



COLORADO
Division of Water Resources
Department of Natural Resources

Division 3
1313 Sherman Street, Room 821
Denver, CO 80203

May 1, 2019

Cleave Simpson, General Manager
Rio Grande Water Conservation District
8805 Independence Way
Alamosa, CO 81101

**RE: 2019 ANNUAL REPLACEMENT PLAN APPROVAL: SPECIAL
IMPROVEMENT SUBDISTRICT NO. 1 OF THE RIO GRANDE WATER
CONSERVATION DISTRICT**

Dear Mr. Simpson:

Thank you for your April 13, 2019 submission of the Special Improvement District No. 1's proposed Annual Replacement Plan (ARP) for the 2019 Plan Year (**May 1, 2019 through April 30, 2020**).

My staff and I have reviewed the proposed ARP and its appendices. A number of the referenced documents will not be attached to this letter but are available on the DWR website at:

<http://water.state.co.us/DivisionsOffices/Div3RioGrandeRiverBasin/Pages/Subdistrict1ARP.aspx>

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

Enclosed, please find my approval of the 2019 ARP.

Kevin Rein, P.E.
State Engineer
Director of Division of Water Resources

cc: Division 3



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Review, Findings, and Approval of Subdistrict No. 1's 2019 Annual Replacement Plan

Background

Special Improvement District No. 1 (“Subdistrict”), a political subdistrict of the Rio Grande Water Conservation District (“RGWCD”), timely submitted its proposed Annual Replacement Plan (“ARP”) pursuant to its Second Amended Plan as amended on June 6, 2017 and approved by the State Engineer on October 16, 2017 (“Second Amended PWM”), which revised the Amended Plan of Water Management (“Amended PWM”) decreed by the Division No. 3 Water Court in Case Nos. 2006CV64 and 2007CW52¹ (“May 2010 Decree”) and upheld by the Colorado Supreme Court in Case No. 10SA224.²

The 2019 Plan Year ARP and its appendices were available for download through a link on the RGWCD website. The link to the proposed 2019 Plan Year ARP and its appendices were sent to Division 3 ARP and SWSP notification lists prior to the public meeting to consider the approval of the ARP. The ARP, its appendices, and resolutions were filed with the Court and to the State and Division Engineers on April 13, 2019. 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 are posted on DWR’s website. In the past I have considered all letters, comments, and other objections submitted regarding the adequacy of the ARP. There were no letters, comments, or other objections submitted regarding the 2019 ARP. My staff and I have conducted this review of the ARP and comments thereon in accordance with the operational timelines specified in the May 2010 Decree and contained in Appendix 5 of the Second Amended PWM.

DWR Review

As set forth in the May 2010 Decree, I must determine whether the ARP presents “sufficient evidence and engineering analysis to predict where and when Injurious Stream Depletions will occur and how the Subdistrict will replace those Injurious Stream Depletions to avoid injury to senior surface water rights” (May 27, 2010 Decree, Term and Condition #2). Also, “[t]he Annual Replacement Plan ...shall identify the sources, availability and amounts of replacement water the Subdistrict will use to remedy Injurious Stream Depletions during the coming year and shall demonstrate the sufficiency of such water to remedy such Injurious Stream Depletions” (May 2010 Decree, Term and Condition 6). Finally, I must review the

¹ *In the matter of the Rio Grande Water Conservation District*, Findings of Fact, Conclusions of Law, Judgment and Decree, Case Nos. 06CV64 and 07CW52, District Court, Water Division No. 3, Colorado (May 27, 2010).

² *San Antonio, Los Pinos and Conejos River Acequia Preservation Ass'n v. Special Improvement Dist. No. 1 of Rio Grande Water Conservation Dist.*, 270 P.3d 927 (Colo. 2011).

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ARP pursuant to the statutory mandates, constitutional requirements, rules and regulations³ adopted in Division No. 3, and any letters, comments, or other objections submitted by water users regarding the adequacy of the ARP. As noted above no letters, comments, or other objections to the 2019 ARP were received.

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.

Database of Subdistrict Wells (Section 1.0 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 on April 22, 2019 as a supplement to the 2019 ARP. Appendix A lists 3,436 wells, including five that were added to the Subdistrict Well List in 2019. One well was a replacement for an existing Subdistrict Well, one was a supplemental well to an existing Subdistrict Well, and three wells were added through the “SRS Inclusion Contract”.

No wells from the 2018 Subdistrict Well List were removed from the Subdistrict Well List in 2019. The WDIDs of the wells added to and/or removed from the 2018 Subdistrict No.1 Well list are referenced in the Appendix A footnote of the ARP. The Appendix footnote indicates that five wells were contracted into the Subdistrict in 2019, but two of the wells were on the previous ARP list. The wells added are those identified above through the SRS Inclusion Contract.

Augmentation Wells (Section 1.1 of the ARP)

The Database of Subdistrict Wells include some wells that are part of an augmentation plan. The augmentation plans vary in their conditions, but generally they coordinate surface rights and other wells in administration of their respective augmentation plan. They are included in the list for fee determination. If any portion of their pumping is not covered by their individual augmentation plans, it is subject to the Subdistrict fees and the Subdistrict will replace Injurious Stream Depletions due to that pumping as part of this ARP. Some wells in this list had independent water rights prior to becoming involved in an augmentation plan. The Second Amended PWM does not allow expansion of “any existing beneficial use or allow a water right to be used for a beneficial use not contained in a valid Decree or Permit.” (Second Amended PWM at 2.5.1) Paragraphs 7 and 8 on page 43 of the April 10, 2013 Decree⁴

³ *The 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, Case 2015CW3024, (“Rules”) were approved as promulgated in the March 15, 2019 ruling of the Division No. 3 Water Court.*

⁴ *Concerning the Office of the State Engineer’s Approval of the Plan of Water Management for Special Improvement District No.1 of the Rio Grande Water Conservation District, Findings of Fact, Conclusions of Law, Judgment and Decree, Case Nos. 06CV64 and 07CW52, District Court, Water Division No. 3, Colorado (April 10, 2013).*

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clarified that the Subdistrict is required to include a list of Augmentation Plan Wells including both those wells that are listed as Subdistrict Wells but that have augmentation plans associated with them as well as those wells located within the Subdistrict Territory that have augmentation plans and that will operate independently of the Subdistrict. This list of Augmentation Plan Wells must include the well WDID number, the structure name, the owner's name, the augmentation plan decree case number, an explanation of the augmentation plan and an explanation of the way the Subdistrict treated the Augmentation Plan Wells. The Subdistrict must also include a map with the locations of both types of Augmentation Plan Wells indicated on the map and hyperlinks to the court decrees for each court-decreed augmentation plan.

Appendix B of the ARP contains the list of augmentation wells, a map of the fields associated with those augmentation plans, as well as a description of the details regarding each augmentation well.

The Subdistrict has agreed to include in this ARP three new wells as Subdistrict Wells that had previously operated as Augmentation Plan Wells under the 1982CW0017 decree. Two additional wells that operated under this Plan of Augmentation were included in prior Subdistrict Well lists but were operated under the Plan of Augmentation. All five wells were identified in previous ARPs as Augmentation Plan Wells in Appendix B.

