COLORADO
Division of Water Resources
Department of Natural Resources

August 26, 2024

Paul J. Bruss, P.E.
BBA Water Consultants, Inc.
333 West Hampden Avenue, Suite 1050
Englewood, CO 80110

RE: Castle Concrete Aggregates (Grisenti Farms) Pit Substitute Water Supply Plan
DRMS File No. M-2001-005
Sec. 13, Twp. 19S, Rng. 69W, 6th P.M.
Water Division 2, Water District 12
SWSP ID 4625, WDID 1207856

Approval Period: April 1, 2024 through March 31, 2026
Contact Information for Mr. Bruss: 303-806-8952; pbruss@bbawater.com

Dear Mr. Bruss:

We reviewed your letter dated February 29, 2024, and the resubmitted letter dated August 14, 2024, requesting renewal of a two-year substitute water supply plan ("SWSP" or "plan"), in accordance with section 37-90-137(11) C.R.S., for a gravel pit operated by Castle Concrete Aggregates ("Castle Aggregates" or "Applicant"), and previously operated by Transit Mix Concrete Company. The gravel pit operation, known as the Grisenti Pit, is permitted by the Division of Reclamation, Mining, and Safety ("DRMS") under File No. M-2001-005, and the exposure of groundwater at the site is permitted by the Division of Water Resources under Well Permit No. 79268-F. We received the required $257 fee for the SWSP renewal request (receipt no. 10034483).

SWSP OPERATION

Castle Aggregates has a mineral lease agreement with the Grisenti family to mine sand and gravel from approximately 100 acres of land along the Arkansas River east of Florence. The mining operation is divided into two phases, shown in Figure 1. Mining operations were completed in 2009 for Phase 1, and in 2018 for Phase 2. The Applicant is in the process of final reclamation and revegetation of both phases. Two existing ponds will be used for wildlife habitat and aquifer recharge associated with a long-term augmentation plan for the site.

During this SWSP period, a turnout structure may be constructed from the Lester-Attebery Ditch for long-term recharge operations of the Phase 2 pond. Once the recharge facility is completed, tested, and optimized for water recharging capabilities, the Applicant may decide to submit a Water Court application for an augmentation plan.

DEPLETIONS

Depletions from the Grisenti Pit site include the following water uses:

- **Evaporation from exposed groundwater:**
  Based on observations during the 2022 SWSP period, equilibrium conditions for the ponds reached surface areas of 24 acres for the Phase 1 pond, and 25.7 acres for the Phase 2 pond, totaling 49.7 acres of exposed groundwater. Should there be additional inflows, the maximum combined exposed groundwater area from both ponds will not exceed 50.3 acres. The maximum net evaporative loss at the site is anticipated to be 152.7 acre-feet (3.03 ft/yr) during the SWSP period, based on a gross evaporation rate of 45.4 inches/year from the NOAA Evaporation Atlas and Cañon City weather station data from 1950 - 2003.

- **Dust control on the site:**
  Dust control is estimated to require up to 3.5 acre-feet per year based on historical dust control water uses. Water for dust control purposes will be pumped from both ponds, measured with a totalizing flow meter, and is assumed to be 100% consumed.

The total annual unlagged depletions for the Grisenti Pit are projected to be 156.2 acre-feet/year during the SWSP period. A monthly breakdown of these depletions for both plan years is shown in Table 1.

Diversions from the anticipated turnout structure from the Lester-Attebery Ditch will be separately metered, and associated depletions will be assessed the same day that the deliveries occur.

LAGGED DEPLETIONS

Depletions were lagged individually based upon the centroid of the exposed groundwater area for each pond. Mining operations and reclamation dirt work finished for Phase 2 during the previous SWSP period, and the water surface areas are now considered static for both ponds. Remaining depletions from use of groundwater from the Phase 2 pond under the 2022-2024 SWSP Approval will continue to be lagged consistent with the centroid of the pond identified in the 2022-2024 SWSP Approval.

