

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

RE: 2023 ANNUAL REPLACEMENT PLAN APPROVAL: SPECIAL

IMPROVEMENT SUBDISTRICT NO. 6 OF THE RIO GRANDE

WATER CONSERVATION DISTRICT

Dear Ms. Pacheco:

Thank you for your April 15, 2023 submission of the Special Improvement District No. 6's proposed Annual Replacement Plan (ARP) for the 2023 Plan Year (May 1, 2023 through April 30, 2024).

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 2023 ARP.

Firm & Lein

Kevin Rein, P.E.

State Engineer

Director of Division of Water Resources

cc: Division 3



Review, Findings, and Approval of Subdistrict No. 6's 2023 Annual Replacement Plan

Background

Special Improvement District No. 6 ("Subdistrict"), a political subdistrict of the Rio Grande Water Conservation District ("RGWCD"), formed through Conejos County District Court in Case 2018CV30014, 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. 2019CW3011 on September 25, 2019.

The 2023 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, 2023. 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.

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. There were no letters, comments, or other objections submitted regarding the 2023 ARP.

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 2023 ARP. Appendix A lists 543 wells, which includes 11 wells included by contract for 2023.

The contract wells accepted by the Subdistrict in 2023 are listed in Appendix B. Contract wells were reviewed for the terms of the contracts, associated permits and decrees for each well, and historical meter records. Any wells that are used for any beneficial uses not authorized by permit and/or decree for those structures cannot be covered by the 2023 ARP and the owners will be notified by separate correspondence.

Wells that have submitted an SWSP and/or started the process of changing an existing permitted/decreed use to a Non-Exempt use described in the participation contract can be conditionally accepted. These wells cannot be operated until the SWSP and/or decree is finalized and approved. Should an SWSP become invalid during the ARP Year or the change of use in a court case be denied, the well can no longer be covered by the ARP and the owners will be notified.

All wells accepted as contract wells for this ARP approval have permitted and/or decreed limits, and they will only be accepted for groundwater withdrawals up to those respective limits. If historical records indicate a pattern of exceedance of these limits in the past, owners of these wells may be notified by separate correspondence that their wells are being conditionally accepted, and that exceedance of the legal limits will not be covered under this ARP. The Subdistrict will be copied on all separate correspondence sent for these purposes.

DWR reviewed the list of contract wells added to the Subdistrict's 2023 ARP. DWR found four wells, WDID 2009672, 2010109, 2010287, and 2012431, which are not permitted or decreed for their intended commercial / humidification uses. They are not part of an approved SWSP, and they have no pending court case referencing these WDIDs. These wells are therefore denied coverage under Subdistrict 6's 2023 ARP.

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 ARP Well List includes some wells that are either fully or partially augmented by an approved plan for augmentation which is administered separately from the Subdistrict's PWM. These plans for augmentation associate surface rights with these Subdistrict Wells and other non-Subdistrict wells to remedy some portion or all of each well's injurious stream depletions. These wells are included in the Subdistrict's ARP Well List, and if any portion of their legally decreed groundwater withdrawals is not remedied by an individual plan for augmentation, it is subject to Subdistrict fees and the Subdistrict will remedy injurious stream depletions and post-plan injurious stream depletions attributable to the non-augmented portion of a well's total groundwater withdrawals as part of this ARP. "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 October 4, 2018, or for new or expanded plans for augmentation or other replacement plans without the approval of both the Court and the Subdistrict's Board of Managers." (PWM at 2.4.6)

San Luis Valley Water Conservancy District Augmentation Certificate No. 773

The ARP lists one well as a Subdistrict Well that is fully augmented for the existing uses through the SLVWCD. This well, WDID 2014260, Permit 77196-F was permitted and drilled under SLVWCD's augmentation plans as an expansion of use of Subdistrict Well WDID 2014260, Permit 45498-F. The owner joined the Subdistrict by petition when the Subdistrict was forming, not knowing their SLVWCD certificate covered all of their pumping. The Subdistrict retains this well on the well list as a non-benefitted well.

I have reviewed Appendix A, Appendix B, and Appendix D of the ARP and consulted with staff and, find it to be an accurate inventory of Subdistrict Wells that meets the requirements of Rule 11.1.1.

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

For Subdistrict ARP Wells listed in this ARP, DWR total metered groundwater withdrawals per DWR records as of April 7, 2023 for the 2022 Water Administration Year were 95,465 acrefeet. Comparing to 2022 and considering operational changes from Subdistrict members for 2023, the Subdistrict determined the streamflow forecast on the Rio Grande and Alamosa River were most comparable to the 2017 and 2019 actual flows so based the projection on the pumping from those years. ARP Well groundwater withdrawals in 2023 are projected to be **73,500 acre-feet**. The table below has been updated to reflect the pumping figures entered in Table 1 of the Response Function the Subdistrict submitted with the ARP.

Subdistrict Well Metered Pumping (acre-feet) Entered in Table 2.1 of the ARP

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
117,576	112,843	110,905	93,175	86,127	82,780	75,114	115,507	70,087	106,134	101,285	95,465

The majority of metered groundwater withdrawals in the Plan Year will be used for irrigation through center pivot sprinklers, 64 percent. Approximately 6 percent of groundwater withdrawals will be applied to flood irrigation and 30 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 60,000 acres during the Plan Year, including 47,200 acres irrigated by center pivot sprinklers and 12,800 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 calculate the 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 2023 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 2023 ARP and provided to the State Engineer included:

- 1. An electronic copy of the Response Functions used to prepare the tables included in this ARP.
- 2. The list of Subdistrict Wells included in the 2023 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 2023 ARP.
- 5. A resolution from RGWCD to allow the Subdistrict to allocate Closed Basin Project water in the 2023 ARP.
- 6. A 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 forbearance agreements. A copy of the spreadsheet used in the analysis was provided as supplement to the ARP.
- 7. Operational Requests to the Division Engineer for the 2023 ARP
 - The Subdistrict requests to aggregate depletions between Stream Reaches as part of the anticipated operation in 2023.
 - The Subdistrict requests to aggregate depletions with other Subdistricts during the 2023 ARP year.
 - The Subdistrict requests the Division Engineer allow a portion of the Closed Basin Project (CBP) production that is generated during the irrigation season be used to offset the Subdistrict's non-irrigation season depletions, though not to exceed the allocation approved by the CBP Operating Committee. This becomes necessary when the depletions owed for all RGWCD Subdistricts combined in any one or more months during the non-irrigation season are greater than the production of the Closed Basin Project production in those months.
 - The Subdistrict requests the Division Engineer allow aggregation of overpayment and underpayment of depletions among Subdistricts as determined by Response Function calculations made prior to March 1, 2024 using actual stream flows and actual metered groundwater withdrawals for the prior Water Administration 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 project stream depletions to the Conejos River, Alamosa River, and Rio Grande 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 the Alamosa, two reaches on the Conejos, and three reaches on the Rio Grande, and a projection of the Post-Plan Stream Depletions calculated as a result of the predicted 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 April through September streamflow forecasts included in the ARP for the Rio Grande and Conejos systems are made by the Division Engineer and are based upon guidance given by forecasts from the United States Department of Agriculture's Natural Resources Conservation Service ("NRCS"), the National Weather Service (NWS), and the National Center for Atmospheric Research (NCAR) (Appendix C of the ARP). The annual streamflow forecasts included in the ARP for the Rio Grande and Conejos River basins are those included