The Subdistrict submitted an addendum to the 2019 ARP 4/25/2019 stating:

- 1) The Plan of Augmentation decreed in 82CW0017 known as the SRS Augmentation Plan will not be in operation during 2019. The wells associated with the Plan of Augmentation are 2008188, 2008189, 2008190, 2008191 and 2008192.
- 2) All the wells associated with the 82CW0017 decree will operate as Subdistrict No. 1 Wells as part of the 2019 ARP. Subdistrict No. 1 will remedy injurious stream depletions caused by all the groundwater withdrawals from these wells and meet requirements for aquifer sustainability in compliance with the rules and regulations for Water Division No. 3 promulgated by the Colorado State Engineer and the Plan Of Water Management.

I have reviewed Appendix A and Appendix B of the ARP and consulted with staff and find it to be an accurate inventory of Subdistrict Wells and augmented wells that meets the requirements of the May 2010 and April 2013 Decrees.

Calculations of Projected 2019 Plan Year Depletions from Subdistrict Wells to the Rio Grande (Section 2.0 of the ARP)

Section 2 of the ARP shows the projected 2019 depletions to the Rio Grande resulting from the Subdistrict well pumping, calculated by a Response Function spreadsheet. The Response Function spreadsheet contains outputs of total depletions for the Plan Year and a breakdown of monthly depletions for three reaches of the Rio Grande. For the purpose of this ARP, the RGDSS Groundwater Model (version 6P98) has been the basis for the Response Functions used in calculating the stream depletions caused by the Subdistrict Wells' groundwater withdrawals.

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2019 Stream Flow Forecasts (Section 2.1 of the ARP)

The April through September streamflow forecasts included in the ARP are made by the United States Department of Agriculture’s Natural Resources Conservation Service (“NRCS”) (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 29, 2019 and April 4, 2019 (respectively) Division Engineer’s Rio Grande Compact Ten Day Report (Appendix C of the ARP).

2019 Rio Grande Stream Flow Forecast (Section 2.1.1 of the ARP)

The Subdistrict reviewed the NRCS forecast (projected 50% exceedance streamflow at the Rio Grande near Del Norte gaging station for the period April-September) and data collected from the Division Engineer’s Rio Grande Compact Ten Day Report. The information was used to determine the annual estimated stream flow on the Rio Grande for use in the Response Functions. The Subdistrict selected the Divisions Engineer’s March 29th forecast to estimate an annual flow for the Rio Grande of 800,000 acre-feet for 2019.

Rio Grande Stream Flow Forecast

Analysis	Apr-Sep Forecast (acre-feet)	% of avg	Estimated Additional (acre-feet)	Annual Estimated Flow (acre-feet)
	(1)		(2)	
NRCS, 4/3/2019	720,000	140%	95,000	815,000
Division Engineer, Ten Day, 3/29/2019	704,000	137%	96,000	800,000

- (1) projected 50% exceedance streamflow at the Rio Grande near Del Norte gaging station
- (2) January through March and October through December

2019 Conejos River Stream Flow Forecast (Section 2.1.2 of the ARP)

The Subdistrict reviewed 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) and data collected from the Division Engineer’s Rio Grande Compact Ten Day Report. The information was used to determine the annual estimated stream flow on the Conejos. The NRCS and the Divisions Engineer’s forecasts were the same. The Subdistrict estimates the annual flow for the Conejos of 400,000 acre-feet for 2019.

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Conejos Stream Flow Forecast

Analysis	Apr-Sep Forecast (acre-feet)	% of avg	Estimated Additional (acre-feet)	Annual Estimated Flow (acre-feet)
	(1)		(2)	
NRCS, 4/3/2019				
Conejos River near Mogote	250,000	129%		
Los Pinos River near Ortiz	98,000	134%		
San Antonio River at Ortiz	23,000	147%		
Division Engineer, Ten Day, 4/4/2019				
Conejos River near Mogote	250,000	129%		
Los Pinos River near Ortiz	98,000	134%		
San Antonio River at Ortiz	23,000	147%		
TOTAL	371,000		29,000	400,000

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

(2) January through March and October through December

Projected 2019 Groundwater Pumping (Section 2.2 of the ARP)

As a first step in predicting where and when stream depletions will occur, the ARP calculates the amount of projected pumping. The metered pumping for Subdistrict Wells, which is based upon official DWR diversion records within HydroBase, have been reported for seven of the past eight years:

Subdistrict Well Metered Pumping (acre-feet) from Table 2.4 of the ARP

2011	2012	2013	2014	2015	2016	2017	2018*
328,866	261,058	230,091	237,879	206,469	236,498	237,364	263,266

*preliminary diversion records report

Based on projected Subdistrict #1 operations, weather predictions and antecedent conditions, the ARP anticipates that 2019 well pumping will be 235,000 acre-feet.

Projected Annual Recharge Credit (Section 2.3 of the ARP)

The ARP next indicates projected recharge credit as an offset to projected pumping. Major ditches that bring surface water into the Subdistrict have recharge decrees, as detailed in the ARP.

Paragraph 3.C of Appendix 1 of the Second Amended PWM requires that recharge credit be based upon anticipated hydrologic conditions for the 2019 ARP Plan Year using historical diversion records and the terms of the recharge decrees. The ARP developed trend lines for each canal/ditch by plotting historical annual river flows and corresponding recharge credits, in order to provide a reasonable method for predicting probable recharge credit quantities for 2019. The mathematical process used to develop the trend lines developed

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for each of the four canals/ditches and resulting equations describing the trend lines are included in Appendix D.

The Subdistrict used the forecasted calendar year flow as a benchmark for estimating recharge in the Subdistrict that offsets groundwater consumption in the 2019 ARP, but modified the process from the Trendline Analysis described in Appendix D. Direct input of the projected annual flows into the Trendline Analysis resulted in what Subdistrict staff viewed as an inaccurate prediction of Recharge Credit. The Subdistrict selected actual recharge values from 2005, a year when the annual flow of the Rio Grande was 793,751 acre-feet, as a conservative method for use in the response function run to predict depletions for 2019.

The projected recharge credits were reduced based on the pro-rata shares per ditch within the Subdistrict boundary. Further, the projected recharge credits were reduced by the projected consumption attributable to the surface water directly used through sprinkler irrigation (83%) and flood irrigation (60%), which is also outlined in Table 2.2 of the ARP. There is an error in Table 2.2 in the figure for “Surface Water Through Sprinklers @83%” for San Luis Valley I.D. The amount is deducted from the Consumable Values and should be -170.81 acre-feet. The corrections to Table 2.2 are shown in red below.

