



COLORADO
Division of Water Resources
Department of Natural Resources

May 1, 2023

Ayrton Hendrix
Hendrix Wai Engineering, Inc.,
PO Box 4487
Parker, CO 80134

**RE: GP Aggregates West Farm Pit Substitute Water Supply Plan
DRMS-M-2008-078
Sections 33 & 28, T22S, R46W, 6th PM
Water Division 2, Water District 67, Prowers County
SWSP ID 5121, WDID 6707828**

Approval Period: May 1, 2023 through April 30, 2024

Contact Information for Mr. Hendrix: 720-930-4360; randy@hendrix-wai.com

Dear Mr. Hendrix;

We have reviewed your letter of March 8, 2023 requesting renewal of the above referenced substitute water supply plan ("SWSP") for a sand and gravel pit to be operated by Brannan Sand and Gravel ("BSG" or "Applicant") in accordance with C.R.S. §37-90-137(11). The mine is permitted with the Division of Reclamation, Mining, and Safety under Permit No. M-2008-078. The required fee of \$257 (receipt no. 10027744) has been submitted.

SWSP OPERATION

This plan seeks to replace depletions resulting from mining operations at the West Farm Pit. The mine is located in Prowers County in the S1/2 of the SE1/4 of Section 28 and the NE1/4 and the NW1/4 of Section 33, Township 22 South, Range 46 West of the 6th P.M. Depletions from the mining operations include evaporative losses from the dewatering trench, settling pond, moisture content, dust control and product washing. Depletions from the mining operations have been fully replaced under LAWMA's augmentation plan originally decreed in Case No. 02CW181. The evaporative losses from the dewatering trench, settling pond and moisture content will be augmented under this SWSP, while the dust control and aggregate washing will continue to be augmented under LAWMA's plan.

DEPLETIONS

BSG operates a dry-mining gravel pit. The site was previously operated by GP Aggregates, LLC. The pit has an installed liner, which was approved in a letter dated January 31, 2018 by this office, the Division of Water Resources ("DWR"). Dewatering trenches keep the water table down and are used throughout the site. The water removed by the dewatering trenches is collected in a settling pond. Once the sediments are no longer suspended, the water is pumped into a lateral and delivered back to the Arkansas River.



The total surface area of the dewatering trenches and sediment ponds will not exceed 5.04 acres for the term of this SWSP. The total maximum area of the exposed water surfaces has been used to calculate the evaporative losses for this plan. The evaporation value for this area has been obtained from paragraph A.i of Exhibit R of the decree in Case No. 02CW181, which is 4.11 feet/year. Therefore, the evaporative losses for the exposed water surface is 5.04 acres X 4.11 feet/year, or 20.71 acre-feet/year (Table 1, attached).

Water losses in the mined material have been estimated to be 20.60 acre-feet, based on a projected 1,400,000 tons of mined material and a 2% moisture content. The moisture content is less than wet mining (4% loss) due to the fact that the pit is lined with no influx of groundwater.

Water losses from dust control and aggregate washing will continue to be augmented under the decree in Case No. 12CW37 which is the decree for the well with WDID 6705373 (Permit no. 79629-F).

The total calculated depletion for this SWSP is 41.31 acre-feet. As shown in Table 3, the corresponding lagged stream depletion for the term of this SWSP is 34.67 acre-feet.

REPLACEMENTS

The proposed source of replacement water is BSG's ownership of 400 common shares in the Lower Arkansas Water Management Association ("LAWMA"). The proposed allocation for a LAWMA common share in 2023 was projected to be 30% at the time of submission. One hundred sixteen (116) LAWMA shares will be dedicated to this plan for the replacement of the lagged depletions. Accounting will be provided by BSG to LAWMA, which will make replacement deliveries to the Arkansas River using fully consumable water.

Depletions to the Arkansas River were determined using the Integrated Decision Support Group's (IDS) Alluvial Water Accounting System ("AWAS") model and a stream depletion factor ("SDF") of 88 days. Although DWR now discourages the use of the SDF method, these depletions were calculated in previous plans using the SDF, and the methodology is maintained in this SWSP request. The total stream depletion that will occur during this plan year is 34.67 acre-feet.

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.

In accordance with approach nos. 1 and 3, you have indicated that a bond has been obtained for \$8,310,769 through the Division of Reclamation, Mining, and Safety ("DRMS"). This bond is for reclamation requirements under the current permit.