in the March 31, 2023 Division Engineer's Rio Grande Compact Ten Day Report (Appendix D of the ARP). The April through September streamflow forecasts included in the ARP for the Alamosa River are from the NRCS April 1st forecast.

The 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.

2023 Stream Flow Forecast - Conejos, Rio Grande, and Alamosa Rivers (Section 1 of 11.1.2 of the ARP)

The Subdistrict used the Division Engineer's streamflow forecast and the data collected from the Division Engineer's Rio Grande Compact Ten Day Report. This forecast was based upon the NRCS forecast (projected 50% exceedance streamflow at the Conejos River near Mogote, Los Pinos River near Ortiz, and San Antonio River at Ortiz gaging stations for the period April-September), the NWS forecast, and the NCAR forecast. There were some differences between the NRCS and the Division Engineer's forecasts as shown in the following table. The April - September flow for the Conejos System is <u>373,600 acre-feet</u> for use in the Response Functions for 2023.

Stream Flow Forecasts- Conejos River, Rio Grande, Alamosa River

Conejos Stream Flow Forecast	Apr-Sep	% of	Estimated	Jan - Dec
	Forecast	median	Additional	Forecast
Analysis	(acre-feet)		(acre-feet)	(acre-feet)
	(1)	(2)	(3)	
NRCS, April 1 st Forecast, 4/5/2023				
Conejos River near Mogote	280,000	167%		
Los Pinos River near Ortiz	108,000	177%		
San Antonio River at Ortiz	24,000	250%		
TOTAL	412,000			
Division Engineer, Ten Day, 3/31/2023				
Conejos River near Mogote	240,400	143%		
Los Pinos River near Ortiz	117,700	193%		
San Antonio River at Ortiz	11,500	162%		
TOTAL	373,600		26,400	400,000
Rio Grande Stream Flow Forecast				
Analysis				
NRCS, April 1st Forecast, 4/5/2023	625,000	130%		
Division Engineer, Ten Day, 3/31/2023	659,200	137%	90,800	750,000
Alamosa River Stream Flow Forecast				
Analysis				
NRCS, April 1st Forecast	94,000	154%		

⁽¹⁾ projected 50% exceedance streamflow at the gaging station

- (2) NRCS 30-yr Average Flow: Conejos-168,000, Los Pinos-61,000, San Antonio-9,600, Rio Grande-480,000, Alamosa-61,000 (recently adjusted from Conejos-194,000, Los Pinos-73,000, San Antonio-15,600, Rio Grande-515,000, Alamosa-68,000)
- (3) January through March and October through December

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

Subdistrict staff predicted stream depletions caused by Subdistrict ARP Wells utilizing the Response Functions developed for the Alamosa La Jara 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 2022 and predicted values for 2023.

The Subdistrict has elected to use the Response Function spreadsheet for the subset of wells represented by the Subdistrict ARP Wells. The Alamosa La Jara Response Area requires adjustments for both point source return flows and the stream ratios, as listed below.

- Alamosa La Jara Response Area Reach 3 (Rio Grande from Del Norte to Excelsior Ditch) from the City of Monte Vista.
- Alamosa La Jara Response Area Reach 5 (Rio Grande from Chicago to State Line) from the City of Alamosa.
- Alamosa La Jara: Reach 1 Calculations Ratio, and Reach 6 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 Monte Vista and the Town of Alamosa wells associated with the point source return flow. Adjustments for the Ratio Method must be made for Reach 1: Conejos above Seledonia/Garcia and Reach 6: Alamosa River.

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 2022. 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 2023. 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 53,810 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 Functions calculated stream depletions to the Conejos River, Rio Grande, and Alamosa River 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 $\pm 7,484$ acre-feet, which includes negative depletions of ± 464 acre-feet on Stream Reach 3 of the Rio Grande. The Response Functions calculated total stream depletions to the Conejos River are ± 3550 acre-feet, to the Alamosa River ± 560 acre-feet, and to the Rio Grande $\pm 3,374$ 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 15 years. Based on predictions from the Response Functions, Table 2.4 of the ARP shows there would be a total of $\pm 24,332$ acre-feet of Post-Plan Stream Depletions. This amounts to $\pm 3,635$ acre-feet to the Conejos, $\pm 18,531$ acre-feet to the Rio Grande, and $\pm 2,166$ acre-feet to the Alamosa.

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 2023 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. Applications for renewal of several SWSPs have been submitted or the Subdistrict has plans to submit them. Upon approval, these sources can be added for use under the 2023 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.

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

<u>In Season</u>: 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 2022 ARP.

Subdistrict No. 6 Replacement Sources Conejos River (acre-feet)

Water Right Name Submitted Approved in Remaining SWSP's 4/25/2023 & in **ARP** Approved for 2023 ARP SWSP In Storage 6182 SLVWCD 84CW16 12.2 110.7 12.2 SLVWCD 94CW62 110.7 110.7 6182 110.7 6182 **SLVWCD 14CW3011** 103.8 103.8 103.8 **BLM Excess Augmentation Credits** 6163 200.0 235 200.0 02CW38A Stored in 2020 Richfield Canal (SWSP & CU Analysis pending) 150.0 0 0 Assume 25% lost for release 426.7 Total In Storage 576.7