Table 2.2 (Corrected)
Calculated Projected Recharge Decree Credits for Subdistrict No. 1
During Current Irrigation Year
 (Units in acre-feet)

	Rio Grande Canal	San Luis Valley I.D.	Prairie Ditch	SLV Canal	Totals
Total Consumable	149,727.23	34,095.51	16,302.65	20,165.52	220,290.91
% Within Subdistrict No. 1	91.68%	100%	99.20%	78.82%	
Total Consumable Within Subdistrict No. 1	137,269.93	34,095.51	16,172.23	15,894.46	203,432.12
Surface Water Through Sprinklers @83%	-5,634.80	-170.81	-370.69	-468.27	-6,644.57
Surface Water Used for Flood @60%	-73.02	0	0	0	-73.02
Totals	131,562.10	33,924.70	15,801.54	15,426.19	196,714.53

Projected recharge decree credits for the Subdistrict for 2019 are calculated as 196,714.53 acre-feet.

This changes the calculation in Table 2.4. The corrected values for 2019 are shown below. The Net Groundwater Consumptive Use is -1,665 acre-feet.

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Table 2.4 (Corrected)
Estimated Net Groundwater Consumptive Use
 (Units in acre-feet)

Year	Subdistrict No. 1 Total				Recharge that Offsets Groundwater Pumping					Net Groundwater Consumptive Use
	Irrigation Pumping to Center Pivots	Irrigation Pumping to Flood Irrigation	Other Pumping	Groundwater Consumption	Rio Grande Canal	San Luis Valley Irrigation District	Prairie Ditch	San Luis Valley Canal	Total	
2019	235,000	0	0	195,050	131,562	33,925	15,802	15,426	196,715	-1,665

Classification as “Wet,” “Average,” or “Dry” Year (Section 2.4 of the ARP)

Response Functions generated from the RGDSS Groundwater Model Phase 6P98 were used in calculating stream depletions as described in this section based on three types of weather conditions during the ARP year. These conditions are “Wet,” “Average,” or “Dry.” A year is classified as being “Wet,” “Average,” or “Dry” based on the amount of Net Groundwater Consumptive Use for Subdistrict wells.

The ARP Table 2.3 lists the ‘wet’, ‘dry’ and ‘average’ ranges associated with 6P35 of the RGDSS Groundwater Model. These ranges have been re-quantified by the PRT for the Response Functions generated from the RGDSS Groundwater Model version 6P98 and correctly reported in the table below. **These values should be reported in future ARPs that rely upon the 6P98 version of the RGDSS Model.**

Table 2.3 (Corrected)
Definition of “Wet,” “Average” or “Dry” Year

Year Type	Net Groundwater Consumptive Use Range (acre-feet/year) Table 2.3 of ARP	Net Groundwater Consumptive Use Range (acre-feet/year) Correct
Wet	Less than 10,000	0
Average	Between 10,000 and 180,000	0 to 180,000
Dry	Greater than 180,000	Greater than 180,000

For the ARP, the corrected projected Net Groundwater Consumptive Use for the 2019 ARP Plan Year is -1,665 acre-feet, or “Wet” based on the named criteria.

Projected Plan Year Stream Depletions (Section 2.5 of the ARP)

Subdistrict staff was instructed by the State Engineer’s Office to utilize the response functions developed under RGDSS Groundwater Model Phase 6P98 for predicting injurious depletions to the Rio Grande during the 2019 Plan Year. The Response Function spreadsheet was used to predict the depletions shown in this section. A copy of the spreadsheet was provided to DWR on April 25, 2019 as a supplement to the 2019 ARP. The tables in the

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spreadsheet have been updated to include the Subdistrict’s historical operations and estimated 2019 values.

The error noted in Table 2.4, carried through to Tables 2.6 and 2.7, increased the total 2019 depletions by 9 acre-feet and the total lagged depletions by 72 acre-feet as shown in the updated tables below.

Table 2.6 (Corrected)
Subdistrict No. 1 Monthly Net Stream Depletions for the Plan Year

(Units in acre-feet)

Stream Reach	Subdistrict No. 1 Total												Total
	2019								2020				
	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Rio Grande Del Norte-Excelsior	87	88	88	77	70	71	68	68	49	45	47	55	813
Rio Grande Excelsior-Chicago	111	74	68	53	53	50	44	57	64	63	74	62	773
Rio Grande Chicago-State Line	1	-31	0	5	3	6	2	3	-2	-8	-13	-21	-55
Total	199	131	156	135	126	127	114	128	111	100	108	96	1,531

Table 2.7 (Corrected)
Subdistrict No. 1 Post-Plan Net Stream Depletions
(Units in acre-feet)

Years (May-Apr)	Rio Grande Del Norte-Excelsior	Rio Grande Excelsior-Chicago	Rio Grande Chicago-State Line	Total
2020-2039	2,579	2,321	-186	4,714

Utilizing the Response Functions, the estimated total depletions that will impact the Rio Grande during the 2019 ARP Plan Year due to both past pumping and 2019 projected pumping is 1,531 acre-feet as outlined in Table 2.6. The location of the stream depletions and monthly quantities are also tabulated in Table 2.6. The total post-plan lagged stream depletions are anticipated to be 4,714 acre-feet as outlined in Table 2.7. This volume includes continuing stream depletions from prior pumping as well as stream depletions due to 2019 projected pumping.

The ARP notes that the Subdistrict has acquired multiple years’ worth of depletion replacement water that is currently in storage and available for release. That volume exceeds the amount needed to cover the current and total calculated post-plan stream depletions to the Rio Grande. If Subdistrict No. 1 were to fail, the individual well owners of the former Subdistrict No. 1 would have to obtain plans for augmentation or take other measures to comply with present or future rules and regulations governing groundwater withdrawals. Presumably, those plans would be required to replace these post-plan

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depletions into the future. In the interim, Subdistrict No. 1 would provide water to remedy injurious post-plan depletions.

Therefore, the Subdistrict does not believe that a financial guarantee agreement provided by the Rio Grande Water Conservation District is necessary to assure that all post-plan depletions will be remedied if Subdistrict No. 1 were to fail or otherwise be unable to replace injurious post-plan depletions. DWR understands that if the Subdistrict otherwise ceases operations, the water in storage will remain under control of the Subdistrict and/or the RGWCD and will be available to remedy the post-plan injurious depletions under the direction of the Division Engineer.

Farm Unit Data (Section 3.0 of the ARP)

Each irrigation season, the RGWCD conducts a field survey of the irrigated acreage on the Valley floor within the RGWCD boundaries to record crop types grown by field. Table 3.1 is the summary of “irrigated acres, cropping patterns and irrigation methods” on parcels that are part of this ARP’s Subdistrict Farm Units. The data was derived from the irrigated agriculture field survey by spatially “capturing” any fields that lie within any of the landowner parcels that are part of the Farm Units.

Information collected for the Subdistrict Farm Units included identification of the wells and surface rights allocated to the irrigated fields on the lands comprising each Farm Unit. A summary of the ditches and pro rata shares of surface water allocated to fields in this ARP’s Farm Units is included in Appendix E. This represents the “surface water source” for Subdistrict No. 1. The groundwater source is represented by the database of Subdistrict Wells described in Section 1.0, above, and found in Appendix A.

Total Irrigated Acres (Section 3.1 of the ARP)

Table 3.1 of the ARP shows that the Subdistrict categorized 164,829 acres in 2018. Of this total, 148,624 acres were irrigated and 16,205 acres were fallowed or in CREP programs.