The depletions were lagged through use of IDS-AWAS, which utilizes the Glover Method, with the following parameters:

Glover Method Input Parameters

Location	T	S	X	W
Phase 1	40,000	0.087	934	1,489
Phase 2 (2022 SWSP)	40,000	0.087	541	1,252
Phase 2 (2024 SWSP)	40,000	0.087	748	1,253

T = Transmissivity of aquifer (gallons per day per foot)
S = Specific yield of aquifer
X = Distance between the centroid of the pond or mining area and the Arkansas River (feet)
W = Distance between the Arkansas River and the alluvial boundary (feet)

The monthly depletion lagging factors were normalized to the number of months required for at least 95% of depletions to impact the river, as shown below:

Depletion Lagging Factors

Month	Phase 1	Phase 2 (2022 SWSP)	Phase 2 (2024 SWSP)
1	56.3%	74.6%	68.6%
2	38.3%	25.4%	31.4%
3	5.4%	0.0%	0.0%

The cumulative lagged depletions, found in the attached Table 1, are 155.8 acre-feet for the 2024-2025 plan year and 156.2 acre-feet for the 2025-2026 plan year.

Table 1
Castle Concrete Aggregates - Grisenti Pit
2-Year Projected Depletions from Mining Operations

		Exposed Water Surface										
	Dust Control	Gross Evaporation	Total Precipitation	Effective Precipitation	Net Evaporation	Exposed Ground Water Area		Net Evaporation Volume			Total Unlagged Depletion from Mining Operation	Total Lagged Depletion from Mining Operation
						Phase 1	Phase 2	Phase 1	Phase 2	Total		
Month	(ac-ft) [1]	(ft) [2]	(ft) [3]	(ft) [4]	(ft) [5]	(acres) [6a]	(acres) [6b]	(ac-ft) [7a]	(ac-ft) [7b]	(ac-ft) [7c]	(ac-ft) [8]	(ac-ft) [9]
Apr-24	0.29	0.34	0.11	0.08	0.26	24.0	26.3	6.2	6.8	13.1	13.4	11.0
May-24	0.30	0.45	0.13	0.09	0.36	24.0	26.3	8.7	9.5	18.2	18.4	16.4
Jun-24	0.29	0.55	0.10	0.07	0.49	24.0	26.3	11.7	12.8	24.4	24.7	22.3
Jul-24	0.30	0.57	0.15	0.11	0.46	24.0	26.3	11.1	12.2	23.3	23.6	23.8
Aug-24	0.30	0.51	0.16	0.11	0.40	24.0	26.3	9.5	10.4	19.9	20.2	21.5
Sep-24	0.29	0.38	0.09	0.06	0.32	24.0	26.3	7.7	8.4	16.0	16.3	17.9
Oct-24	0.30	0.26	0.07	0.05	0.21	24.0	26.3	5.1	5.6	10.6	10.9	13.0
Nov-24	0.29	0.15	0.06	0.04	0.11	24.0	26.3	2.6	2.9	5.5	5.8	7.8
Dec-24	0.30	0.11	0.04	0.03	0.08	24.0	26.3	2.0	2.2	4.2	4.5	5.1
Jan-25	0.30	0.11	0.03	0.02	0.09	24.0	26.3	2.1	2.3	4.4	4.7	4.7
Feb-25	0.27	0.13	0.04	0.03	0.10	24.0	26.3	2.5	2.8	5.3	5.5	5.2
Mar-25	0.30	0.21	0.08	0.06	0.15	24.0	26.3	3.7	4.0	7.7	8.0	7.1
24-25 Total	3.50	3.78	1.06	0.74	3.03	-	-	72.8	79.8	152.7	156.2	155.8
Apr-25	0.29	0.34	0.11	0.08	0.26	24.0	26.3	6.2	6.8	13.1	13.4	11.3
May-25	0.30	0.45	0.13	0.09	0.36	24.0	26.3	8.7	9.5	18.2	18.4	16.4
Jun-25	0.29	0.55	0.10	0.07	0.49	24.0	26.3	11.7	12.8	24.4	24.7	22.3
Jul-25	0.30	0.57	0.15	0.11	0.46	24.0	26.3	11.1	12.2	23.3	23.6	23.8
Aug-25	0.30	0.51	0.16	0.11	0.40	24.0	26.3	9.5	10.4	19.9	20.2	21.5
Sep-25	0.29	0.38	0.09	0.06	0.32	24.0	26.3	7.7	8.4	16.0	16.3	17.9
Oct-25	0.30	0.26	0.07	0.05	0.21	24.0	26.3	5.1	5.6	10.6	10.9	13.0
Nov-25	0.29	0.15	0.06	0.04	0.11	24.0	26.3	2.6	2.9	5.5	5.8	7.8
Dec-25	0.30	0.11	0.04	0.03	0.08	24.0	26.3	2.0	2.2	4.2	4.5	5.1
Jan-26	0.30	0.11	0.03	0.02	0.09	24.0	26.3	2.1	2.3	4.4	4.7	4.7
Feb-26	0.27	0.13	0.04	0.03	0.10	24.0	26.3	2.5	2.8	5.3	5.5	5.2
Mar-26	0.30	0.21	0.08	0.06	0.15	24.0	26.3	3.7	4.0	7.7	8.0	7.1
25-26 Total	3.50	3.78	1.06	0.74	3.03	-	-	72.8	79.8	152.7	156.2	156.2