In Season

In Season

BLM Augmentation Water 2002CW38A

SWSP

6163

Limit

900

Expected

Yield

450

DWR Expected

Yield

300

	Renewal request SWSP to store submitted			
	4/5/2022. Until approval, water must be used			
	during irrigation season			
6074	Taos Valley No 3 (Contract 3,000 af)	3,000	3,000	50
	Total In Season	3,900	3,450	350
	On Call	Limit	Expected	DWR Expected
			Yield	Yield
WDID	Forbearance			
	Conejos River			
2200500	AD Archuleta - (3 yr. 2024)			
2200501	Alamo Ditch - (5 yr. 2028)	No limit		
2200501	Alamo Ditch - Willet Cattle - (10 yr. 2033)			
2200502	An Con Ditch - (3 yr. 2024)	No limit		
2200504	Antonito Ditch - (3 yr. 2024)	No limit		
2200509	Ball Bros 1 - (10 yr. 2033)	No limit		
2200510	Ball Bros 2 - (10 yr. 2033)	No limit		
2200513	Bernardo Romero - (10 yr. 2033)	No limit		
2200518	Branch - (10 yr. 2033)	No limit		
2200519	Brazos Del Norte - (5 yr. 2028)	No limit		
2200524	Canon Irrigating Ditch - (3 yr. 2024)	No limit		
2200531	Cordova Ditch (3 yr. 2026)	No limit		
2200534	Del Puerticito - (3 yr. 2026)	No limit		
2200535	East Bend Ditch - BLM - (5 yr. 2028)	No limit		
2200539	El Serrito aka Cerrito - (10 yr 2033)	No limit		
2200541	Ephraim Canal - (10 yr. 2033)	No limit		
2200548	Gabriel Martinez Ditch - (3 yr. 2026)	No limit		
2200553	Guadalupe Main - (5 yr. 2028)	No limit		
2200554	Heads Mill- Alpha Hay - (3 yr. 2024)	No limit		
2200554	Heads Mill- Quinlan - (1 yr. 2024)	No limit		
2200561	JF Chacon Ditch 2 - (3 yr. 2024)	No limit		
2200562	JF Chacon Ditch No 3 - no contract	No limit		
2200576	La Del Rio Ditch - (3 yr. 2024)	No limit		
2200584		No limit		
2200585	Los Ojos 2- BLM - (5 yr. 2028)	No limit		
2200587	Los Sauces Ditch - (5 yr. 2028)	No limit		
2200595	Manassa Ditch (Eastfield) - (10 yr. 2033)	No limit		
2200593	Manassa No 3 - (10 yr. 2033)	No limit		
2200596	Manassa Westfield - (10 yr. 2033)	No limit		
2200604	Mecitos Ditch - (10 yr. 2033)			
2200605	Mill Ditch - (10 yr. 2033)	No limit		
2200591	Mogote Ditch -(10 yr. 2033)	No limit		
2200608	New JB Romero - (10 yr. 2033)			
2200609	Northeastern Ditch - (10 yr. 2033)	No limit		
2200611	Overflow Ditch - (5 yr. 2028)	No limit		
2200616	Richfield Canal - (5 yr. 2028)	No limit		
2200619	Romero Ditch - (10 yr. 2033)	No limit		
2200620	Sabine School Section Ditch - (10 yr. 2033)	No limit		
2200621	Salazar Ditch - (5 yr. 2028)	No limit		
2200624	San Juan San Rafael Ditch - (1 yr. 2024)	No limit		
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2200627	Sanford Canal - (10 yr. 2033)	No limit		
2200631	Servietta Ditch - (3 yr. 2024)	No limit		
2200651	Williams Stuart Co Irrigation D - (1 yr. 2024)	No limit		
	SD-6 only			
	Rio San Antonio			
2200664	` ,	No limit		
2200537	Eight Mile Ditch - (5 yr. 2028)	No limit		
2200543	Florida Ditch - (5 yr. 2028)	No limit		
2200549	,	No limit		
2200570	Jaramillo Overflow No 2 Ditch - (10 yr. 2033)	No limit		
2200589	Lovato Irrigation Ditch (BLM) - (5 yr. 2028)	No limit		
2200590	Maes Ditch - (5 yr. 2028)	No limit		
2200597	Martinez Ditch - (10 yr. 2033)	No limit		
2200615	Punche Ditch - (5 yr. 2028)	No limit		
2200617	Riedel Ditch - (5 yr. 2028)	No limit		
2200618	Rincones Ditch - (5 yr. 2028)	No limit		
2200632	Sinecero Ditch - (10 yr. 2033)	No limit		
2200633	Sisneros Ditch - (10 yr. 2033)	No limit		
2200635	Star Ditch - (10 yr. 2033)	No limit		
2200639	Taos Valley Canal No. 3 / SLVIWO - (3 yr. 2028)	No limit		
2200640	Teodoro No 1 Ditch - (10 yr. 2033)	No limit		
	Rio Los Pinos			
2200580	Llano Ditch - no contract	No limit		
2200586	Los Pinos Ditch - (10 yr. 2033)	No limit		
	Total On Call- Forbearance		1,650	Up to 2,200
	CBP Allocation (as of April 2023)	4,100	1,196	
N * D	Total On-Call Non-Irrigation Season		1,196	Up to 1,196

Note: * DWR Analysis

Subdistrict No. 6 Replacement Sources Alamosa River (acre-feet)

	Water Right Name	Submitted in ARP	Approved in SWSP's	Remaining 5/1/2023 & Approved for 2023 ARP
SWSP	In Storage			
6209	Terrace Irrigation Co 82CW97 excess aug credit SWSP request submitted 3/13/2023 (renewal)	23.9	23.9	23.9
9377	Monte Vista Canal ATM Project-Terrace Main Canal Exchanged Water	150.0	150.0	138.8
	Total In Storage	173.9	173.9	162.7
	On Call	Limit	Expected Yield	DWR Expected Yield
WDID	Forbearance			
2100503	Alamosa Creek Canal (Terrace Irrig) ** (3 yr. 2025)	No limit		
2100505	Alamosa Spring Creek Ditch - (10 yr 2033)	No limit		