Total Diversion by Ditch (Section 3.2 of the ARP)

In accordance with Paragraph 2.D of Appendix 1 of the Second Amended PWM, Table 3.2 of the ARP shows diversions to the ditch service areas in the Subdistrict. The diversions shown are from the DWR’s preliminary 2018 diversion records and represent the total irrigation water for the ditches for the 2018 irrigation season, but only a portion of the water for some ditches is delivered within the Subdistrict.

Ditches and Pro Rata Shares (Section 3.3 of the ARP)

The pro rata surface water allocated to the Subdistrict farm units is shown in Appendix E of the ARP.

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Surface Water Credit (Section 3.4 of the ARP)

The amount of Surface Water Credit exchanged between farm units for the 2018 fees was 20,286.47 acre-feet. The ARP notes that the surface water exchanged for 2019 is not available until May and therefore was not included in the ARP.

Amounts and Sources of Replacement Water for 2019 Plan Year (Section 4.0 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 4.1 of the ARP. This water or remedy will be available to replace Injurious Stream Depletions as directed by the Division Engineer. I will approve up to the full amount stated in the following sections, less any water used at the end of the 2018 Plan Year not reflected in these totals since the numbers were prepared and submitted with the 2019 ARP prior to the end of the 2018 ARP year. A summary of the portfolio items is shown in the table below.

Subdistrict No. 1 Replacement Water
Reservoir Storage Sources (acre-feet)

	Water Right Name	Submitted in 2019 ARP	² Approved in SWSP's	Remaining 4/1/2019 & Approved for 2019 ARP
4.1	Williams Creek Squaw Pass (Navajo Devel.) ¹	122.7	2,584.8	184.4
4.2	Williams Creek Squaw Pass (Farmers Union) ¹	56.49	56.49	
4.4	Tabor Ditch No. 2 & Enlargement (SLVID) ¹	5.2	105.3	
4.4	Tabor Ditch No. 2 & Enlargement (CPW) ¹	0	272.5	
4.3	Pine River Weminuche Pass (SLVWCD)	1,000.0	500+500	1000.0
4.5	Treasure Pass TM Diversion (Underwood/Cook)	730.76	432.3+298.5	730.7
4.6	Treasure Pass TM Diversion (Klecker Ranch)	100.0	100	100
4.7	Piedra River, TM, Piedra Water Rights (CPW)	500.0	500	500.0
	Total Transbasin	2,515	5,398	2,515
4.8	SMRC 2012 Lease 1279.8 shares @ 0.944 af/share	1,252.11	3,089	
4.8	SMRC 2013 Lease 3235.8 shares @ 0.72 af/share	2,328.8	2,329	
4.8	SMRC 2014 Lease 3320.8 shares @ 1.288 af/share	4,278.2	4,278	
4.8	SMRC 2015 Lease 3095.8 shares @ 1.86 af/share	5,758.2	5,758.2	
4.8	SMRC 2016 Lease 1645.0 shares @ 0.968 af/share	1,592.36 ³	1,592.36	
4.8	SMRC 2017 Lease 835.0 shares @ 1.084 af/share	905.14	905.14	
4.8	SMRC 2018 Lease 210.0 shares @ 0.618 af/share	129.78 ³	107.57	
4.8	SMRC 2019 Lease 180.0 shares @ 0.511 af/share	91.98 ³		
	Total SMRC	16,337		16,337

¹ Several Transbasin replacement supplies included in previous ARPs were completely consumed during the 2018 Plan Year. They are listed in the above table for tracking purposes.

² Amounts shown are full amounts that were approved in SWSPs.

³ Amounts corrected through discussion with the Subdistrict 4/24/2019

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Subdistrict No. 1 Replacement Water Forbearance & Closed Basin Project Agreements (acre-feet)

	Water Right Name	Submitted in 2019 ARP	Expected Yield	Remaining & Approved for 2019 ARP
4.10	CBP Allocation 3/1/2018	500		Up to 500
4.12.1	Rio Grande Canal Forbearance	2,000	500	
4.12.2	Farmers Union Forbearance	1,000	55.52	
4.12.3	SLVC Forbearance	400	30.01	
4.12.4	Commonwealth Forbearance	500	139.54	
4.12.5	Centennial Ditch Forbearance	0	0	
4.12.6	Excelsior Ditch Forbearance	1,000	1.5	
4.12.7	RG Lariat Ditch Forbearance	500	18	
	Total Forbearance	5,400		Up to 5,400

Transbasin Water (Section 4.1 to 4.7 of the ARP)

The Subdistrict controls several sources of Transbasin Diversion water currently stored in Continental Reservoir. The Subdistrict made purchases from 2012 through 2019 as part of ARPs for each year. The history of purchases for the pools are detailed in the individual sections below. Appendix F of the ARP includes the documentation of these purchases except where noted in the sections. Pools of this water were approved under Substitute Water Supply Plans (SWSPs) No. 5346 and No. 5506 submitted in prior years for the additional uses of augmentation and are available for release under the Subdistrict's ARPs.

The amounts remaining of each source are listed in the table of Reservoir Storage Sources above. Subdistrict No. 1 reports there is a remaining balance of 2,515 acre-feet of Transbasin water in storage from purchases made by the Subdistrict.

Williams Creek Squaw Pass Transbasin Diversion (Section 4.1 of the ARP)

WILLIAMS CREEK SQUAW PASS-Navajo	
YEAR PURCHASED	AMOUNT (AF)
August 2012	1,000
August 2012	300
July 2013	350
December 2014	481.31
December 2015	453.50
TOTAL(corrected)	2,584.31

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Williams Creek Squaw Pass Transbasin Diversion (Section 4.2 of the ARP)

WILLIAMS CREEK SQUAW PASS - SLV Irrigation District	
YEAR PURCHASED	AMOUNT (AF)
February 2014	56.49
TOTAL	56.49

Pine River Weminuche Pass Ditch Trans-Basin Diversion (Section 4.3 of the ARP)

PINE RIVER WEMINUCHE PASS DITCH	
YEAR PURCHASED	AMOUNT (AF)
April 2014	500
April 2015	500
TOTAL	1,000

Tabor Ditch No. 2 Transbasin Diversion (Section 4.4 of the ARP)

TABOR DITCH NO. 2 (SLVID)	
YEAR PURCHASED	AMOUNT (AF)
February 2013	60.53
February 2014	50.48
TOTAL	111.01

Documentation shown in this table is for purchases made from SLVID.

Treasure Pass Diversion Ditch and Feeder Laterals Direct Flow (Section 4.5 of the ARP)

TREASURE PASS DIVERSION & FEEDER LATERALS	
	AMOUNT (AF)
TOTAL	730.76

Appendix F shows documentation of the Lease Agreements for use of Transmountain Water dated between the RGWCD and Patricia Cook and Evelyn Underwood for “the entire amount of water produced under Lessors’ interest in the Treasure Pass ditch for the remainder of the calendar year” for 2013 through 2015. This amounted to 188.0 acre-feet of water in 2013, 244.2 acre-feet in 2014, 298.5 acre-feet in 2015 for a total of 730.7 acre-feet.