CONDITIONS OF APPROVAL

I hereby approve the proposed SWSP in accordance with § 37-90-137(11), C.R.S., subject to the following conditions:

1. This SWSP shall be valid for the period of May 1, 2023 through April 30, 2024, unless otherwise revoked or superseded by decree. Should an additional SWSP be requested, such 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 per gravel pit (currently \$257) by **March 1, 2024**.
2. No more than 5.04 acres of ground water may be exposed at the West Farm Pit during this plan year without first obtaining a new SWSP. The above acreage totals include any surface areas in ponds to which dewatering water is delivered. Documentation of pond sizes 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. Any increases in depletions will require a new SWSP application to be submitted and approved. Water delivered to the Arkansas River from the dewatering trenches and settling pond may not be commingled with irrigation supplies being delivered to the remaining portions of the farm and must be delivered in a manner that ensures that no additional surface evaporation occurs beyond what is approved under this plan.
3. The total amount of product mined at the West Farm Pit shall not exceed 1,400,000 tons during this plan year, which results in 20.71 acre-feet of water lost with the product.
4. If any LAWMA common shares are proposed to be removed from this plan, justification of this removal must be provided. In addition, LAWMA preferred shares may be required to continue operation of this SWSP.
5. Subject to approval by the Division Engineer, the Applicant may lease or purchase additional replacement water from the sources approved in this SWSP. In addition, the Applicant must also provide a copy of a lease/purchase agreement to the State Engineer's Office and the Division Engineer for use of such additional replacement water.
6. Approval of this SWSP is for the purposes stated herein. Additional uses will be allowed only if a new SWSP is obtained for those additional uses. The replacement water, which is the subject of this SWSP, cannot be sold or leased to any other entity during the term of this SWSP without prior approval of the Division Engineer.
7. Dewatering at this site will produce delayed depletions to the stream system. As long as the pit is continuously dewatered, the water returned to the stream system should be adequate to offset the depletions. However, once dewatering at the site ceases the delayed depletions must be addressed. At least three years prior to completion of dewatering, a plan must be submitted that specifies how the post pumping dewatering depletions (including refilling of the pit) will be replaced, in time, place and amount.
8. All diversions for dust suppression must be metered in compliance with the "Amended Rules Governing the Measurement of Tributary Ground Water Diversions Located in the Arkansas River Basin.

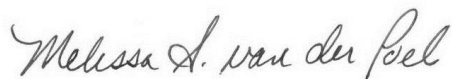
9. All releases of replacement water are to be supplied by the Applicant's shares in LAWMA and will be delivered according to the schedule included in this SWSP. The replacement water must be sufficient to cover all out-of-priority depletions in time, place, and amount and must be made under the direction and/or the approval of the Water Commissioner.
10. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity during the term of this approval. 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 locations.
11. 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.
12. The Applicant must provide adequate accounting (including, but not limited to diversions, depletions, 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.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. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.
13. 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.
14. 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 produces 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. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow. Granting of this SWSP does not imply approval by this office of any such court application(s).
15. In accordance with amendments to §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 whether the substitute supply is of a quality to meet the requirements of use to senior

appropriators. As such, water quality data or analysis may be requested at any time to determine if the water quality is appropriate for downstream water users.

16. 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 SWSP. This decision shall not bind the State Engineer to act in a similar manner in any other applications involving other SWSPs, or in any proposed renewal of this SWSP, 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.

Please contact Melissa A. van der Poel in Denver at (303) 866-3581 or Kassidy Davis in the Division 2 office in Pueblo at (719) 565-8686, if you have any questions concerning this approval.

Sincerely,



Melissa A. van der Poel, P.E.
For Jeff Deatherage, P.E.
Chief of Water Supply

Attachments: Tables 1-3, LAWMA Agreement

cc: Div 2 SWSP Review Team
Lonnie Spady, River Operations Coordinator
Brandy Cole, Water Commissioner District 67
Division of Reclamation Mining and Safety
John B. Draper, Montgomery & Andrews
Dale E. Book, Spronk Water Engineers
Kevin Salter, Kansas Division of Water Resources

JD/mvdp: West Farm Pit SWSP 2023-24 docx

Table 1
Evaporative Consumptive Use

Month	Gross Exposed Water Surface	Net Water Surface Evaporation	Total Evaporative Consumptive Use
	(ac)	(af)	(ac-ft)
(1)	(2)	(3)	(4)
May	5.04	0.46	2.32
June	5.04	0.59	2.97
July	5.04	0.62	3.12
August	5.04	0.55	2.77
September	5.04	0.43	2.17
October	5.04	0.30	1.51
November	5.04	0.17	0.86
December	5.04	0.13	0.66
January	5.04	0.12	0.60
February	5.04	0.15	0.76
March	5.04	0.22	1.11
April	5.04	0.37	1.86
	5.04	4.11	20.71

Column Explanation:

- 1) Month of the year
- 2) Exposed surface water area from dewatering trench and settling pond
- 3) Month net evaporation rates from paragraph A.i of Exhibit R of LAWMA Case No. 02CW181 decree.
- 4) Column 2 x Column 3

