the ARP. The spreadsheet shows the individual well groundwater withdrawals and consumptive use factors to explain how the composite ratios were determined for the subset wells represented in Table 2.1 of the ARP.

Historical ARP Well groundwater withdrawal values were entered in Table 2.1 for years 2011 through 2023. No adjustments were made by the Subdistrict for groundwater withdrawals of the subset wells for any years prior to 2011. Projected ARP Well groundwater withdrawal values were used for 2024. The Subdistrict has no Recharge that Offsets Groundwater for calculation of the Net Groundwater Consumptive Use. The projected Net Groundwater Consumptive Use for the Plan Year is **8,671 acre-feet**.

Following determination of the Net Groundwater Consumptive Use, the data was incorporated in the Response Functions Table 2.2 to calculate stream depletions for the Plan Year and projected into the future.

The Response Function calculated stream depletions to San Luis Creek and Crestone Creek during the Plan Year, due to both past ARP Well groundwater withdrawals and the projected Plan Year ARP Well groundwater withdrawals. The total depletions are ±1,014 acre-feet. The Response Function calculated total stream depletions to San Luis Creek are ±864.9 acre-feet and to Crestone Creek are ±149.1 acre-feet and includes accretions amounting to 11.1 acre-feet. The locations of the stream depletions and monthly quantities are also tabulated in Table 2.3.

Post-Plan Stream Depletions are estimated to accrue to impacted streams for approximately 9 years. Based on predictions from the Response Functions, Table 2.7 of the Response Function shows there would be a total of ±**4,596 acre-feet** of Post-Plan Stream Depletions. This amounts to ±**3,557 acre-feet** to San Luis Creek and ±**1,039 acre-feet** to Crestone Creek.

11.1.3 Description of How Injurious Stream Depletions from Groundwater Withdrawals by Wells Included in the ARP will be Replaced or Remedied

Amounts and Sources of Replacement Water for 2024 Plan Year (Section 1 of 11.1.3 of the ARP)

The Subdistrict has assembled a portfolio of water supplies for the replacement of Injurious Stream Depletions and remedies other than water. The ARP identifies the water rights, their availability and their amounts in Table 3.1 of the ARP.

The adequacy of replacement sources for the ARP Year are dependent upon contracted amounts the Subdistrict has acquired as well as the availability of the source to pay depletions in place and time. For purposes of review of adequacy of replacement sources, there are three categories defined below, with examples described for each.

In Storage: Reservoir water in storage under the control of the Subdistrict. This water is available for release at the direction of the Subdistrict.

In Season: Ditch water that will become available to the Subdistrict when in priority during the irrigation season in the amount of depletion owed to streams daily by the Subdistrict. For some sources, water not used to pay daily depletions may be stored for Subdistrict use later.

On Call: Remedies, such as forbearance, that are available in the amount of depletion owed to streams daily by the Subdistrict, limited to when the forbearance ditch is the calling water right. I note that forbearance depends on climate and actual days when a ditch is the calling water right and the exact yield per year is indeterminate. It is also noted that the amount of forbearance water usable by the Subdistrict is limited by their depletions owed daily to streams. In addition, several Subdistricts are seeking forbearance agreements with the same ditches. DWR considers these potential competing agreements when evaluating forbearance as a replacement source.

This replacement water or remedy will be available to replace Injurious Stream Depletions as directed by the Division Engineer. A summary of the portfolio items is shown in the Replacement Sources tables on the following pages. I will approve up to the full amount itemized in the Replacement Sources tables and stated in the following sections for use in the 2024 ARP.