2100506	Arroya Ditch - (5 yr. 2028)	No limit		
2100510	Capulin Ditch - (10 yr. 2033)	No limit		
2100511	Clark Ditch (3 yr. 2026)			
2100513	Cottonwood Ditch -(5 yr. 2028)	No limit		
2100514	Cristobal Rivera Ditch - (3 yr. 2024)	No limit		
2100520	El Viejo D - (3 yr. 2024)	No limit		
2100522	Empire Canal - (3 yr. 2024)	No limit		
2100525	Flintham Ditch - (3 yr. 2024)	No limit		
2100529		No limit		
2100526	Gabino Gallegos Ditch - (10 yr. 2033)	No limit		
2100532	Garcia No 2 Ditch - (10 yr. 2033)	No limit		
2100539	Head Overflow No 5 Ditch - (10 yr. 2033)	No limit		
2100558	Lowland Ditch -(3 yr. 2024)	No limit		
2100561	Miller Ditch - (3 yr. 2024) + (10 yr. 2033)	No limit		
2100564	Morganville - (3 yr. 2026)	No limit		
2100570	Norland Ditch - (10 yr. 2033) + (3 yr. 2024)	No limit		
2100571	North Alamosa Ditch - (10 yr. 2033)	No limit		
2100572	Ortiz Ditch - (10 yr. 2033)	No limit		
2100581	Ramona Ditch - (10 yr. 2033)	No limit		
2100591	San Jose Ditch No 1 - (10 yr, 2033)	No limit		
2100593	Scandinavian Canal - (3 yr. 2024)	No limit		
2100601	Terrace Irrigation Company ** 3 yr. 2025,	No limit		
	Gabino Gallegos Ditch, Terrace Main Canal,			
	Alamosa Creek Canal			
2100600	,	No limit		
2100602	` ,	No limit		
2100606	Weist Ditch - (3 yr. 2026)			
	Total On Call- Forbearance		504	Up to 450*

**Note: All ditch rights of Terrace Irrigation Company are allowed to participate in a forbearance, however, Priority 110 for storage in Terrace Reservoir is excluded from participation.

Note: * DWR Analysis

Subdistrict No. 6 Replacement Sources

Rio Grande (acre-feet)

	Water Right Name	Submitted in ARP	Approved in SWSP's	Remaining 5/1/2023 & Approved for 2023 ARP
SWSP	In Storage			
13CW3002	SMRC-MV (215 shares leased @ 0.8912 af)	100 + 35.8		135.8*
13CW3002	SMRC-MV (335 shares leased @ 0.873 af)	215.0		215.0*
13CW3002	SMRC-MV (335 shares leased @ 0.85 af)	127.7		127.7*
13CW3002	SMRC-MV (335 shares leased @ 1.036 af)	300.0		300.0*
	Santa Maria Reservoir- purchased from	1000.0		1000.0
	Subdistrict No 1 in storage			
6182	Williams Creek Squaw Pass Transbasin Diversion (W-1869-7)	426.3	426.3	426.3

7265	CPW Tabor Ditch No 2 & Tabor Ditch No 2 Enlargement CA6981	125.0 + 227.0	Pending	352.0
	New Request submitted as of 4/5/2022			
	CPW Tabor Ditch No 2 & Tabor Ditch No 2	250.0+	Pending	0
	Enlargement CA6981	197.0		
	SWSP request to be submitted			
6074	Taos Valley No. 3	178.8		178.8
6182	SLVWCD 14CW3011	89.1		89.1
6182	City of Monte Vista Augmentation Credits SWSP submitted 3/16/2023	260.0	Pending	260.0
	Total In Storage	3,532		2,613
	*Confirmation of balances in reservoirs is pending.			
4/30/2023	CBP shortage released for 2022 ARP Year			-298.4
	Adjusted Total In Storage			2,315
SWSP	In Season			
9377	Monte Vista Canal ATM Project- Centennial Ditch Exchanged Water	50.0		37.6
	Total In Season	50		37.6
	On Call	Limit	Expected Yield	DWR Expected Yield
WDID	Forbearance			
2000566	Centennial - (10 yr. 2033)	No limit		
2000623	Commonwealth-Empire - (5 yr. 2028)	500		
2000627	Excelsior Ditch - (1 yr. 2024)	No limit		
2000753	Monte Vista Canal - (10 yr. 2033)	300		
2000812	Rio Grande Canal - (1 yr. 2024)	900		
2000662	Rio Grande Canal- Hermanthal Ditch (1 yr.			
	2024)			
2001094	Rio Grande Canal- Scotch Ditch (1 yr. 2024)			
2001007	Rio Grande Canal- Bedel D - (1 yr. 2024)			
2000624	Rio Grande Canal- Enterprise D (1 yr. 2024)			
2001094	Scotch Ditch (carried in Rio Grande Canal) - (2033 from Kruse and Ellithorpe)	No limit		
2000624	Enterprise D (carried in Rio Grande Canal) -	No limit		
	(2033 from Kruse and Ellithorpe and Toews)			
2000816	Rio Grande Lariat Ditch - (10 yr. 2033)	500		
2000811	Rio Grande Piedra Valley Ditch - (5 yr. 2028)	No limit		
2000817	Rio Grande San Luis Ditch - (3 yr. 2026)	No limit		
2000631	Farmers Union Canal - (1 yr. 2024)	500		
	Total On Call- Forbearance		900	Up to 1,100*
i .				
	CBP Allocation (as of April 2023) Total On Call- Non-Irrigation Season	4,100	1,592 1,592	Up to 1,592

Note: * DWR Analysis

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 2023 Annual Replacement Plan (Section 3 of 11.1.3 of the ARP)

The ARP states that the Subdistrict's replacement water will be released, including transit losses, from Platoro Reservoir, located in the Upper Conejos; Terrace Reservoir, located on the Alamosa River; and Rio Grande, Santa Maria, Continental, and Beaver Park Reservoirs, located in the Upper Rio Grande, at the direction of the Division 3 Engineer, to offset injurious stream depletions on the respective rivers during the Plan Year. This applies to the "In-Storage" water identified in the Replacement Sources tables on the previous pages. All Plan Year injurious stream depletions will be replaced in the time, location and amount that they occur, beginning May 1, 2023. The reaches, amounts and time that stream depletions are projected to occur are shown in Table 2.3 in the ARP. These releases of water from storage will be performed under the provisions contained in section 37-87-103, C.R.S.

The ARP notes that Sections 37-80-120, 37-83-104, and 37-83-106, C.R.S., allow for exchanges to occur between reservoirs without a decree and if recognized by the Division Engineer. Appropriate accounting between the Division Engineer's Office and Subdistrict No. 6 will occur on a regular and routine basis if these exchanges do occur. Any reservoir exchanges done in the Plan Year will be documented and reported in the 2023 Annual Report. The Division Engineer's Office will be notified in advance of any reservoir exchanges, and the exchanges must be documented and approved by the Division Engineer prior to them occurring.