Treasure Pass Diversion Ditch and Feeder Laterals Direct Flow-Klecker (Section 4.6 of the ARP)

TREASURE PASS DIVERSION & FEEDER LATERALS	
	AMOUNT (AF)
TOTAL	100

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Piedra Water Rights (Section 4.7 of the ARP)

PIEDRA	
YEAR PURCHASED	AMOUNT (AF)
JUNE 2014	500
TOTAL	500

Santa Maria Reservoir Company Shares (Section 4.8 of the ARP)

The Subdistrict controls Santa Maria Reservoir Company (Santa Maria) water currently stored in Santa Maria and Continental Reservoirs. The Subdistrict made leases of Santa Maria shares from 2012 through 2018 as part of ARPs for each year. The history of purchases and the amounts remaining are summarized in the table of Reservoir Storage Sources above. A list of the leased shares to Subdistrict No. 1 and the ditches from which they came is contained in Appendix G of the ARP.

The Santa Maria Reservoir Company filed an application with the Division 3 Water Court, Case No. 2013CW3002 to, among other things, add augmentation and recharge as additional uses under their current decrees. On June 1, 2018, the Water Court approved the Santa Maria Reservoir Company's Application and issued a Decree approving the use for augmentation and recharge, subject to certain terms and conditions. The shares leased by the Subdistrict do not require an SWSP for use in the ARP.

Subdistrict No. 1 reports there is a remaining balance of 16,337 acre-feet of water from the Santa Maria water leased by the Subdistrict (after corrections as noted).

Forbearance Agreements (Section 4.9 of the ARP)

In accordance with section 37-92-501 (4) (b) (I) (B) C.R.S., the Subdistrict has reached forbearance agreements with seven entities (Appendix H of the ARP), for a total of up to 5,400 acre-feet. A summary of the amounts contracted and the expected yield are found in the table of Forbearance & Closed Basin Project sources above

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. The Subdistrict indicates they expect to yield a total of 200-800 acre-feet from these agreements during the 2019 irrigation season. However, the portfolio of water as presented in the 2019 Plan Year ARP indicates sufficient firm water to cover Injurious Stream Depletions in the event that no forbearance is available.

Closed Basin Project Production of Calendar Year 2019 (Section 4.10 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 2019. The

Subdistrict No. 1 ARP Approval: Plan Year 2019

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 2019 allocation of the Closed Basin Project production will be 50% to the Rio Grande and 50% to the Conejos River.

At a meeting of Rio Grande Water Users Association held on March 28, 2019, the Board of Directors passed a motion to specifically allocate 1,600 acre-feet of the Rio Grande's share of the usable yield of the Closed Basin Project to replace the stream depletions under this ARP and in conjunction with Subdistricts No. 2 and No. 3. 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 1, 2019. A copy of each letter reporting the approval was provided in Appendix I of the ARP. Five hundred (500) acre-feet of water is available to Subdistrict No. 1 under this ARP. The resolution from RGWCD allowing the Subdistrict to use Closed Basin Project water in the 2019 ARP was provided April 22, 2019 as supplemental information. Closed Basin Project water was approved by the Division No. 3 Water Court in the April 2013 Decree (Page 41, Paragraphs 5 - 6).

Operation of the Subdistrict #1, 2019 Annual Replacement Plan (Section 5.0 of the ARP)

Subdistrict water that is currently in storage will be released from Continental or other Reservoirs in the upper Rio Grande at the direction of the Division No. 3 Division Engineer, in time and amounts required to offset Injurious Stream Depletions as shown in Table 2.6 of the ARP. All 2019 Plan Year Injurious Stream Depletions will be replaced or remedied in the time, location and amount that they occur, beginning May 1, 2019. These releases of water will be performed under the provisions of section 37-87-103, C.R.S. In addition, the ARP states that since the most current RGDSS Groundwater Model (6P98) does not predict depletions by Subdistrict Wells to streams other than the Rio Grande, the Subdistrict will not make replacements to any stream other than the Rio Grande.

The Monthly Net Stream Depletions shown in Table 2.6 of the ARP indicate there will be negative depletions owed in Stream Reach #3 of the Rio Grande during the 2019 irrigation season. It is noted that the ARP does not mention potential requests for aggregation of depletions between Stream Reaches as part of the anticipated operation in 2019 as the Subdistrict has described in past ARPs

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, if recognized by the Division Engineer. The ARP states that appropriate accounting between the Division Engineer's Office and the Subdistrict will occur on a regular and routine basis as these exchanges occur and that they will be documented and reported in the 2019 Annual Report. The Division Engineer's Office will be notified in advance of these exchanges.

The ARP provides documentation that the Subdistrict has renewed forbearance agreements for the 2019 Plan Year with seven canals located on the main stem of the Rio Grande with whom they had agreements during previous Plan Years.

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The ARP includes a resolution by the Centennial Ditch in Appendix N. The resolution allows replacement water to be carried through the Centennial ditch for delivery when the Rio Grande is dry below the Excelsior 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).

Further, 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 ARP indicates that the Closed Basin Project may continue to deliver salvaged water to the stream as directed by the CBP Operating Committee or other laws or policies.

In the alternative, the DWR agrees that the Subdistrict may replace these Injurious Stream Depletions after the irrigation season or when Compact deliveries are being made. 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.

Groundwater Levels in Unconfined and Confined Aquifer and Unconfined Aquifer Change in Storage Volumes (Section 6.0 of the ARP)

Groundwater Levels in the Unconfined and Confined Aquifers (Section 6.1)

Appendix J of the ARP shows a tabulation of groundwater levels measured in unconfined and confined wells both within the boundaries of Subdistrict No.1 and the study area for the Change in Unconfined Aquifer Storage - West Central San Luis Valley for the study period, as required by the Second Amended PWM. A tabulation of measured values obtained during the previous 12 months is also included.

Unconfined Aquifer Change in Storage Volumes (Section 6.2)

The Second Amended PWM includes a required objective of recovering groundwater levels to the extent necessary to achieve unconfined aquifer storage levels between 200,000 and 400,000 acre-feet below the storage level that existed on January 1, 1976. This is measured by a monthly study titled "Study of the Change in Unconfined Aquifer Storage" and utilizes measured groundwater levels from RGWCD monitoring wells located throughout the study area which is approximately the same area included within the Subdistrict. Figure 6.1 of the ARP is a map showing in the study area.

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The calculated monthly change in unconfined aquifer storage volumes has been provided as Figures 6.2 and 6.3 of the ARP. Based on measurements through March 1, 2019, the ARP indicates that the change in Unconfined Aquifer storage was -1,182,108 acre-feet on an accumulated month basis. As described in the ARP, the 5-year running average of the accumulated change in storage through December 1, 2018 was -1,101,341 acre-feet. The December 1, 2018 5-year running average of the accumulated change in storage value was 701,341 acre-feet below the lowest goal level.

