



December 12, 2024

Daniel Tucker, P.E.
Arkansas Groundwater & Reservoir Association
205 South Main Street
Fowler, CO 81039

**Re: Pueblo East Pit Substitute Water Supply Plan
DRMS Permit No. M-1986-015
Secs. 34 & 35, Twp. 20S, Rng. 64W, 6th P.M.
Water Division 2, Water District 14
Plan ID 0408, WDID 1407801**

Approval Period: June 1, 2024 through May 31, 2026

Contact Information for Dan Tucker: 719-826-2597; dan@agraco.net

Dear Daniel R. Tucker:

We have reviewed your September 19, 2024 letter requesting the renewal of a substitute water supply plan ("SWSP") in accordance with section 37-90-137(11), C.R.S., for a sand and gravel pit owned and operated by Arkansas Groundwater & Reservoir Association ("AGRA" or "Applicant"), previously operated by Transit Mix of Pueblo and Castle Aggregates. The mine is permitted with the Division of Reclamation, Mining, and Safety under Permit No. M-1986-015. The required renewal fee of \$257.00 has been received and given receipt no. 10038431.

SWSP Operation

The gravel operation is located east of Pueblo between Highway 50 and the Arkansas River. This pit did not exist, and no groundwater was exposed at the site, prior to January 1, 1981. The operation consists of several phases (Phase 1, 2, and 7) as shown in the attached Figure 1. Currently, mining in all phases has been completed, and AGRA is in the process of reclaiming the area. The slurry wall liner for the Phase 2 pond was approved by the Division Engineer's Office as meeting the design standard for liners described in the August 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits on January 9, 2012. The SWSP request accounts for 1 acre of groundwater exposure in Phase 2, although this appears to be a remnant from past approvals based on your email of December 4, 2024 which stated that no groundwater is exposed at the Phase 2 pit. Reclamation of the Phase 7 pit will include backfilling the pit to a ground surface elevation at least two feet higher than the



groundwater table. The Phase 1 pit is proposed to be lined and the Phase 1 and 2 pits will be converted to reservoir storage for the purpose of storing AGRA's replacement supplies.

Consumptive use of water from the operation under this SWSP is limited to evaporation from up to 76.0 acres of surface area (65.0 acres in Phase 1, 1.0 acre in Phase 2, and 10.0 acres in Phase 7) incidental to past mining use.

Well permit no. 82461-F corresponds to Phase 1 and allows for a maximum surface area of 65.0 acres of exposed groundwater. Well Permit No. 85020-F corresponds to Phase 7 and allows for a maximum surface area of 10.0 acres of exposed groundwater (or the amount covered under a Water Court approved plan for augmentation or SWSP approved by the State Engineer, whichever is more restrictive). A well permit application with receipt no. 10032045 was submitted to DWR on September 28, 2023 for 1 acre of exposed groundwater within Phase 2, but based on subsequent correspondence it does not appear that any groundwater is exposed in Phase 2 and therefore this permit may not be necessary.

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 requires that you provide information to DRMS to demonstrate you can replace long term injurious stream depletions that result from mining related exposure of groundwater. According to the renewal request, the long-term plan for the site is to line and convert the pits in Phases 1 and 2 to water storage reservoirs (Phase 2 already has an approved slurry wall), and to backfill Phase 7 to a ground surface elevation at least two feet higher than the groundwater table. Accordingly, AGRA obtained a bond for \$3,758,100 through DRMS to cover the costs of reclamation.

Depletions

As noted above, consumptive use of water from the operation under this SWSP is limited to evaporation from up to 76.0 acres of surface area (65.0 acres in Phase 1, 1.0 acre in Phase 2, and 10.0 acres in Phase 7) incidental to past mining use. The pits finished filling in early 2021.

Gross evaporation at the site was estimated to be 4.17 feet (50 inches) per year based upon evaporation atlases in NOAA Technical Report NWS 33, distributed monthly as explained in the "General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits" for gravel pits at elevations below 6,500 feet.

Historical phreatophyte consumptive use based on an analysis of the historically consumed precipitation and/or groundwater for a portion of the site and estimated using effective precipitation for the remainder of the site were determined to partially offset gross evaporation at the site. Effective precipitation was estimated based on data from the Pueblo Memorial Airport weather station. The analysis calculated credit from historical phreatophyte consumptive use to be 19.49 acre-feet per year from 5.6 acres of equivalent 100% canopy cover native vegetation in Phase 1, and 9.45 acre-feet per year from 2.7 acres of 100% canopy cover native vegetation in Phase 7.

Potential consumptive use was calculated to be 3.83 feet and 4.68 feet per year in Phases 1 and 7, respectively; however, phreatophyte credit cannot exceed gross evaporation on a monthly basis. Therefore, the potential consumptive use was limited in a few months such that the annual potential consumptive use in Phases 1 and 7 were reduced to be 3.48 feet and 3.50 feet per year, respectively (see Tables 1 and 3).

After reducing the gross evaporative depletion to account for historical natural vegetation credit, the net evaporation and total unlagged depletion will be 238.66 ac-ft in Year 1 and Year 2.

The monthly distribution of the values and the lagged effects on the Arkansas River, are detailed in Tables 1-4, which are attached. The lagged depletions were calculated individually for each Phase of the operation based on the characteristics below.

Location	T (gpd/ft)	S	X (ft)	W (ft)
Phase 1	97,100	0.15	1,032	2,647
Phase 2	97,100	0.15	964	2,206
Phase 7	97,100	0.15	420	2,250

T = Transmissivity of the aquifer (gallons per day per foot)

S = Specific yield of the aquifer

X = Distance between the centroid of the exposed surface area and the Arkansas River (feet)

W = Distance between the Arkansas River and the alluvial boundary (feet)

Lagging factors for each of the phases were calculated using the Glover Method, normalized to the number of months required for 95% of depletions to affect the river, and are provided in the following table.