Notes:
[1] Dust control projections based upon historical maximum annual dust control uses, distributed uniformly through the year. Actual monthly dust control amounts may vary.
[2] Based upon NOAA Evaporation Atlas (45.4 inches per year), distributed monthly based upon State's SB-120 guidelines.
[3] Based upon average monthly precipitation data from the NOAA Climate Data (Canon City, 1950 - 2003).
[4] Effective Precipitation equals 70 percent of total precipitation, based upon the State's SB-120 guidelines, [3] * 0.70.
[5] Net Evaporation equals Gross Evaporation less Effective Precipitation, [2] - [4].
[6a], [6b] Projected exposed area at Phases 1 and 2. Total maximum exposed water surface area that may occur at Grisenti Pit during the plan period is 50.3 acres.
[7a], [7b], [7c] Equals [5] * [6a] for Phase 1 and [5] * [6b] for Phase 2. Total net evaporation equal to [7a] + [7b].
[8] Total Unlagged Depletion from Mining Operation equals [1] + [7c].
[9] Total Lagged Depletions from Mining Operation are lagged using URF factors for each mining area, developed in IDS-AWAS employing the glover method. The IDS-AWAS inputs are provided in the 2024 SWSP renewal request.

REPLACEMENTS

The main sources of replacement water are historical consumptive use (HCU) credits from the Lester-Attebery Ditch, releases of share water from Twin Lakes Reservoir, and/or releases of water leased from the Pueblo Board of Water Works (PBWW).

Lester-Attebery Ditch HCU Credits:

The mineral lease agreement with the Grisenti family allows Castle Aggregates to use the Lester-Attebery Ditch water rights associated with the Grisenti Pit Property for mining operations, and have been used as a replacement water supply since 2004. A summary of the HCU credit analysis is provided in the attached Table 2.

During this SWSP period, 67 acres out of 89.4 acres of historically irrigated land (75%) will be maintained as dried up (previously used to grow alfalfa and silage corn), resulting in an average HCU credit of 182.4 acre-feet for the period of April - October, and 16.86 acre-feet of return flow obligations for the period of November - March (an average net HCU credit of 165.54 acre-feet per year). No more than the remaining 22.4 acres (89.4 acres - 67 acres) may be irrigated with the Lester-Attebery Ditch water rights, including irrigation for reclamation purposes during the period of this SWSP.

The HCU credits attributable to the Lester-Attebery Ditch water rights will be diverted through the Lester-Attebery Ditch and delivered to the Phase 1 or Phase 2 pond for recharge. Any temporary increase in the surface area of the pond and corresponding increase in evaporation as a result of delivery of water to the pond will be accounted for under this SWSP. Accretions to the stream will be calculated using the lagging factors for each pond shown above.