The ARP provided an agreement with San Luis Valley Irrigation Well Owners, Inc. to lease up to 2,000 acre-feet for Subdistrict No. 3, up to 3,000 acre-feet for Subdistrict No. 6 and up to 3,000 acre-feet for Trinchera Subdistrict of water and/or consumptive use credits from the water rights that are subject to the 2015CW3030 case. SLVIWO and Trinchera Subdistrict submitted separate SWSP requests for the use of this water. The SWSP approval allows these credits to be used on the day the credits are generated for replacement of daily injurious stream depletions in Rio Grande Stream Reach 3 and/or Conejos Stream Reach 2; and/or replacement of daily injurious stream depletions by exchange to other stream reaches defined in the RGDSS; and/or by exchange to a reservoir. Credits may be delivered to a Compact 'Depletion Bank' where they can be used for remedy of depletions owed to Rio Grande Stream Reach 3 during the irrigation and non-irrigation seasons. This water may be used to remedy depletions for other stream reaches when conditions permit, as further outlined in the SWSP.

In 2023, the Subdistrict entered into a lease agreement with Terrace Irrigation Company to lease the excess augmentation credits generated in 2022 under a plan for augmentation decreed in Case No. 1982CW97 (Water Division No. 3) for which the Terrace Irrigation

Company holds title to a portion of. These excess augmentation credits are being stored in Terrace Reservoir and may be released during the Plan Year to remedy injurious stream depletions on the Alamosa River.

The ARP provides documentation that the Subdistrict has implemented Forbearance Agreements with a number of ditches located on the Conejos River, the San Antonio River, the Los Pinos River, the Alamosa River, and the Rio Grande for the Plan Year. At times when the Conejos, the San Antonio and the Los Pinos are connected, the calling right can be on the San Antonio or the Los Pinos. The majority of the forbearance agreements allow the Subdistrict to exercise these agreements in its sole discretion.

The ARP provides an agreement with the Centennial Ditch in the Appendix. The resolution suggests an alternative for circumstances when replacement water needs to be carried below the Excelsior Ditch, but when the Rio Grande can be dry below the headgate. Instead, replacement water will be carried around that dry reach through the Centennial Ditch. The water will be measured and delivered directly to the Rio Grande at the point the Centennial Ditch can return water directly to the Rio Grande. That point is above any water right that may be injured while in priority. The Centennial Ditch must be adequate to efficiently deliver water around the dry stretch of river to the satisfaction of the Division Engineer prior to this being considered a viable option. The Centennial Ditch Company's water rights are senior enough to accomplish this carriage in any foreseeable situation (Priority Nos. 32 and 173).

The Response Functions did not predict stream depletions to streams other than the Conejos River, Alamosa River, and the Rio Grande in amounts above the minimum threshold to reliably predict impacts. Therefore, no replacements to any stream other than the Conejos, Alamosa, and Rio Grande will be made.

The ARP indicates that at times when there is no requirement to deliver water to the Lobatos Gage to meet the requirements of the Rio Grande Compact, no water will be delivered to the lower reach of the Rio Grande for replacement of Injurious Stream Depletions to the Rio Grande Compact from the Subdistrict. The only instances where the Subdistrict is not required to replace these Stream Depletions are when there is an excess of 150,000 acre-feet of credit for Colorado or Elephant Butte Reservoir has spilled. In these instances, water passing the Lobatos Gage will not result in Compact credit to Colorado. In all other circumstances, the replacement of Injurious Stream Depletions to the Rio Grande Compact will result in credit being given to Colorado, either for the current year or for future years. DWR agrees that the Subdistrict may replace these Injurious Stream Depletions after the irrigation season or when Compact deliveries are being made.

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 2023 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

San Luis Valley Irrigation Well Owner's, Inc. (SLVIWO) - Case No. 2015CW3030 (Section 1 of 11.1.4 of the ARP)

On December 30, 2015, the SLVIWO filed an Application for Recharge Project and Rights of Substitution and Exchange. The SLVIWO is the owner of the water right and corresponding structures associated with the Taos Valley Canal No. 3. The original decree for the water rights decreed to the Taos Valley Canal No. 3 is the Decree of the Court entered in the Matter of the Adjudication of the Priority of Water Rights in the Conejos and San Antonio Rivers (Water District No. 88), District Court, Conejos County, Colorado (October 3, 1890). In 1975, SLVIWO filed an application for a plan for augmentation including exchange and to change the place and type of use of the Taos Valley No. 3 water right in Case No. W-3394 to include augmentation of any depletions caused by well users of the SLVIWO. The Taos Valley No. 3 water right was changed in Case No. W-3394. Of the 245 c.f.s. decreed to the Taos Valley Canal No. 3, 230 c.f.s. ("Middlemist Water") has been left undiverted by SLVIWO and accounted for as an offset to well depletions pursuant to that decree. The remaining 15 c.f.s. ("Zinn Water") was changed in Case No. W-3394 subject to a reservation by Pete E. and Mercedes Middlemist to divert and use up to that amount for irrigation pursuant to certain terms and conditions contained in that decree. The Zinn Water has continued to be used for irrigation up to and including the 2022 irrigation season.

In Case No. 2015CW3030, SLVIWO seeks to utilize the Middlemist Water and the Zinn Water for augmentation by leaving the water in the San Antonio River as decreed in Case No. W-3394, by diverting water at the Taos Valley Canal No. 3 and potentially storing water in a rehabilitated Cove Lake Reservoir for subsequent release to the San Antonio River, by recharging the confined and unconfined aquifers via a groundwater recharge project, by

delivering water to satisfy compact obligations, by substituting water delivered to satisfy the compact in exchange for depletions and water diverted at other structures during different times within a year and to divert and store the water in several reservoirs, either directly or via exchange, for later release to the San Antonio River, Conejos River and the Rio Grande for augmentation purposes. On January 25, 2019, SLVIWO filed an Unopposed Motion to Bifurcate Case No. 15CW3030. In that Motion, SLVIWO sought to bifurcate the claimed exchange to the Martinez Ditch and the Recharge Project from the other claims in the application.

DWR conservatively estimates a potential yield of ±50 acre-feet for the Subdistrict, based on the limited timing and location of use as defined in the SWSP approval. The current conditions with streamflow being similar to the 2019 irrigation year create the potential for a 3,000 acre-feet yield; however, without storing the credits in a reservoir, a large percentage of the potential will not be useable before the end of the calendar year. SWSP 6074 has been approved for the Subdistrict's use in the 2023 ARP of the Taos Valley No 3 water that is the subject of the SLVIWO's court case.