Subdistrict No. 4 Replacement Sources

San Luis Creek (acre-feet)

	Water Right Name	**Submitted in ARP**	**Approved in SWSPs**	**Remaining 5/1/2024 & Approved for 2024 ARP**
	In Storage - None			0
	In Season - None			0

	On Call *	Limit	Expected Yield	DWR Expected Yield
WDID	**WIP (aka Forbearance)**			
	Kerber Creek			
2500747	1920 Ditch – (1 yr. 2025)	No limit		
2500541	Clayton Ditch D (1 cfs of 3.4 cfs) 29.4% - Dragos – (1 yr. 2024)	No limit		
2500541	Clayton Ditch D (1.7 cfs of 3.4 cfs) 50.0% - Wagner – (5 yr. 2027)	No limit		
2500541	Clayton Ditch D (0.7 cfs of 3.4 cfs) 20.6% - Hutchinson – (5 yr. 2027)	No limit		
2500693	Clayton Ditch FG – (5 yr. 2027)	No limit		
2500545	Clayton Old Channel Ditch – (5 yr. 2027)	No limit		
2500546	Cody Ditch – (5 yr. 2027)	No limit		
2500551	Daniels Fish Arroya Ditch – (5 yr. 2029)	No limit		
2500552	Daniels Fish Ditch No. 4 – (5 yr. 2029)	No limit		
	Goodwin Hamby – Dragos (3 yr. 2027)	No limit		
2500583	Hall Ditch 1 – (1 yr. 2025)	No limit		
2500680	Wells Kerber Ditch – (5 yr. 2029)	No limit		
2500682	Wells North Ditch – (5 yr. 2029)	No limit		
2500683	White Ditch – (5 yr. 2027)	No limit		
	San Luis Creek			
2500713	Dittrich Steel Ditch – Freel - (1 yr. 2025)			
2500577	Greer Ditch No. 1 (5 yr. 2029)	No limit		
2500578	Greer Ditch No. 2 (5 yr. 2029)	No limit		
2500579	Greer Ditch No. 3 (5 yr. 2029)	No limit		
2500614	Kennedy Ditch 2 – (1 yr. 2025)	No limit		
2500641	San Luis Co Ditch – Frees – (5 yr. 2026)	No limit		
2500641	San Luis Co Ditch – Mitchell (5 yr. 2029)	No limit		
2500646	Schilling Ditch – (3 yr. 2027)	No limit		
2500647	Schultz Dittrich Ditch (10.3 + 0.2 cfs) – (3 yr. 2027)	No limit		
2500929	Schultz Dittrich Ditch No. 2 – Blumenhein - (3 yr. 2027)	No limit		
2500695	Schultz Dittrich No. 14 Ditch – Freel – (1 yr. 2025)			
2500695	Schultz Dittrich No. 14 Ditch – Ridgely (1 yr. 2025)	No limit		
2500657	Squires Ditch 1 – (5 yr. 2026)	No limit		
2500661	Steel Ditch No. 2 – Freel - (1 yr. 2025)			
2500668	Tobler Ditch – (1 yr. 2025)	No limit		
2500669	Tobler Rominger Ditch – (1 yr. 2025)	No limit		
	Kelly Creek			
2500692	Clayton Ditch ABC – (5 yr. 2027)	No limit		
2500822	Clayton Ditch ABC ALT – Dragos – (3 yr. 2027)	No limit		
	Cottonwood Creek			
2500542	Clayton Ditch E (5 yr. 2027)	No limit		
	***Total On Call- Forbearance**		**>264.1**	**Up to 264.1**

Subdistrict No. 4 Replacement Sources
Crestone Creek (acre-feet)