The Second Amended PWM states that “[a]ll measurements used to gauge success in reaching Unconfined Aquifer Storage goals will be based on a five-year running average of annual storage levels derived from the average of monthly levels” (Second Amended PWM at 3.4.7). There had been an encouraging increase in storage during the last five years as noted in Figure 6.3 and the 5-year running average showed a slight upturn from its historical low. However, the gains in aquifer storage were lost in 2018 due to the poor water year and higher pumping.

It was recommended in the 2017 ARP approval letter that in future ARPs, the Subdistrict include a plan to achieve and maintain a sustainable aquifer that looks out for a period of at least 5 years and projects where the aquifer will be from those efforts. This information was received April 26, 2018 in the form of a document entitled “Subd1 Narrative_2018 Potato Grain Conference” which has been posted on the DWR website. It described gains made to date to recover the aquifer and the significant annual rate of recovery that will be needed to comply with the 2030 timeline if aquifer gains are lost in 2018. No update to that analysis has been received.

My office issued a letter December 17, 2018 to Cleave Simpson (Rio Grande Water Conservation District) regarding sustainability in the Subdistrict Response Area (a copy of the letter is included with this approval). The letter was written to acknowledge the continuous efforts taken by the Subdistrict in an effort to manage water use to attain the sustainability goals. At the same time, the letter recognized the aquifer situation is critical and the possibility of curtailment should the Subdistrict not be able to achieve the sustainability objective.

The Board of Managers of the Subdistrict and the Subdistrict members remain keenly aware of the PWM deadlines to achieve and maintain sustainability of the unconfined aquifer and they remain committed to restoring and maintaining a sustainable unconfined aquifer. The Subdistrict does not have regulatory or police powers over groundwater withdrawals - the only tool the Subdistrict has is to incentivize reduced groundwater withdrawals and increase conservation.

The Subdistrict amended its previous PWM to allow an increase in the Water Value, and the Board of Managers immediately increased the Water Value for groundwater withdrawals beginning in 2019. This will increase revenue and allow the Subdistrict to provide additional incentives towards short and long-term conservation. This amendment involved assessment of fees internal to the Subdistrict operation and did not require approval of the SEO.

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Hydraulic Divide Study (Section 7.0 of the ARP)

The Second Amended PWM clarifies that the Subdistrict will continue its efforts to restore and maintain the historical Hydraulic Divide, in order to reduce stream depletions to the river from well pumping within the Subdistrict. The Hydraulic Divide is a shallow groundwater divide that separates the Closed Basin in the San Luis Valley from the remainder of the Rio Grande Basin. The Hydraulic Divide is found to the north of the Rio Grande in the area generally from Del Norte to Alamosa. Recent water level measurements in wells along the north side of the Rio Grande indicate that the Hydraulic Divide has retreated south to the Rio Grande or very near the river.

Davis Engineering Service, Inc. prepared a report entitled “Engineering Report on San Luis Valley Groundwater Level Study” from data initially collected in the spring of 2007 which described both the historical evidence of the Hydraulic Divide and the current location and condition of the divide. The study wells have continued to be measured annually to add to the study. Maps displaying the interpreted location of the Hydraulic Divide prepared from the 2018 ground water measurements are included in Appendix K of the ARP.

Fallowing of Subdistrict No. 1 Irrigated Land - Temporary and Permanent (Section 8.0 of the ARP)

Fallowing irrigated land is one way to attain the storage goals discussed above. The Second Amended PWM (paragraph 3.4.4) states that “up to 20,000 acres of land previously irrigated in 2000 must be withdrawn from irrigation by December 31, 2016 or a reduction in annual consumptive use of groundwater withdrawals in the amount of 40,000 acre-feet per year. In a similar manner, if the goals in Section 3.4.3.3. above are not achieved, up to 30,000 acres in total must be designated for reduction by December 31, 2018 or a reduction in annual consumptive use of groundwater withdrawals in the amount of 60,000 acre-feet per year. If the goals in Section 3.4.3.3. above are not achieved, up to 40,000 acres in total must be designated for reduction by December 31, 2021 or a reduction in annual consumptive use of groundwater withdrawals in the amount of 80,000 acre-feet per year” in order to progress toward the Unconfined Aquifer storage goal.

RGWCD Staff have been compiling irrigated acreage coverage for the calendar year 2000 by digitizing past RGWCD irrigated cropland census maps for the area within the Subdistrict’s boundary. This information will serve as a basis to determine the previously irrigated lands in the calendar year 2000 that have been fallowed as a part to the Second Amended PWM through the Conservation Reserve Enhancement Program (“CREP”), other conservation programs or the Subdistrict conservation programs.

As mentioned in the 2017 ARP approval letter, I have had my staff review the available irrigated lands coverages that are part of the RGDSS. Currently there is not an irrigated lands coverage for the year 2000, however 1998 and 2002 coverages have been created. In comparing the 1998 and 2002 coverages to the most current coverage of 2015, irrigated acreage within the political boundary of the Subdistrict has been reduced by 24,600 acres and 18,100 acres respectively. Since 2015 the Subdistrict has contracted to fallow an additional 1405 acres permanently and 3338 acres under 15 year CREP fallowing. This means

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29,343 acres have been fallowed for the 2019 ARP. Further DWR understands that the Subdistrict has amended its assessments to generate funds for further incentives for reductions in consumption to meet the long-term sustainability goals of the Subdistrict. Based on these comparisons and actions, it appears that the December 31, 2018 guidelines of up to 30,000 acres or 60,000 acre-feet per year of consumptive use of groundwater withdrawals has been substantially achieved.

While Subdistrict efforts have achieved a significant reduction in pumping, the reduction in pumping has not yet resulted in sustained increases in aquifer levels due to high volumes of groundwater pumping in extraordinarily dry years.

2018 Contracted Conservation Reserve Enhancement Program Lands (Section 8.1)

Local USDA FSA field offices located in Alamosa, Rio Grande, and Saguache Counties and the Subdistrict staff implemented the Rio Grande CREP signup process beginning in May 2013 per the 2008 Farm Bill. As of April 1, 2019, the Subdistrict has finalized FSA CRP-1 Contracts for 3,004 acres in Permanent Water Retirement and 5,081.6 acres in 15 Year Water Retirement terms for a total of 8,682.6 acres reducing water consumption by approximately 17,365.2 acre-feet per year. The Annual Report for the Subdistrict 2018 ARP reports the USDA FSA found all but one existing 2014 through 2018 fiscal year CREP contracts in the Subdistrict to be in cropping and water use compliance at the end of the 2018 fiscal year, September 30, 2018. The one contract that was not in compliance was revoked and is no longer participating in the program.

In 2018 the United States Congress passed a new Farm Bill that changed some of the parameters of the CREP program. Those changes, combined with the partial Federal Government shutdown in early 2019, resulted in a delay in signing up for new CREP contracts. FSA has not been able to take any applications or complete any CREP contracts since fall of 2018. This has resulted in a temporary stop in enrolling new acres into the CREP program. A map and legal descriptions for the existing CREP parcels is included in Appendix L along with the wells and surface rights associated with the parcels. The new CREP contracts were provided in a supplement to the 2019 ARP on April 29, 2019.