Colorado Parks & Wildlife Tabor Ditch No 2 Held in Rio Grande Reservoir (Section 2 of 11.1.4 of the ARP)

Colorado Parks & Wildlife agreed to exchange Tabor Ditch No 2 water currently stored in Rio Grande Reservoir, through Fish & Wildlife Service, into a Subdistrict pool in Rio Grande Reservoir to be used for the remedy of Subdistrict injurious depletions. The Subdistrict submitted SWSP 7265 on 4/8/2021 for use of this water in the 2021 ARP. A deficiency letter was sent 11/2/2021 requesting CPW provide records of the history of tracking of Tabor Transmountain Ditch water to confirm amounts and locations in storage. CPW provided the requested documentation through email May 23, 2022 and it was confirmed that sufficient water is available for the various entities identifying this water as a replacement source in their respective plans. The SWSP approval is for 352 acre-feet of water stored in Rio Grande Reservoir. An additional SWSP will be filed for use of the remainder of the 447.0 acre-feet shortly after the filing of this ARP. Appendix E includes documentation for this transfer.

Forbearance Agreements (Section 4 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 forbearance 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 Conejos River system, Alamosa River, or Rio Grande. The majority of these contracts with individual ditches were made for three-year terms.

The projected acre-feet of forbearance was based on an analysis of the number of days each ditch was the calling right in years of similar hydrologic conditions as those predicted in

2023. The year used for the analysis for the Rio Grande was 2019. The analysis for the Alamosa was also 2019. The average number of days each ditch was estimated to be the calling right was then multiplied by the average daily acre-feet of injurious stream depletions during the Plan Year, excluding months outside the irrigation season. The expected yields listed in Table 3.1 are intended to be a conservative estimate of their potential yield to show the Subdistrict's ability to remedy injurious stream depletions. The estimate for the Rio Grande Canal did not include days that "Special Water" priorities were the calling rights even though all or a portion of those rights are included in forbearance agreements with the Subdistrict for the Plan Year and may be utilized at the discretion of the Subdistrict.

To project the Conejos forbearance potential, the Subdistrict used call records from 2019. The justification for this comparison between 2019 and 2023 is that the soil moisture conditions, streamflow conditions, and long-range temperature outlook are projected to be very similar. The Subdistrict has confidence this is a reasonable way to project the amount of forbearance the Subdistrict anticipates they could conservatively expect to use for the 2023 Plan Year. Documentation for the estimated yield analysis of the various forbearance contracts was provided by the Subdistrict as a supplement to the ARP.

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. Four of the agreements do not allow this flexibility, the Alamo, Ball Bros 1 & 2, Los Sauces, and William Stewart, so are "mandatory" forbearance agreements.

The Subdistrict made an agreement with the Guadalupe and Brazos Del Norte Ditches to store in Platoro Reservoir the amount of depletion owed daily when the Ditches are the calling priority. The stored water is to be released later by the Conejos Water Conservancy District at the discretion of the Ditches, and must be released within the same calendar year as it was stored. Exercise of this agreement is at the sole discretion of the Subdistrict. As stated in the agreement, any releases of this water will be in compliance with the legal and physical restrictions on such releases.

Closed Basin Project Production (Section 5 of 11.1.4 of the ARP)

According to the information provided in the ARP, the projected production of the Closed Basin Project delivered to the Rio Grande is 8,500 acre-feet during calendar year 2023. The allocation of the Closed Basin Project production in accordance with agreements is 60% to the Rio Grande and 40% to the Conejos River basin over the long term with provision for adjustments in the allocation during individual years. The 2023 allocation of the Closed Basin Project production will be 50% to the Rio Grande and 50% to the Conejos River.

Per a letter from the Rio Grande Water Users Association dated March 29, 2023, the Board of Directors passed a motion to specifically allocate 4,100 acre-feet of the Rio Grande's share of the usable yield of the Closed Basin Project to replace the stream depletions under Subdistricts No. 1, No. 2, No. 3, No. 5 and No. 6 Similarly, the Board of Directors of the San

Luis Valley Water Conservancy District agreed to the allocation as stated in their letter to the Rio Grande Water Conservation District on April 7, 2023.

The Conejos Water Conservancy District Board notified RGWCD by letter dated April 7, 2023 to specifically allocate the Conejos River's share of the usable yield of the Closed Basin Project to replace the injurious stream depletions for the 2023 ARP for Subdistrict No. 3 & Subdistrict 6.

A copy of each letter reporting the approval was provided in Appendix H of the ARP. The resolution from RGWCD allowing the Subdistrict to use Closed Basin Project water in the 2023 ARP was provided as supplemental information.

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 September 25, 2019, the Alamosa La Jara Response Area five-year running average groundwater withdrawals were below the 1978-2000 average groundwater withdrawals for the Alamosa La Jara Response Area of 113,740 acre-feet.

Subdistrict metered groundwater withdrawals account for approximately 99 percent of the total metered groundwater withdrawals annually over the period 2011-2022 in the Alamosa La Jara Response Area. The current five-year running average groundwater withdrawals for ARP Wells for the period 2018-2022 is 97,148 acre-feet. The previous five-year running average for ARP wells was 93,040 acre-feet. The Subdistrict reports the five-year running average groundwater withdrawals for ARP wells increased in 2022 by 4,108 acre-feet, using DWR's groundwater meter records.

Based on the trends of both the Alamosa La Jara Response Area and the Subdistrict's fiveyear average, the Subdistrict will remain in compliance with the Sustainable Water Supply Requirement of the Rules.

Included in Appendix K is the State Engineer's memo dated July 1, 2022, regarding the Composite Water Head for Confined Aquifer Response Area in Division 3: July 2022 Requirement of Division 3 Groundwater Rules Section 8.1.4. The Composite Water Head for the Alamosa-La Jara Resoponse Area for 2022 was negative 2.01 feet, lower than any year of record, and below the base year.

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 is not currently pursuing fallowing of any irrigated lands within the boundaries of the Subdistrict.

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 2023 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. The Subdistrict used the 6P98 Response Functions in determining stream depletions. The ARP Year depletion schedule is included as an Exhibit to this letter.
- 4. The comparison of CBP projected deliveries with all Subdistricts operating under 2023 ARPs indicates the CBP production, at least on an annual basis, is adequate to cover the Non-Irrigation season depletions for all the Subdistricts.

5. 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:

Conejos River

The Subdistrict depletions for the Conejos River system for this ARP are $\pm 2,354$ acre-feet during the irrigation season and $\pm 1,196$ acre-feet during the non-irrigation season for a total of $\pm 3,550$ acre-feet.

o <u>Irrigation Season</u>: The Subdistrict has ±427 acre-feet in storage in Platoro Reservoir, expects to yield ±300 acre-feet from BLM excess augmentation water "in season", and the Taos Valley No. 3 is estimated to yield ±50 acre-feet for a total of ±777 acre-feet. The Subdistrict indicates a yield of ±1,650 acre-feet from forbearance agreements during the irrigation season and in April 2024, totaling ±2,427 acre-feet.