	Water Right Name	**Submitted in ARP**	**Approved in SWSPs**	**Remaining 5/1/2024 & Approved for 2024 ARP**
	In Storage - None			**0**
	In Season - None			0
	On Call	**Limit**	**Expected Yield**	**DWR Expected Yield**
WDID	**WIP (aka Forbearance)**			
2500503	Allen Ditch – (1 yr. 2025)	No limit		
2500504	Allen Ditch No 1 – (1 yr. 2025)	No limit		
2500507	Baca Grant No 4 Irrigating D No 3 – (1 yr. 2025)	No limit		
2500508	Baca Grant No 4 Irrigating D No 4 – (1 yr. 2025)	No limit		
2500509	Baca Grant No 4 Irrigating D No 5 – (1 yr. 2025)	No limit		
2500510	Baca Grant No 4 Irrigating D No 6 – (1 yr. 2025)	No limit		
2500511	Baca Grant No 4 Irrigating D No 7 – (1 yr. 2025)	No limit		
2500512	Baca Grant No 4 Irrigating D No 8 – (1 yr. 2025)	No limit		
2500513	Baca Grant No 4 Irrigating D No 9 – (1 yr. 2025)	No limit		
2500514	Baca Grant No 4 Irrigating D No 10 – (1 yr. 2025)	No limit		
2500515	Baca Grant No 4 Irrigating D No 11 – (1 yr. 2025)	No limit		
2500516	Baca Grant No 4 Irrigating D No 12 – (1 yr. 2025)	No limit		
2500517	Baca Grant No 4 Irrigating D No 13 – (1 yr. 2025)	No limit		
2500534	Charles Ditch – (1 yr. 2025)	No limit		
2500573	Gash Ditch – (1 yr. 2025)	No limit		
	Total On Call- Forbearance		**>90.1**	**Up to 90.1**

After Acquired Sources of Remedy (Section 2 of 11.1.3 of the ARP)

DWR recognizes the Subdistrict will continue to work to acquire additional sources of remedy and may, with approval from the Division Engineer, use those sources to remedy injury under this ARP.

Operation of the 2024 Annual Replacement Plan (Section 3 of 11.1.3 of the ARP)

The Subdistrict's portfolio of replacement sources does not include any reservoir water or In-Season type resources.

The ARP provides documentation that the Subdistrict has implemented "well injury payment" (WIP) agreements (also known as forbearance agreements) with a number of ditches located on Kelly Creek, Kerber Creek, San Luis Creek, and Crestone Creek for the

Plan Year. At times when Kelly Creek, Kerber Creek, and San Luis Creek, are connected, the calling right can be on Kelly Creek or Kerber Creek. The majority of the well injury payment agreements allow the Subdistrict to exercise these agreements in its sole discretion.

At the time of the submittal of the 2024 ARP, the Subdistrict was missing a few of the WIP agreements listed in Table 3.1 of the ARP. By the date of this approval letter, the Subdistrict provided contracts for all of the ditches listed. In order to cover the Subdistrict depletions with forbearance as the only replacement source, it is necessary to have valid WIP contracts for these ditches to coincide with the lease agreement that is in place.

The Response Functions did not predict stream depletions to streams other than San Luis Creek and Crestone Creek in amounts above the minimum threshold to reliably predict impacts. Therefore, no replacements to any stream other than San Luis Creek and Crestone Creek will be made.

The Subdistrict will administer the remedy of depletions to San Luis Creek on behalf of the Saguache Subdistrict (Subdistrict No. 5) for the 2024 ARP Year. The Saguache Subdistrict acquired the same WIP agreements on San Luis Creek as Subdistrict No. 4.

The Rules require remedies sufficient to also remedy total Post-Plan Stream Depletions caused by current and past years' ARP Wells groundwater withdrawals that deplete the streams after the term of this ARP. Section 4.1.5 of the Subdistrict's PWM includes the provision, "the Subdistrict may continue to assess fees until all Post-Plan Injurious Stream Depletions caused by past groundwater withdrawals from Subdistrict Wells have been remedied." This allows the Subdistrict to provide a financial guarantee to assure that all Post-Plan Injurious Stream Depletions will be replaced or otherwise remedied if the Subdistrict were to fail or otherwise not be allowed to continue groundwater withdrawals.

If the Subdistrict were to fail, the individual well owners in the Subdistrict would have to obtain plans for augmentation or take other measures to comply with the Rules. Presumably, those plans would be required to replace Post-Plan Injurious Stream Depletions into the future. In the interim, the Subdistrict or the Rio Grande Water Conservation District will remedy Post-Plan Injurious Stream Depletions by supplying water or through agreements pursuant to which injury to water rights is remedied by means other than providing water to replace stream depletions.