2019 Permanent Land and Water Purchases (Section 8.2)

In 2018 the Rio Grande Water Conservation District (RGWCD) on behalf of the Subdistrict did not acquire any new land or water rights.

Based on total head-gate diversions the Subdistrict diverted approximately 977.12 acre-feet towards recharge to the unconfined aquifer on the White, McConnell, Lacy and West Medano Ranch properties during the irrigation season. The Subdistrict did not use the wells located on these parcels for any purpose in 2018.

A map of the locations of the lands purchased by the RGWCD is included in Appendix M.

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Temporary Land Retirement-Fallow (Section 8.3)

The Subdistrict has reached an agreement with 11 producers to fallow approximately 1,813.2 acres into the temporary fallow program. There are three different increments a field can enroll in: 1 field for 4 years, 4 fields for 1 year or 2 fields for 2 years. This program is not part of the CREP contracts. The Subdistrict agreed to compensate producers, in return for no groundwater or surface water irrigation use on a parcel of irrigated land for each year the contract is in effect. A table listing the legal descriptions for these temporary fallow parcels is included in Appendix L along with the wells associated with the parcels.

Additional Information to Evaluate 2019 ARP (Section 9.0 of the ARP)

As noted above the Board of Managers of the Subdistrict and the Subdistrict members remain keenly aware of the PWM deadlines to achieve and maintain sustainability of the unconfined aquifer and have increased assessments to generate funds to further long-term conservation.

With an above average water supply predicted for 2019, the Subdistrict hopes to see a significant recovery in the unconfined aquifer and continue doing everything within its limited authority to complete its charge under the PWM.

Examples of new conservation measures are: informing constituents of aquifer level through a monthly email publication; public forums to provide education on sustainability, aquifer conditions and programs offered through the Subdistrict; online surveys to solicit input on conservation ideas; expanded options on fallow program to increase enrollment; and, mailing out end of year water report by farm to raise water use awareness, with customized calculation on what a 10% cut back would look like on a field by field basis.

After the submission of the ARP on April 13, 2019, the DWR requested additional information from the Subdistrict as discussed above. **In future ARPs, it would be helpful if the supplemental information routinely needed for the DWR analysis of the ARP is supplied with the ARP in the same submittal package.** The supplemental information requested to evaluate the 2019 ARP and provided to the State Engineer included:

1. Resolution from RGWCD approving the Subdistrict 2019 ARP.
2. Response Function spreadsheet supporting the calculations submitted in the ARP.
3. The list of Subdistrict Wells included in the 2019 ARP in spreadsheet format matching the list presented in Appendix A
4. Resolution from RGWCD to allow the Subdistrict to allocate Closed Basin Project water in the 2019 ARP.
5. Copies of the new CREP contracts made since the 2018 ARP.

Anticipated Funding for 2019 Plan Year (Section 10.0 of the ARP)

The Subdistrict submitted sufficient financial information to document the purchase and leases of replacement water for the 2019 Plan Year.

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Findings

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

1. The Subdistrict submitted an addendum to the 2019 ARP stating that the Plan of Augmentation decreed in 82CW0017 known as the SRS Augmentation Plan will not be in operation during 2019. The wells associated with the Plan of Augmentation are 2008188, 2008189, 2008190, 2008191 and 2008192. All the wells associated with the 82CW0017 decree will operate as Subdistrict No. 1 Wells as part of the 2019 ARP.
2. The projected pumping is based upon the inventoried Subdistrict Wells, their historical pumping, and CREP following. 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 pumping for the Wells for 2019 is consistent with historical pumping information and streamflow forecast from the Division Engineer's projected hybrid of the NRCS Forecast and the National Weather Service Forecast and includes lands followed under CREP within the Subdistrict for 2019.
3. The Second Amended PWM requires an estimation of projected recharge using historical information. Projected annual recharge credits are based on historical recharge records and the relationship between historical streamflows and recorded historical recharge volumes. The historical recharge credit is based on diversion records on file with the DWR and is calculated pursuant to methods approved by the Water Court. The Subdistrict selected actual recharge values from 2005, a year when the annual flow of the Rio Grande was 793,751 acre-feet, as a conservative method for use in the response function run to predict depletions for 2019.
4. Projected stream depletions are calculated based on Response Functions generated from RGDSS Groundwater Model 6P98 runs. . An error in the recharge decree offsets to pumping noted in Table 2.2, when carried through in the Response Function to Table 2.6, increased the total 2019 depletions by 9 acre-feet and the total lagged depletions by 72 acre-feet. The conservative projection of recharge offsets adopted by the Subdistrict to calculate depletions likely will overcome this difference by the end of the irrigation season. Table 2.6 is an acceptable depletion schedule to start the ARP Year.
5. It is noted that Subdistrict No. 1 has delivered sufficient replacements to streams to remedy injurious depletions for all of the past ARP Years through 2017. A minimal underestimation in the 2018 ARP Year was remedied prior to the start of the 2019 ARP Year as per terms of compliance with Rules 3.7, 4.13, 4.26, 5.13, 11.3, 12.1, 12.4.3; the Second Amended PWM, Appendix 1, Section 11.A; the May 2010 Decree, Sections I.A. ¶8, II.A. ¶36, II.C. ¶74.
6. The ARP identifies the sources, availability, and amounts of replacement water and remedies that the Subdistrict will use to remedy Injurious Stream Depletions during

Subdistrict No. 1 ARP Approval: Plan Year 2019

the coming year and demonstrates the sufficiency of such water to remedy such Injurious Stream Depletions:

- a. Transbasin water up to 2,515 acre-feet is available for release under this ARP through SWSPs approved in prior years.
 - b. Santa Maria Reservoir water up to 16,337 acre-feet is available for this ARP under the agreements with the Santa Maria Reservoir Company and the decree of Case No. 2013CW3002.
 - c. The use of up to 5,400 acre-feet is available for forbearance by contract.
 - d. The use of up to 500 acre-feet of Closed Basin Project water as a replacement water supply is adequate and suitable as a source of replacement water to prevent injury to senior surface water rights per the April 2013 Decree.
7. Subdistrict No. 1 listed all Santa Maria water that is under their control as a replacement source for the Subdistrict No. 1 2019 ARP. As part of the approval process for Subdistrict No. 2 (Rio Grande Alluvium) and Subdistrict No. 3 (Conejos) of the RGWCD, it is noted that a Memorandum of Understanding was submitted committing a portion of the Santa Maria Reservoir water currently under the control of Subdistrict No. 1 as a replacement source for Subdistrict No. 2 (550 acre-feet) and Subdistrict No. 3 (152 acre-feet). This review notes that Subdsitric No. 1 replacement sources are adequate to pay current year and lagged depletions for Subdistrict No. 1 without including the amounts described in the Subdistrict No. 2 and Subdistrict No. 3 ARPs.
8. The past financial guarantor agreement provided by the RGWCD is not necessary if the Subdistrict were to fail or otherwise be unable to replace Injurious Stream Depletions caused by Subdistrict Wells. Water supplies noted in Table 4.1 of the 2019 ARP will be used to offset continuing Injurious Stream Depletions from this ARP should the Subdistrict fail.. DWR understands that if the Subdistrict otherwise ceases operations, the water in storage will remain under control of the Subdistrict and/or the RGWCD and will be available to remedy the post-plan injurious depletions under the direction of the Division Engineer.