The submitted portfolio of water from storage and adjusted in-season yield in the 2023 ARP Year indicates there would be a deficit of $\pm 1,577$ acre-feet of firm water to cover Injurious Stream Depletions in the unlikely event that no forbearance is available. My staff reviewed the historical calls on the Conejos for the ditches expected to generate estimated forbearance during the ARP Year as summarized below. The portfolio of water from storage and potentially $\pm 2,200$ acre-feet from DWR forbearance analysis totals $\pm 2,977$ acre-feet and indicates sufficient water to cover Injurious Stream Depletions for the Plan Year.

DWR Analysis of Forbearance Yield

- DWR staff prepared an analysis using the current stream flow numbers and forecast flows for the irrigation season, which is projected to end on November 1st, 2023. The focus of the analysis was to determine which ditches might be the calling priorities throughout this period. A similar analysis was completed for the irrigation month of April 2024, using average conditions because a reliable 2024 winter forecast is not yet available. The Subdistrict has secured forbearance contracts with numerous ditches ranging from the No. 1 priorities through very junior water rights.
- These agreements for ditches that are likely to be the calling rights on the Conejos for the 2023 irrigation season and April of 2024 could possibly account for ±2,200 acre feet. This amounts to 93%, of the 2,354 acre-feet of depletions owed during that time.
- Non-Irrigation Season: The Subdistrict has ±1,196 acre-feet of Closed Basin Project water available to pay non-irrigation season depletions.

Alamosa River

The Subdistrict depletions on the Alamosa are ± 556 acre-feet during the irrigation season and ± 3.5 acre-feet during the non-irrigation season for a total of ± 560 acre-feet.

 Irrigation Season: The Subdistrict has ±163 acre-feet in storage in Terrace Reservoir and indicates a yield of ±504 acre-feet from forbearance agreements during the 2023 irrigation season and in April 2024, totaling ±667 acre-feet.

The submitted portfolio of water from storage in the 2023 ARP Year indicates there would be a deficit of ± 394 acre-feet of firm water to cover Injurious Stream Depletions in the unlikely event that no forbearance is available. My staff reviewed the historical calls on the Alamosa for the ditches expected to generate estimated forbearance during the ARP Year as summarized below. The portfolio of water from storage and potentially ± 450 acre-feet from DWR forbearance analysis totals ± 613 acre-feet and indicates sufficient water to cover Injurious Stream Depletions for the Plan Year.

DWR Analysis of Forbearance Yield

- DWR staff prepared an analysis using the current stream flow numbers and forecasted flows for the irrigation season, which presumptively ends on November 1st, 2023. The focus of the analysis was to determine which ditches might be the calling priorities throughout this period. A similar analysis was completed for the irrigation month of April 2024, using average conditions because a reliable 2024 winter forecast is not yet available. The Subdistrict has secured forbearance contracts with numerous ditches ranging from the No. 1 priorities through very junior rights on the Alamosa River.
- These agreements for ditches that are likely to be the calling rights on the Alamosa for the 2023 irrigation season and April of 2024 could possibly account for 450 acre feet of the depletions owed. This amounts to 81%, of the 556.3 acre-feet of depletions owed during that time.
- Non-Irrigation Season: The Subdistrict is not obligated to pay depletions on the Alamosa during the non-irrigation season at this time.

Rio Grande

<u>The Subdistrict depletions on the Rio Grande are 1,783 acre-feet during the irrigation season and 1,591 acre-feet during the non-irrigation season for a total of 3,374 acre-feet.</u>

 Irrigation Season: The Subdistrict has ±2,315 acre-feet in storage in Beaver, Rio Grande, Continental and Santa Maria Reservoirs and indicates a yield of ±900 acre-feet from forbearance agreements during the 2023 irrigation season and in April 2024, totaling ±3,215 acre-feet.

The submitted portfolio of water from storage in the 2023 ARP Year indicates sufficient firm water to cover Injurious Stream Depletions in the unlikely event that no forbearance is available.

- Non-irrigation Season: The Subdistrict has ±1,592 acre-feet of Closed Basin Project water allocated to pay non-irrigation season depletions.
 - 6. 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.
 - 7. Upon approval of the Subdistrict's PWM, it was concluded the Subdistrict is already operating within the 5-year 1978-2000 average as amended by the CAS stipulation. In all future years the five year running average of metered total withdrawals must not exceed the average annual withdrawals for the period of 1978 through 2000. 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, 2023 through April 30, 2024, 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.
- 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. Storage under the forbearance agreement with the Guadalupe and Brazos Del Norte Ditches is only allowed upon prior approval of the Division Engineer.

- 6. The Division Engineer shall determine on an ongoing basis whether he can administer the operations under each forbearance agreement. If the Division Engineer cannot, then that operation shall cease. General Forbearance Protocols for the San Luis Valley River Systems for 2023 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 (sam.riggenbach@state.co.us), rachel.rilling@state.co.us, tom.stewart@state.co.us, aaron.holman@state.co.us, travis.robinson@state.co.us the Subdistrict Coordinator (deborah.sarason@state.co.us), and the 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 the SWSP(s) incorporated as part of the ARP. The use and inclusion of any new replacement water within the ARP is subject to SWSP approval or approved 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, much of the negative depletion amounts that the Response Function output generated on Stream Reach 3 of the Rio Grande reflect the point-source return flow attributed to the City of Alamosa in the RGDSS Model. This negative depletion represented affects the Rio Grande depletions when all three reaches are live to the State line. Should the Rio Grande stream reaches become disconnected hydraulically during the ARP Year, the Division Engineer shall determine if aggregation of these negative depletion amounts for purposes of determining depletions owed on Stream Reaches 1 and 2 of the Rio Grande is appropriate during those periods.
- 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. In the event the CBP deliveries during the non-irrigation season months are not enough to remedy the total of the RGWCD Subdistricts non-irrigation season depletions, it is acceptable for the CBP deliveries during the irrigation season months be used to remedy the additional amount of non-irrigation season depletions.

However, CBP deliveries may only be credited against non-irrigation season depletions that occur during the same calendar year and during the same ARP Year. In general, January through April CBP deliveries may be used to remedy January through March of the ARP Year depletions and May through December CBP deliveries may be used to remedy November and December ARP Year depletions. Should the CBP deliveries fall short as happened in the 2022 ARP Year, it will be necessary for the Subdistrict to provide enough replacement water to remedy the shortage for the non-irrigation season depletions.