The attached Table 3 shows that after utilizing the available HCU credits from the Lester-Attebery Ditch water rights. Castle Aggregates is projected to need an additional 42.9 acre-feet of replacement water in year 1, and 43.3 acre-feet of replacement water in year 2 of this SWSP. The remaining replacement water will come from the following sources.

Table 2
Castle Concrete Aggregates - Grisenti Pit
Historical Irrigation Summary

												Full 89.4 Acres		81.4 Acres Pro Rata	
Month	Historical Diversions (ac-ft) [1]	Ditch Loss (ac-ft) [1a]	Farm Delivery (ac-ft) [1b]	Surface Runoff (ac-ft) [2]	Consumptive Irrigation Requirement (ft) [3]	Consumptive Irrigation Requirement (ac-ft) [4]	Consumptive Use (CU) per StateCU (ac-ft) [5]	To Groundwater (ac-ft) [6]	Glover Lagging Factors (%) [7]	Lagged Groundwater Return Flow (ac-ft) [8]	Total Return Flow (ac-ft) [9]	Historical Stream Depletion (ac-ft) [10]	Historical Stream Accretion (ac-ft) [11]	Historical Stream Depletion (ac-ft) [12]	Historical Stream Accretion (ac-ft) [13]
Apr	43.45	4.35	39.11	7.82	0.14	12.52	9.65	21.64	6.58%	16.00	23.83	15.28		11.45	
May	126.33	12.63	113.70	22.74	0.34	30.40	29.42	61.54	19.31%	46.96	69.70	44.00		32.97	
Jun	127.98	12.80	115.18	23.04	0.58	51.85	50.73	41.41	18.87%	45.88	68.92	46.26		34.67	
Jul	128.35	12.83	115.51	23.10	0.67	59.90	56.34	36.07	16.47%	40.05	63.15	52.36		39.24	
Aug	97.86	9.79	88.07	17.61	0.55	49.17	43.66	26.80	14.06%	34.18	51.80	36.27		27.19	
Sep	65.15	6.52	58.64	11.73	0.33	29.50	25.98	20.93	8.19%	19.91	31.64	27.00		20.23	
Oct	55.34	5.53	49.81	9.96	0.07	6.26	5.11	34.74	7.26%	17.64	27.60	22.21		16.64	
Nov									3.44%	8.35	8.35		-8.35		-6.26
Dec									2.00%	4.86	4.86		-4.86		-3.65
Jan									1.54%	3.73	3.73		-3.73		-2.80
Feb									1.16%	2.82	2.82		-2.82		-2.12
Mar									1.12%	2.72	2.72		-2.72		-2.04
Total	644.47	64.45	580.02	116.00	2.68	239.59	220.88	243.13	100.00%	243.13	359.14	243.38	-22.49	182.40	-16.86

Notes:
[1] Based upon analysis of Lester-Attebery Ditch daily diversions between 1950 - 2006, pro-rated based upon percent ownership of each of the three water rights totaling 9.1 cfs.
[1a] Ditch Loss equals 10% of diversions, [1] * 0.1.
[1b] Farm Delivery equals diversions minus ditch loss, [1] - [1a].
[2] Surface Runoff equal to 20 percent of farm delivery; [1b] * 0.2.
[3] Based upon Modified Blaney-Criddle analysis with an elevation adjustment for the Grisenti crop mix of primarily alfalfa, and climate records from the Canon City weather station from 1950 - 2006, as computed in StateCU.
[4] Historical irrigation on Grisenti farm averaged 89.4 acres between 1950 and 2006, based upon aerial photo delineation and consistent with information provided by Mr. Grisenti.
[5] CU results from StateCU analysis.
[6] Equals [1b] - [2] - [5].
[7] Lagging factors based upon a steady-state Glover analysis using the following parameters: D (weighted) = 700 feet, T = 40,000 gpd/ft, and s= 0.087.
[8] Lagged Groundwater Return Flow equals annual amount To Groundwater distributed monthly using the Glover Factors, [6 Total] x [7 Monthly].
[9] Total Return Flow equals Surface Runoff + Lagged GW Return Flow, [2] + [8].
[10] Historical Stream Depletion equals Historical Diversion less Total Return Flow, [1b] - [9]; if positive, else zero.
[11] Historical Stream Accretion equals Total Return Flow less Historical Diversion , [1b] - [9]; if negative, else zero.
[12] Based upon dry-up of 67 of 89.4 acres historically irrigated by Grisenti Water Rights. [10] * 67/89.4.
[12] Based upon dry-up of 67 of 89.4 acres historically irrigated by Grisenti Water Rights. [11] * 67/89.4.