Anticipated Funding for Plan Year (Section 4 of 11.1.3 of the ARP)

The Subdistrict submitted sufficient financial information to document the purchase and leases of replacement water for the 2024 Plan Year.

11.1.4 Contractual Arrangements among Water Users, Water User Associations, Water Conservancy Districts, Subdistricts,

and/or the Rio Grande Water Conservation District

Subdistrict No. 5 Memorandum of Understanding (Section 1 of 11.1.4 of the ARP)

The Subdistrict included an MOU with the ARP that provides for the San Luis Creek Subdistrict to administer the remedy of depletions to San Luis Creek on behalf of the Saguache Subdistrict (Subdistrict No. 5) for the 2024 ARP Year. Subdistrict No. 5 will reimburse the Subdistrict through financial means for the cost of making those replacements.

Well Injury Payment Agreements (Section 2 of 11.1.4 of the ARP)

Pursuant to section 37-92-501(4)(b)(I)(B), C.R.S., the Subdistrict has reached agreement with a multitude of ditches whereby they accept that, subject to the specific provisions of the well injury payment agreement, injury to their water rights resulting from the use of groundwater by ARP Wells may be remedied by means other than providing water to replace stream depletions, when they are the calling right on the San Luis Creek system or Crestone Creek. The majority of these contracts with individual ditches were made for one-year terms and with both San Luis Creek Subdistrict and Saguache Subdistrict.

The Subdistrict reviewed stream flows on San Luis, Kerber, and Crestone Creeks for the current and past years and used the peak and average flows to calculate the percent of priorities that have agreed to WIP agreements for the Plan Year within those stream flow ranges. From this, they determined the anticipated acre-feet that will be remedied by WIP on each creek under various stream flow conditions. On the San Luis Creek system, WIP agreements have been made for Priorities No 1 through 36. The Subdistrict indicates that, given the expected stream flows and historical administration of the creek, it is reasonable to assume the calling priority for the season will be senior to Priority No. 36. The Subdistrict does not have a WIP agreement for a portion of Priority 33 in the San Luis Company Ditch, but water cannot physically reach the diversion point for this portion of the priority, so a call could not be made.

The Subdistrict has secured WIP agreements with all of the water rights owners on Crestone Creek with water rights senior to the wells.

It is noted that the majority of these agreements allow the Subdistrict to remedy injurious stream depletions under the agreement or by providing water at the Subdistrict's sole discretion. Two of the agreements do not allow this flexibility, the Clayton Ditch ABC and the Clayton Ditch D agreements with Jeffrey & Lucinda Dragos, so are "mandatory" forbearance agreements.

11.1.5 Documentation of Progress towards Achieving and Maintaining a Sustainable Water Supply

Water Levels, Pressure Levels, and/or Groundwater Withdrawals (Section 1 of 11.1.5 the ARP)

Rule 8.1.7 of the Groundwater Rules includes provisions for meeting the requirements for achieving and maintaining a Sustainable Water Supply in the confined aquifer. Per the State Engineer's approval letter for the PWM, dated March 13, 2020, the San Luis Creek Response Area five-year running average groundwater withdrawals were greater than the 1978-2000 average groundwater withdrawals for the San Luis Creek Response Area of ±**10,856 acre-feet**, but only by about 4.5%. At the time, Subdistrict Wells included by petition only accounted for about 67% of the Response Area groundwater withdrawals.

By addition of contract wells, Subdistrict metered groundwater withdrawals now account for approximately 99.6% of the total metered groundwater withdrawals annually over the period 2011-2023 in the San Luis Creek Response Area. The previous five-year running average groundwater withdrawals for ARP Wells for the period 2018-2022 is ±9,935 acre-feet. The current five-year running average for the period 2019-2023 for ARP wells was ±**9,760 acre-feet**, indicating a downward trend. For the last two years, the Subdistrict's groundwater withdrawals have met the Sustainable Water Supply metric. The PWM requires specific actions to be taken to achieve and maintain the goal.