Month	Phase 1	Phase 2	Phase 7
1	49.15%	54.46%	76.62%
2	34.43%	36.62%	19.16%
3	11.76%	8.92%	4.22%
4	4.65%	-	-
Total	100%	100%	100%

The projected lagged depletion during the period of this SWSP is 237.09 acre-feet for both Year 1 and Year 2.

Replacement

AGRA currently has a spot market lease with Pueblo Board of Water Works (PBWW) for 2,000 acre-feet of water imported from the Western Slope (see the attached copy of the summary of proposals and notice letter of acceptance of AGRA's bid for 2,000 acre-feet). Additionally, if Rule 14 credit exists and can be used rather than making a storage release in a given month, then AGRA will work with the Division Engineer to make sure the accounting reflects this operation in order to make the most efficient and beneficial use of the water.

A total of 237.09 acre-feet of fully consumable water sourced from PBWW's fully consumable transmountain water currently stored in Pueblo Reservoir will be used as replacement water under this SWSP, distributed monthly as detailed in the attached Table 5. The water currently resides in PBWW's account as AGRA's account in Pueblo Reservoir is full; the water can be transferred at any time if space is available.

The projected depletions, credits, and releases subject of this SWSP are shown in the attached Table 5.

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 June 1, 2024 through May 31, 2026, unless otherwise revoked or superseded by decree. If this SWSP will not be made absolute by a water court action by the SWSP expiration date, a renewal request must be submitted to this office and the Division 2 office (please copy Bethany Arnold at bethany.arnold@state.co.us) with the statutory fee (currently \$257) no later than **March 1, 2026**. If a renewal request is received after the expiration date of this

SWSP, it may be considered a request for a new SWSP, in which case the \$1,593 filing fee will apply.

2. Well permit nos. 85020-F and 82461-F were obtained for the current use and exposed pond surface area of the gravel pit in accordance with sections 37-90-137(2) and (11), C.R.S. According to the submittal, the exposed surface area of groundwater associated with Phase 2 is a maximum of 1.0 acres. A well permit application was submitted to DWR on September 28, 2023, with receipt no. 10032045, for the groundwater depletions associated with evaporation from groundwater exposure within the Phase 2 area in accordance with section 37-90-137(2), C.R.S., and this SWSP. The provisions of section 37-90-137(2), C.R.S., prohibit the issuance of a permit for a well to be located within 600 feet of any existing well, unless the State Engineer finds that circumstances so warrant after a hearing in accordance with the procedural rules in 2CCR402-5. The hearing will be waived if you are able to obtain statements from the owners of all wells within 600 feet, verifying that they have no objection to your use of the proposed well. If no groundwater is exposed in Phase 2, then the well permit is not needed and the Applicant may request the application to be withdrawn and the filing fee refunded.
3. Total consumption at the Pueblo East Pit shall not exceed the amounts given in the attached tables.
4. The total amount of water surface area at the Pueblo East Pit (combined between Phases 1, 2, and 7) shall not exceed 76.0 acres. Documentation of water surface area may be required by the Division Engineer in the form of an aerial photo evaluation or survey by a Professional Land Surveyor during the plan year or in years covered by subsequent renewals of this SWSP.
5. Approval of this SWSP is for the purposes and amounts stated herein. Additional uses and/or consumption of the water that is subject to this SWSP will be allowed only if a new SWSP is approved for those additional uses and/or amounts.
6. Replacement water shall be made available to cover all out-of-priority depletions in time, place, and amount and shall be made available under the direction and approval of the Water Commissioner and Division Engineer. The replacement water that is the subject of this plan cannot be sold or leased to any other entity.

7. 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.
8. Conveyance loss for delivery of augmentation water to the Arkansas River is subject to assessment and modification as determined by the Division Engineer.
9. 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 the River and Reservoir Operations Coordinator (lonnie.spady@state.co.us) with: user name, user email address, user phone number, and indicate the 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.
10. The Applicant shall provide daily accounting (including, but not limited to diversions, and river calls) on a monthly basis. Submission access was established under the previous SWSP approval, please contact Kassidy Davis at kassidy.davis@state.co.us 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.
11. The approval of this SWSP does not relieve the Applicant and/or 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. If 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 at least three (3) years prior to the completion of mining to include, but not be limited to, long-term evaporation losses and lagged depletions. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on streamflow. Granting of this SWSP does not imply approval by this office of any such

court application(s).

12. 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 occurred or will occur as a result of the operation of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all use of water under this SWSP must cease immediately and the Applicant shall obtain and present to this office an alternate source of replacement water.
13. In accordance with amendments to section 25-8-202(7), C.R.S. and "Senate Bill 181 Rules" adopted on February 4, 1992, the State Engineer shall determine whether or not the substitute supply is of a quality to meet the requirements of use to which the senior appropriation receiving the substituted supply has normally been put. As such, water quality data or analysis may be requested at any time to determine if the water quality is appropriate for the requirements of use of the senior appropriator.
14. 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 pending water court case or any other legal action that may be initiated concerning this plan. 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 Katharine Anderson of the Denver office or Noah Friesen in the Division 2 office in Pueblo at 719-542-3368.

Sincerely,



Sarah Brucker, P.E.
Deputy State Engineer

Attachments: Figure 1 - General Location Map
 Tables 1-5
 Notice letter of acceptance of AGRA's bid for 2000 acre-feet of water
 Summary of proposals

ec: Division 2 SWSP Staff
 Steve Stratman, WD 14/15 Water Commissioner
 Division of Reclamation, Mining, and Safety

kea: Pueblo East Pit 2024-26