Table 3
Castle Concrete Aggregates - Grisenti Pit
2-Year Projected Replacement Operations
(all values in acre-feet)

Month	Total Lagged Mining Depletion [1]	HCU Credit & Return Flow Obligation [2]	Projected Lagged HCU Credits Delivered to the River [3]	Remaining Replacement Requirements [4]	Excess Credits [5]	Reservoir Delivery Requirements [6]
Apr-22	11.0	11.5	6.4	4.5	0.0	4.5
May-22	16.4	33.0	23.0	0.0	6.5	0.0
Jun-22	22.3	34.7	32.8	0.0	10.5	0.0
Jul-22	23.8	39.2	37.2	0.0	13.3	0.0
Aug-22	21.5	27.2	32.2	0.0	10.7	0.0
Sep-22	17.9	20.2	23.9	0.0	6.1	0.0
Oct-22	13.0	16.6	18.6	0.0	5.5	0.0
Nov-22	7.8	-6.3	7.5	6.6	0.0	6.6
Dec-22	5.1	-3.6	0.9	7.9	0.0	7.9
Jan-23	4.7	-2.8	0.0	7.5	0.0	7.5
Feb-23	5.2	-2.1	0.0	7.3	0.0	7.3
Mar-23	7.1	-2.0	0.0	9.1	0.0	9.1
22-23 Total	155.8	165.5	182.4	42.9	52.7	42.9
Apr-23	11.3	11.5	6.4	4.9	0.0	4.9
May-23	16.4	33.0	23.0	0.0	6.5	0.0
Jun-23	22.3	34.7	32.8	0.0	10.5	0.0
Jul-23	23.8	39.2	37.2	0.0	13.3	0.0
Aug-23	21.5	27.2	32.2	0.0	10.7	0.0
Sep-23	17.9	20.2	23.9	0.0	6.1	0.0
Oct-23	13.0	16.6	18.6	0.0	5.5	0.0
Nov-23	7.8	-6.3	7.5	6.6	0.0	6.6
Dec-23	5.1	-3.6	0.9	7.9	0.0	7.9
Jan-24	4.7	-2.8	0.0	7.5	0.0	7.5
Feb-24	5.2	-2.1	0.0	7.3	0.0	7.3
Mar-24	7.1	-2.0	0.0	9.1	0.0	9.1
23-24 Total	156.2	165.5	182.4	43.3	52.7	43.3

Notes:
[1] Total lagged mining depletions from Table 1, column [13].
[2] HCU credits from Table 2, columns [12] and [13]. Negative values represent return flow obligation.
[3] HCU credits are diverted through the Lester-Attebury Ditch to the Phase 1 pond where the water is recharged back to the river. Lagged HCU credits delivered to the river were projected based on lagging factors described in the 2024 SWSP.
[4] Remaining replacement requirements calculated as follows: If [2] < 0, equal to maximum of ([1] - [2] - [3]) and zero. If [2] > 0, equal to maximum of ([1] - [3]) and zero.
[5] Excess credits calcualted as follows: If [4] > 0, then 0, else [3] - [1].
[6] Reservoir release may be occur from Twin Lakes or from Pueblo Reservoir via administrative exchange. Twin Lakes releases will be assessed 10.3% transit loss based upon a loss of 0.07% per mile over 147.8 miles.