For comparison, the longer-term average 2011-2023 (13 years) of metered pumping for ARP wells is ±11,117 acre-feet. As additional years are added to the period of metered pumping in Division 3, this average can be compared to the 1978-2000 (23 years) estimated groundwater withdrawals reported in the State Engineer's annual memorandum, "Five-year Average Groundwater Withdrawals in Confined Aquifer Response Areas", published July 1, 2023.

The Subdistrict anticipates groundwater withdrawals of ±11,142 acre-feet in 2024 due to similar pumping in similar stream flow forecast years. This would produce an average (2020-2024) of 10,052 acre-feet, within the sustainability metric.

Based on the trend of the Subdistrict's five-year average, the Subdistrict will remain in compliance with the Sustainable Water Supply Requirement of the Rules.

Included in Appendix F is the State Engineer's memo dated July 1, 2023, regarding the Composite Water Head for Confined Aquifer Response Areas in Division 3: July 2023 Requirement of Division 3 Groundwater Rules Section 8.1.4. The Composite Water Head for Response Area No. 4 for 2023 was 1.34 feet, the lowest level since 2015 but still above the base year of 2015.

Listing of Irrigated Acres Proposed to be Temporarily or Permanently Fallowed and Associated Water Rights (Section 2 of 11.1.5 the ARP)

The Subdistrict has purchased the "Peachwood Farm" property that includes 12 farmed sprinkler circles and thirteen irrigation wells. A portion of the lands have been placed in a groundwater conservation easement and a portion of the acreage will be dried up.

Taking these lands out of production will contribute to the Subdistrict's goal for achieving sustainability. A description of these lands, water rights, and the retirement plan is included in Appendix H of the ARP.

Listing of Water Rights Proposed to be Temporarily or Permanently Retired and Historical Operations of Each Water Right (Section 3 of 11.1.5 the ARP)

No listing of retired water rights was submitted with this ARP.

Other Proposed Actions to be Taken as Applicable (Section 4 of 11.1.5 the ARP)

No listing of other proposed actions was submitted with this ARP

Findings:

Based on the information provided in the ARP and discussed above, I make the following findings:

1. The projected groundwater withdrawals are based upon the inventoried Subdistrict Wells, their historical pumping, and projected stream flows. The inventory of wells is consistent with the information in DWR's databases. The historical pumping associated with the Wells is based on diversion records on file with the DWR. The method implemented by the Subdistrict to project groundwater withdrawals for the ARP Wells for 2024 is consistent with historical pumping information and streamflow forecast from the Division Engineer's projection and the NRCS Forecast.

2. Overall, the Subdistrict inputs to the Response Functions produced a calculation of depletions that DWR considers conservative such that the depletions are covered and no injury will occur.

3. Projected stream depletions are calculated based on Response Functions generated from RGDSS Groundwater Model runs. The Response Functions are based on the RGDSS Model version 6P98, which was approved by the PRT. For this Plan Year the Subdistrict will used the 6P98 Response Functions in determining stream depletions for the Subdistrict. The ARP Year depletion schedule is included as an Exhibit to this letter.

4. The ARP identifies the sources, availability, and amounts of replacement water and remedies that the Subdistrict will use to remedy Injurious Stream Depletions during the coming year and demonstrates the sufficiency of such water to remedy such Injurious Stream Depletions:

San Luis Creek

The Subdistrict injurious depletions for San Luis Creek for this ARP are ±264 acre-feet during the irrigation season. and ±601 acre-feet during the non-irrigation season for a total of ±865 acre-feet.