- 12. 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 various SWSPs submitted in March and April 2023 are not approved or if the forbearance agreements do not yield the amounts needed to cover depletions as expected during the 2023 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.
- 13. 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.
- 14. The Subdistrict must submit an Annual Review of its ARP pursuant to Rule 12.
- 15. The Subdistrict must replace or remedy all Injurious Stream Depletions caused by non-augmented pumping associated with Subdistrict ARP Wells.
- 16. 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,

Kevin G. Rein, P.E.

State Engineer

Director of the Division of Water Resources

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Exhibits:

A: Subdistrict No. 6 2023 ARP Response Function Table 2.6

B: General Forbearance Protocols for the San Luis Valley River Systems for 2023

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

Table 2.6
Alamosa/La Jara Response Area Monthly Net Stream Depletions for 2023 Plan Year (units of ac-ft)

ī	Alamosa/La Jara Response Area Total												
	2023 2024												
Stream Reach	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Conejos above Seledonia/Garcia	14.0	20.0	19.8	16.8	14.4	14.1	11.8	11.5	8.2	7.2	8.0	8.4	154.2
Conejos below Seledonia/Garcia	235.0	312.6	394.0	415.2	380.2	336.1	273.1	254.3	231.4	193.2	196.9	174.0	3,395.9
Rio Grande Del Norte- Excelsior	119.2	118.9	116.7	119.3	131.2	139.3	127.6	134.4	139.1	124.7	135.1	115.1	1,520.6
Rio Grande Excelsior- Chicago	193.2	187.5	195.1	196.6	192.0	197.3	191.5	195.6	200.1	184.2	198.6	186.2	2,317.8
Rio Grande Chicago- State Line	15.7	-44.2	-106.8	-139.8	-77.5	-45.7	-35.0	2.9	-8.7	-11.5	12.9	-26.3	-464.0
Alamosa River	141.2	121.2	89.5	44.8	12.4	21.7	0.5	0.8	0.7	0.7	0.8	125.5	559.8
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Total	718.3	716.0	708.4	652.9	652.7	662.7	569.6	599.3	570.9	498.3	552.3	582.9	7,484.2

Table 2.6
Alamosa/La Jara Response Area Monthly Net Stream Depletions for 2023 Plan Year (units of ac-ft)

		Alamosa/La Jara Response Area Total											
		2023 2024											
Stream Reach	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

Notes for columns:

- (1) Stream reach
- (2)-(13) Monthly Net Stream Depletions in acre-feet
 - (14) Total Plan Year Net Stream Depletions in acre-feet

General Forbearance Protocols For San Luis Valley River Systems

Subdistricts No. 1, No. 2 (Rio Grande Alluvium), No. 3 (Conejos), No. 4 (San Luis Creek), No. 5 (Saguache), No. 6 (Alamosa La Jara), and Trinchera Subdistrict will be operating under ARPs and will replace depletions to their affected streams on May 1st, the beginning of the 2023 ARP year. Along with the replacement of stream depletions, the State and Division Engineer may allow the owners of the calling ditch to forbear, or choose to not take the water that otherwise would have been allocated to that ditch in exchange for receiving payment in some other form. This forbearance is authorized under Colorado Revised Statute 37-92-501 (4)(b)(1)(B), which states that the State Engineer shall "Recognize contractual arrangements among water users, water user associations, water conservancy districts, ground water management subdistricts, and the Rio Grande Water Conservation District, pursuant to which... injury to senior surface water rights resulting from the use of underground water is remedied by means other than providing water to replace stream depletions."

In order to assist the Subdistricts, water users, and Water Commissioners in determining whether a forbearance contract will be allowed, the following are general guidelines regarding those forbearance contracts for the 2023 ARP year:

- A water right must be the calling water right in order to forbear. In other words, the ditch must be legally and physically entitled and able to receive and divert all or a portion of the replacement water that would have been placed into the river or stream reach, and the ditch owner(s) could have decided to take the replacement water available instead of forbearing.
- The owner(s) of a ditch that cannot physically divert all of the water under its priorities due to an inadequate ditch size or other physical restrictions cannot forbear for the amount that the ditch in not able to divert. However, this ditch may be able to forbear in the amount that it is physically and legally able to divert.
- The owner(s) of a ditch that physically is not able to divert the replacement water entitled to it at certain times of the year (for instance during low flow periods), due to an inadequate diversion dam or headgate, or other reasons, cannot forbear during that time of year unless and until the ditch or associated structures are repaired and are physically able to take water.
- If it is certain that the owner(s) of a ditch would have declined to take water in their ditch on a given day that they were in priority to take water, for instance, if that owner cannot take their full priority due to a break in the ditch bank, or if the owner has not called for that water right in the ditch, etc., the ditch owner cannot forbear for that water right on that day.
- Forbearance will be allowed on water rights that are not large enough to cover the entire daily replacement amount. A ditch may be forbearing only a portion of the total daily replacement amount due to the size of the water right. In such cases, there may be several water rights in various ditches that are forbearing at the same time in order to meet the entire replacement obligation of the Subdistrict.

- A ditch may operate under a partial forbearance contract with the understanding that the ditch
 company, Subdistrict, or other appropriate party will manage the partial flow and partial
 forbearance throughout the ditch system to the satisfaction of all water rights owners in that
 priority. Prior to operation, the manager of the ditch with partial forbearance must inform the
 Water Commissioner how they will operate the ditch in order to be in compliance. Without this
 communication, forbearance is not allowed.
- Ditches with a forbearance contract must have accurate, reliable, and operational measurement devices and headgates on the ditch.
- On a day when water could be placed into the river system for replacement of injurious depletions, and a section(s) of the stream is dry between the replacement source and the calling priority ditch(es), forbearance by that ditch(es) will not be allowed unless the stream was live at the time the forbearance began. During times of dry stretch(es) on the river system, each live stretch will be treated as its own calling system. Only the stretch(es) that includes an RGDSS modelled stream reach, and its connected tributaries will have the ditch(es) eligible for forbearance. If replacement water delivery could not make it physically to a calling ditch in any particular RGDSS reach, then no forbearance is allowed and water delivery will be required at the top of the reach. The determination of the physical properties controlling these situations shall be at the sole discretion of the Water Commissioner and/or Division Engineer.
- A forbearance that results in a section of the river drying up cannot be used to create a futile
 call. The river must be administered to replicate what conditions would have taken place had a
 continuous deliverance of water occurred.