Twin Lakes Reservoir and Canal Company Shares (TLRCC Shares):

Sixty (60) shares of the Twin Lakes Reservoir and Canal Company at an average-year yield of 0.93 acre-feet per share, or a total of 55.8 acre-feet/year, will be used to supply replacement water. This water is subject to a 10.3 percent transit loss (0.07% per mile for 147.8 miles) for delivery to the Grisenti site, yielding an available replacement supply of approximately 50 acre-feet/year. However, **only the transmountain portion of these shares can be used for replacement purposes under this SWSP.**

Pueblo Board of Water Works (PBWW) water lease:

The Applicant has a 2024 water lease agreement with PBWW for up to 50 acre-feet of water. This water may be released from Pueblo Reservoir by administrative exchange, or from an upstream reservoir if no exchange potential exists. These releases will occur as river conditions and call administration allow.

LONG TERM AUGMENTATION

In accordance with the letter dated April 30, 2010 from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS required that the Applicant provide information to DRMS to demonstrate long term injurious stream depletions that result from mining-related exposure of groundwater can be replaced. The DRMS letter identified four approaches to satisfy this requirement:

- Approach nos. 1 and 3 require bonding to ensure the pit can be backfilled or lined.
- Approach no. 4 requires documentation to identify what water rights or other permanent water source will be dedicated to the SWSP to assure that all permanent depletions from either an unforeseen abandonment of the site by the Applicant or as a result of long term groundwater exposure after completion of mining and reclamation will be replaced so as to prevent injury to other water rights.
- Approach no. 2 required a court-approved augmentation plan before exposing groundwater, which can no longer apply to the current situation. An augmentation plan application may be submitted to the Water Court for approval in the future once permanent water replacement sources are identified.

In accordance with approach nos. 1 and 3, a bond for $115,300 was obtained through DRMS. It is DWR's understanding that this bond may be used for backfilling of the sediment pond and water basin, but is not adequate for backfilling of the Phase 2 mining pit. Therefore, in accordance with approach no. 4, the mineral lease between the Applicant and the landowner provides for the Applicant's use of the Lester-Attebery Ditch water rights in connection with the mining operation. The Applicant intends to fully utilize the Lester-Attebery Ditch water rights as the sole replacement supply for a long-term augmentation plan for the Grisenti Pit. For the purposes of this SWSP, the lease agreement will be accepted for the dedication of the subject water rights; however, if the State Engineer determines that a different dedication process is necessary to assure proper dedication of water rights, additional information may be required prior to future SWSP approvals.

Acceptance of this dedication does not relieve the Applicant and/or the landowner of the requirement to obtain a court-approved augmentation plan to replace depletions from the groundwater ponds that are part of the reclamation plan for this site.

CONDITIONS OF APPROVAL

This SWSP is hereby approved pursuant to section 37-90-137(11), C.R.S., subject to the following conditions:

1. This SWSP shall be valid for the period of April 1, 2024 through March 31, 2026, unless otherwise revoked or superseded by decree. If this SWSP will not be made absolute by a water court action by the expiration date, a renewal request must be submitted to this office with the statutory fee (currently $257) no later than **February 1, 2026**. If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP, in which case a $1,593 filing fee will apply.

2. The total surface area of the groundwater exposed at the Grisenti Pit site during this plan period must not exceed 50.3 acres, which results in a maximum evaporative loss of 152.7 acre-feet. Documentation of pond size(s) may be required by the Division Engineer in the form of an aerial photo evaluation or survey by a Professional Land Surveyor during the term of this plan.

3. The amount of water used for operational purposes at the Grisenti Pit site during this plan period must not exceed 3.5 acre-feet for dust control purposes.

4. The lagged depletions associated with this mining operation must not exceed 155.8 acre-feet during the period of April 1, 2024 – March 31, 2025 and 156.2 acre-feet during the period of April 1, 2025 – March 31, 2026.