- Irrigation Season: The Subdistrict indicates they expect to yield a total of >264 acre-feet from well injury payment agreements. My staff reviewed the historical calls on San Luis Creek for the ditches expected to generate well injury payment amounts during the irrigation season as summarized below. The potential ±264 acre-feet needed from well injury payments indicates sufficient water to cover Injurious Stream Depletions for the Plan Year for Subdistrict No. 4.

  DWR Analysis of Forbearance Yield

  - DWR staff prepared an analysis using the projected stream flow numbers. The focus of the analysis was to determine which ditches would be the calling priorities on all streams where the Subdistrict owes depletions. The Subdistrict secured numerous forbearance contracts for priorities senior and junior to the projected call(s). Based on current snowpack and stream flow's estimated peak, the call on San Luis Creek will most likely be the Priority No. 35 or more senior water right on the river system in the 2024 irrigation season. Even if the stream flows are underestimated, the Subdistrict has contracts with all owners of water rights senior to Priority No. 50 that can divert water, which would reinforce the analysis of forbearance being a valid option. From the first day of the 2024 irrigation season to the end of April 2025, the call on San Luis Creek will most likely be the Priority No. 35 or more senior water right on the river system also allowing for forbearance coverage for the end of the ARP year.

- Non-Irrigation Season: The Subdistrict is not obligated to pay depletions on San Luis Creek during the non-irrigation season at this time.

Crestone Creek

The Subdistrict injurious depletions for Crestone Creek for this ARP are ±-90 acre-feet during the irrigation season. and ±59 acre-feet during the non-irrigation season for a total of ±149 acre-feet.

- Irrigation Season: The Subdistrict has WIP agreements in place to cover all rights that are senior to wells.
- Non-Irrigation Season: The Subdistrict is not obligated to pay depletions on Crestone Creek during the non-irrigation season at this time.

5. Section 4.1.5 of the Subdistrict's PWM includes the provision, "the Subdistrict may continue to assess fees until all Post-Plan Injurious Stream Depletions caused by past groundwater withdrawals from Subdistrict Wells have been remedied." This allows the Subdistrict to provide a financial guarantee to assure that all Post-Plan Injurious Stream Depletions will be replaced or otherwise remedied if the Subdistrict were to fail or otherwise not be allowed to continue groundwater withdrawals.

6. Upon approval of the Subdistrict's PWM, it was concluded a small percentage and volume of reduction in groundwater withdrawals is needed to reach the Sustainable

Water Supply parameter during the timeframe stated in the Rules and the PWM requires specific actions to be taken to achieve the goal. The Subdistrict is in compliance with this metric.

The Subdistrict has presented sufficient evidence and engineering analysis to predict where and when Injurious Stream Depletions will occur and how they will replace those Injurious Stream Depletions to avoid injury to senior surface water rights under the following Terms and Conditions.

This ARP is hereby approved pursuant to the following Terms and Conditions:

1. This ARP shall be valid for the period of **May 1, 2024, through April 30, 2025**, unless otherwise revoked, modified, or superseded by me, a decree, or order of the court.

2. The Subdistrict must replace or remedy the Injurious Stream Depletions resulting from Subdistrict ARP Well groundwater withdrawals.

3. Contract wells will be covered to the extent of their permitted/decreed uses.

4. Deliveries (including transit losses) of stored water made available for the replacement of Injurious Stream Depletions shall be determined by the Division Engineer pursuant to this ARP and associated decrees, policies and statutes. An MOU describing any exchange must be submitted and signed by all parties prior to operating the exchange.

5. If the limit is reached for any particular forbearance agreement, then the Subdistrict will need to remedy Injurious Stream Depletions to that particular ditch or canal with another remedy.

6. The Division Engineer shall determine on an ongoing basis whether he can administer the operations under each well injury payment agreement. If the Division Engineer cannot, then that operation shall cease. General Forbearance Protocols for the San Luis Valley River Systems for 2024 were prepared by the Division Engineer. A copy of the protocols is included with this letter.