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, 2019 through April 30, 2020**, 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 Well pumping, regardless of the state of the Hydraulic Divide.

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3. 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.
4. If the limit is reached for any particular forbearance agreement, then the Subdistrict will need to begin replacement of Injurious Stream Depletions to that particular ditch or canal.
5. 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.
6. 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 Commissioner (sam.riggenbach@state.co.us), and the Subdistrict Coordinator (deborah.sarason@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.
7. 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.
8. 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.
9. The Subdistrict must submit an Annual Review pursuant to Term and Condition #17 of the May 2010 Decree.
10. The Subdistrict must replace or remedy all Injurious Stream Depletions caused by non-augmented pumping associated with Subdistrict Wells.
11. The Subdistrict must comply with the May 2010 Decree approving its Amended PWM, the April 2013 Decree, the Second Amended PWM, the approval conditions of the Second Amended PWM, and this ARP.

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

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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

Exhibits:

- A: Addendum to Subdistrict No. 1 ARP, SRS Augmentation Plan**
- B: Resolution from RGWCD approving Subdistrict No. 1 2019 ARP**
- C: Resolution from RGWCD allowing Subdistrict No. 1 to allocate Closed Basin Project water in the 2019 ARP.**

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

Exhibit A

Addendum to Subdistrict No.1 2019 ARP

Section 1.1 Augmentation Wells

The Plan of Augmentation decreed in 82CW0017 known as the SRS Augmentation Plan will not be in operation during 2019. The wells associated with the Plan of Augmentation are 2008188, 2008189, 2008190, 2008191 and 2008192.

On December 3, 2018 the Board of Managers of Subdistrict No.1 approved the Participation Contract of the SRS Augmentation plan to operate as Subdistrict wells.

All the wells associated with the 82CW0017 decree will operate as Subdistrict No. 1 Wells as part of the 2019 ARP. Subdistrict No. 1 will remedy injurious stream depletions caused by all the groundwater withdrawals from these wells and meet requirements for aquifer sustainability in compliance with the rules and regulations for Water Division No. 3 promulgated by the Colorado State Engineer and the Plan Of Water Management.

Exhibit B

**RESOLUTION
OF THE BOARD OF DIRECTORS OF THE
RIO GRANDE WATER CONSERVATION DISTRICT**

**APPROVING THE 2019 ANNUAL REPLACEMENT PLAN
OF SPECIAL IMPROVEMENT DISTRICT NO. 1
OF THE RIO GRANDE WATER CONSERVATION DISTRICT**

The Board of Directors of the Rio Grande Water Conservation District at a special meeting held on April 12, 2019, in Alamosa, Colorado does hereby resolve that:

WHEREAS, Special Improvement District No. 1 of the Rio Grande Water Conservation District ("Subdistrict No. 1") was created to conserve and stabilize the water supply and groundwater storage in the unconfined aquifer of the Closed Basin for irrigation, domestic, municipal and other beneficial uses for the water users with the boundaries of Subdistrict No. 1; and

WHEREAS, Subdistrict No. 1 is operating under an approved Plan of Water Management which requires the development of an Annual Replacement Plan showing, among other things, the predicted injurious depletions caused by Subdistrict Well groundwater withdrawals and the manner in which the Subdistrict will remedy those depletions.

RESOLUTION

NOW, THEREFORE, be it resolved by the Board of Directors of the Rio Grande Water Conservation District that:

1. The Board of Directors of the Rio Grande Water Conservation District hereby accepts and approves the 2019 Annual Replacement Plan of Special Improvement District No. 1 of the Rio Grande Water Conservation District.

ATTEST:

RIO GRANDE WATER
CONSERVATION DISTRICT

By:


Dwight Martin
Secretary/Treasurer

By:



Greg Higel
President

COUNTY OF ALAMOSA)
) ss
STATE OF COLORADO)

Subscribed and sworn to me this 12th day of April, 2019, by Greg Higel, President,
Board of Directors of the Rio Grande Water Conservation District.

Witness my hand and seal.

My commission expires: 7/16/2021



Linda S. Ramirez
Notary Public

Exhibit C

**RESOLUTION
OF THE BOARD OF DIRECTORS OF THE
RIO GRANDE WATER CONSERVATION DISTRICT**

**TO ALLOW SUBDISTRICT NO. 1 TO USE A PORTION OF THE CLOSED BASIN
PROJECT FOR THE REPLACEMENT OF INJURIOUS DEPLETIONS UNDER THE
2019 ANNUAL REPLACEMENT PLAN**

The Board of Directors of the Rio Grande Water Conservation District at a special meeting held on April 12, 2019, in Alamosa, Colorado does hereby resolve that:

WHEREAS, Special Improvement District No. 1 of the Rio Grande Water Conservation District (“Subdistrict No. 1”) was created to conserve and stabilize the water supply and groundwater storage in the unconfined aquifer of the Closed Basin for irrigation, domestic, municipal and other beneficial uses for the water users within the boundaries of Subdistrict No. 1; and

WHEREAS, Subdistrict No. 1 is operating under an approved Plan of Water Management which requires the development of an Annual Replacement Plan (“ARP”) showing, among other things, the predicted injurious depletions caused by Subdistrict Well pumping and the manner in which the Subdistrict will remedy those depletions; and

WHEREAS, the production from the Closed Basin Project can and should be used as a source of water to remedy injurious depletions caused by Subdistrict Well Pumping.

R E S O L U T I O N

NOW, THEREFORE, be it resolved by the Board of Directors of the Rio Grande Water Conservation District that:

1. The District anticipates that the vast majority of this Project Water will be used to replace non-irrigation season depletions from October 31 through March 31. There may be circumstances during the irrigation season when Subdistrict No. 1 cannot deliver water to the Rio Grande below the Chicago Ditch due to intervening dry stream reaches or excessive losses in deliveries. In those circumstances, the District believes Project Water is an appropriate replacement source, but intends that its use during the irrigation season be minimized.

2. The inclusion of 500 acre-feet of water from the production of the Closed Basin Project as a source of supply in the Subdistrict No. 1 2019 Annual Replacement Plan (“2019 ARP”) and the use of said water under the 2019 ARP to remedy injurious depletions is approved.

ATTEST:

RIO GRANDE WATER
CONSERVATION DISTRICT

By: [Signature]
Dwight Martin
Secretary/Treasurer

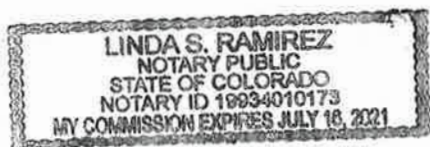
By: [Signature]
Greg Higel
President

COUNTY OF ALAMOSA)
) ss
STATE OF COLORADO)

Subscribed and sworn to me this 12th day of April, 2019, by Greg Higel, President,
Board of Directors of the Rio Grande Water Conservation District.

Witness my hand and seal.

My commission expires: 7/16/2021



[Signature]
Notary Public