5. This Applicant must first obtain written approval from this office before exceeding these aforementioned amounts.

6. Approval of this SWSP is for the purposes as stated herein. Any additional uses of this water must first be approved by this office in a new SWSP. Any future additional historical consumptive use credit given (e.g., agricultural water transfer) for this site must consider all previous credits given.

7. Well permit no. 79268-F was obtained in accordance with sections 37-90-137(2) and (11), C.R.S., in conjunction with this plan, for the proposed consumption of groundwater at the site, including evaporation of exposed groundwater and dust control. Irrigation is not a permitted use of groundwater under this well permit. Should additional uses of groundwater be required, a new well permit must be obtained.

8. Releases of water by Pueblo Board of Water Works pursuant to this SWSP shall be coordinated with the Water Commissioner and the Augmentation Coordinator and shall equal or exceed the depletions to be replaced on a monthly basis.

9. All diversions for dust suppression and deliveries to recharge must be measured in a manner acceptable to the Division Engineer and in accordance with the “Amendments to Rules Governing the Measurement of Tributary Groundwater Diversions Located in the Arkansas River Basin”.

10. When applicable, the Applicant will submit augmentation replacement requests via the "Arkansas Basin Water Operations Dashboard" (http://div2waterops.com/AnonymousHome). To set up an account on the "Arkansas Basin Water Operations Dashboard", email Brian Lenherr (brian.lenherr@state.co.us) with: user name, user email address, user phone number, and indicate SWSP name (Or SWSP group WDID) or decree number. Once the applicant's request is made through the "Arkansas Basin Water Operations Dashboard", the Division Engineer's Office will review and either approve or deny the request. This decision will be emailed to applicants through the "Dashboard" to document this transaction.

11. The Applicant must provide adequate accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be submitted to the Division Engineer via the online submittal tool. Submission access was established under the previous SWSP approval, please contact Kassidy Davis at kassidy.davis@state.co with any questions related to accounting submission under this SWSP approval. Accounting must be submitted 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.

12. Conveyance loss for delivery of replacement water to the Arkansas River is subject to assessment and modification as determined by the Division Engineer.

13. The Applicant shall perform an inspection and provide verification that the land associated with the changed water right in this SWSP has been removed from irrigation during the term of this SWSP. Verification of dry-up must be in the form of an affidavit signed by an individual with personal knowledge of the dry-up for the entire irrigation season for each parcel of land associated with the change of water right in this SWSP. For 2024, this SWSP renewal request shall serve as written notification to the Water Commissioner and Division Engineer identifying the lands to be dried-up for the **2024** irrigation season. **By November 30, 2024,** the Applicant shall provide an affidavit to the Water Commissioner and Division Engineer that confirms dry-up during the **2024** irrigation season. For 2025, the Applicant shall provide a written notification to the Water Commissioner and Division Engineer **by March 15, 2025** identifying the lands to be dried-up for the **2025** irrigation season. **By November 30, 2025,** the Applicant shall provide an affidavit to the Water Commissioner and Division Engineer that confirms dry-up during the **2025** irrigation season. The 67 acres required to be dried up under this SWSP must not be irrigated with the Lester-Attebery water rights, but may be irrigated by any other lawful source of irrigation supply.

    The historical consumptive use attributed to the changed surface water right(s) under this SWSP shall not include groundwater contributions. As a result, the historical consumptive use (“HCU”) credit calculated for the subject water right to be changed by this SWSP shall be reduced by any ongoing sub-irrigation from groundwater. In order to ensure the required

dry-up conditions exist during the approval period of this SWSP, and to ensure no sub-irrigation from groundwater is occurring, the Applicant shall provide records of monthly monitoring of depth to groundwater for all land associated with the change of water right in this SWSP. Information regarding depth to groundwater may be provided using existing irrigation wells, existing or new monitoring wells, or piezometers located on the dried-up fields. Applicant may utilize wells or piezometers located within ¼ mile of each field provided that the Applicant can demonstrate the depth to groundwater information available off-site is representative of the depth to groundwater on the dried-up land. The Applicant shall modify its accounting to reduce the amount of the calculated HCU that may be claimed in this SWSP according to the table below. Measurements taken at the start of each month will determine the necessary reduction in credit to be applied during the following month. The Applicant may use another methodology upon review and prior approval by the State Engineer and Division Engineer. (Construction of monitoring holes/wells, or piezometers requires that permits or notices be obtained as described in Table 1 of the Water Well Construction Rules.)