7. The Subdistrict shall provide daily replacement water accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be emailed to the Division Engineer (Craig.Cotten@state.co.us), the Water Commissioners (thomas.torrez@state.co.us), (robert.mondragon@state.co.us), the Subdistrict Coordinator (deborah.sarason@state.co.us), and Water Accounting Operations Specialist (michelle.lanzoni@state.co.us) within 10 days after the end of the month for which the accounting applies. Accounting and reporting procedures are subject to approval and modification by the Division Engineer.

8. The Subdistrict must adhere to the terms and conditions of any SWSP(s) incorporated as part of the ARP. The use and inclusion of any new replacement water within the ARP may occur only after SWSP approval or approval by the Water Division No. 3 Water Court for a change of water right. Prior to the use of any new replacement water, the State Engineer will evaluate for use as an amendment under this ARP.

9. Regarding the Subdistrict's request to aggregate depletions owed between stream reaches, there is currently only one reach defined in the RGDSS in each of the streams where the Subdistrict owes depletions.

10. Regarding the Subdistrict's request to aggregate depletions with other subdistricts, the Subdistrict may make requests for these types of changes formally to the Division Engineer, providing details of the request and documentation supporting the need to make a change to the approved ARP depletion schedule. The Division Engineer will consider such a request when it is made, under the protocol of DWR and in light of the conditions on the particular stream at the time and, if deemed appropriate, approve the request. The Subdistrict will not adopt any change until after approval by the Division Engineer.

11. The Subdistrict is relying heavily upon forbearance agreements to meet the requirements for mitigation of injurious stream depletions. The Subdistrict is strongly encouraged to actively pursue permanent replacement sources to cover depletions in the event that the forbearance agreements are not sufficient. In the unlikely event that the well injury payment agreements do not yield the amounts needed to cover depletions as expected during the 2024 ARP Year, the Subdistrict will invoke its "After Acquired Sources of Remedy" clause in the ARP and will acquire sufficient additional sources to satisfy the depletion schedule approved under this ARP. If the Subdistrict is unable to acquire sufficient additional sources, the Subdistrict will not be able to continue operation under this ARP.

12. All deliveries of replacement water shall be measured in a manner acceptable to the Division Engineer. The Subdistrict shall install and maintain measuring devices as required by the Division Engineer for operation of this approved ARP.

13. The Subdistrict must submit a Preliminary Water Report and a Final Review of its ARP pursuant to Rule 12.

14. The Subdistrict must replace or remedy all Injurious Stream Depletions caused by non-augmented pumping associated with Subdistrict ARP Wells.

15. The Subdistrict must comply with the Rules, the Subdistrict PWM, and this ARP.

Approval of this ARP does not authorize any change, increase, or expanded use of any water right or permit. Any change, increase, or expansion of a water right or permit

will need to comply with existing decrees and or permits, the Confined Aquifer New Use Rules, the Measurement Rules, the Rio Grande Basin Groundwater Use Rules, and may require approval of the Water Court.

The approval of this ARP is made with the understanding that if the ARP proves insufficient to remedy Injurious Stream Depletions, the State Engineer has the authority to invoke the retained jurisdiction of the Division No. 3 Water Court.

I want to thank you for your cooperation and compliance with this approved ARP and for your continued cooperation and compliance in the future. Your efforts are greatly appreciated. If you have any questions do not hesitate to contact any of my staff in Denver or Alamosa.

Sincerely,

Jason T. Ullmann, P.E.
Acting State Engineer
Director of the Division of Water Resources

Exhibits:

A: Subdistrict No. 4 2024 ARP Response Function Table 2.6
B: General Forbearance Protocols for the San Luis Valley River Systems for 2024

ec: Craig Cotten, Division Engineer
Chad Wallace, Assistant Attorney General
David W. Robbins, Hill & Robbins
Peter Ampe, Hill & Robbins
Clinton Phillips, Davis Engineering Service, Inc.
DWR electronic notification lists
Division 3 Water Court