Depth to Groundwater (Feet)	Percent Reduction in Calculated HCU[1]	
	Native Grass	Alfalfa
1	85%	100%
2	50%	90%
3	30%	75%
4	20%	50%
5	15%	35%
6	10%	20%
7	5%	15%
8	0%	10%

[1] Adapted from *EVAPOTRANSPIRATION AND AGRONOMIC RESPONSES IN FORMERLY IRRIGATED MOUNTAIN MEADOWS, South Park, Colorado*, March 1, 1990; Revised September 1, 1991

14. The approval of this SWSP does not relieve the Applicant and/or the landowner of the requirement to obtain a Water Court decree approving a permanent plan for augmentation or mitigation to ensure the permanent replacement of all depletions, including long-term evaporation losses and lagged depletions after gravel mining operations have ceased. Since reclamation of the mine site will produce a permanent water surface exposing groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 2 Water Court, to include, but not be limited to, long-term evaporation losses and lagged depletions. The Applicant has indicated that a plan for augmentation will be submitted once testing and optimization of the Phase 2 recharge facility is complete.

15. The Applicant must replace all out-of-priority depletions resulting from operation under this SWSP, including those lagged depletions that occur to the stream after the expiration date of this SWSP.

16. If a lined pond results after reclamation, replacement of lagged depletions from mining and dewatering shall continue until there is no longer an effect on stream flow. **Any subsequent request for a renewal/additional SWSP for this site must include information regarding the Applicant's plans for filing an application with the water court for a plan for augmentation.**

17. To assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, which would lead to the abandonment of the pit, the Applicant has obtained a bond for $115,300 through DRMS and dedicated the Lester-Attebery water rights available to them pursuant to their lease agreement. For the purposes of this SWSP, the lease agreement will be accepted for the dedication of the subject water rights; however, if the State Engineer determines that a different dedication process is necessary to assure proper dedication of water rights, additional information may be required prior to future SWSP approvals.

18. The replacement water that is the subject of this SWSP cannot be sold, leased or otherwise legally encumbered during the term of this SWSP. As a condition of subsequent renewals of this SWSP, the replacement water must be appurtenant to this site until a plan for augmentation is obtained. All replacement water must be concurrent with depletions in quantity, timing, and location.

19. The native portion of the Twin Lakes shares shall not be used to replace depletions in this SWSP absent a change of water right decree that changes the native component or a change of water right application or substitute water supply plan to add augmentation use to the existing decreed uses.

20. The State Engineer may revoke this SWSP or add additional restrictions to its operation if at any time the State Engineer determines that injury to other vested water rights has or will occur as a result of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all use of groundwater must cease immediately.

21. In accordance with amendments to section 25-8-202(7), C.R.S., and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the State Engineer shall determine if this substitute supply of replacement water is of a quality to meet requirements of use to which the senior appropriation receiving the substitute supply has normally been put. As such, water quality data or analyses may be requested at any time to determine if the requirement of use of the senior appropriator is met.

22. The decision of the State Engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any water court case or any other legal action that may be initiated concerning the SWSP. This decision shall not bind the State Engineer to act in a similar manner in any other applications involving other plans or in any proposed renewal of this plan, and shall not imply concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

Should you have any questions, please contact Katie Anderson (katharine.anderson@state.co.us) of the Denver office, or Dan Henrichs in the Division 2 office in Pueblo at (719) 269-2800.

Sincerely,

Sarah Brucker, P.E.
Deputy State Engineer

Attachments: Tables 1-4
Figure 1

ec: Division 2 SWSP review team
Dan Henrichs, District 12 Water Commissioner
Division of Reclamation, Mining and Safety