Table 2
Total Operational Consumptive Use

Month	Percent of Annual Aggregate Production	Aggregate Production	Water Retained in Product	Total Evaporative Consumptive Use	Total Consumptive Use
	(ac)	(tons)	(ac-ft)	(ac-ft)	(ac-ft)
(1)	(2)	(3)	(4)	(5)	(6)
May	13.0%	126,000	1.85	2.32	4.17
June	16.0%	147,000	2.16	2.97	5.14
July	17.0%	147,000	2.16	3.12	5.29
August	15.0%	147,000	2.16	2.77	4.94
September	9.0%	147,000	2.16	2.17	4.33
October	7.0%	112,000	1.65	1.51	3.16
November	4.0%	91,000	1.34	0.86	2.20
December	1.0%	84,000	1.24	0.66	1.89
January	1.0%	84,000	1.24	0.60	1.84
February	2.0%	84,000	1.24	0.76	1.99
March	6.0%	105,000	1.55	1.11	2.65
April	9.0%	126,000	1.85	1.86	3.72
	100.0%	1,400,000	20.60	20.71	41.31

Column Explanation:

- 1) Month of the year
- 2) Estimated percentage of the annual production during the month.
- 3) Calculated as 1,350,000 x Column 2
- 4) Calculated as {(Column 3 x 2,000 x 0.02) / 62.4 / 43,560}
- 5) Monthly values from Table 1 Column 4
- 6) Sum of Column 4 and Column 5

Note:

Since mining operation is considered dry-mining with an impermeable layer moisture content in mined aggregate is considered at 2%.

Table 3
Total Operational Consumptive Use with Lagged Stream Depletions

Month	Percent of Annual Aggregate Production	Aggregate Production	Water Retained in Product	Total Evaporative Consumptive Use	Total Consumptive Use	Lagged Stream Depletion
	(ac)	(tons)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
May	13.0%	126,000	1.85	2.32	4.17	2.52
June	16.0%	147,000	2.16	2.97	5.14	2.46
July	17.0%	147,000	2.16	3.12	5.29	2.49
August	15.0%	147,000	2.16	2.77	4.94	2.56
September	9.0%	147,000	2.16	2.17	4.33	2.73
October	7.0%	112,000	1.65	1.51	3.16	2.95
November	4.0%	91,000	1.34	0.86	2.20	3.10
December	1.0%	84,000	1.24	0.66	1.89	3.25
January	1.0%	84,000	1.24	0.60	1.84	3.32
February	2.0%	84,000	1.24	0.76	1.99	3.26
March	6.0%	105,000	1.55	1.11	2.65	3.10
April	9.0%	126,000	1.85	1.86	3.72	2.93
	100.0%	1,400,000	20.60	20.71	41.31	34.67

Column Explanation:

- 1) Month of the year
- 2) Estimated percentage of the annual production during the month.
- 3) Calculated as 1,350,000 x Column 2
- 4) Calculated as {(Column 3 x 2,000 x 0.02) / 62.4 / 43,560}
- 5) Monthly values from Table 1 Column 4
- 6) Sum of Column 4 and Column 5
- 7) Lagged stream depletion from monthly values in Column 6 using AWAS and a SDF of 88 days

Note:

Since mining operation is considered dry-mining with an impermeable layer moisture content in mined aggregate is considered at 2%.

CERTIFICATE



For 200 Shares
Issued to _____

Brannan Sand and Gravel Company, LLC

Dated November 16, 2021, 20

FROM WHOM TRANSFERRED

Gravelges & NBH Bank

Dated _____

No. ORIGINAL CERTIFICATE	No. ORIGINAL SHARES	No. OF SHARES TRANSFERRED
1778	100	100
779	100	100

Received Certificate No. 890

For 200 Shares
this _____ day of _____, 20

LOWER ARKANSAS WATER MANAGEMENT ASSOCIATION

BOX 1161

LAMAR, COLORADO 81052

NUMBER 890

200

SHARES

This certifies that

Brannan Sand and Gravel Company, LLC

is the registered holder of Two hundred _____ Shares

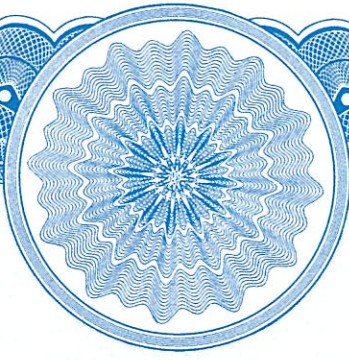
transferable only on the books of the Corporation by the holder hereof in person or by attorney upon surrender of this certificate properly endorsed.

In Witness Whereof, the said Corporation has caused this certificate to be signed by its duly authorized officers and its Corporate Seal to be hereunto affixed

day of November

this Sixteenth

2021



Donald E. Flynn
William D. G. P.

Transferred from certificate # 845

LOWER ARKANSAS WATER MANAGEMENT ASSOCIATION

BOX 1161

LAMAR, COLORADO 81052

200

SHARES

888

NUMBER 4

This Certificate
Brannan Sand and Gravel Company, LLC

Brannan Sand and Gravel Company, LLC

 Brannan Sand and Gravel Company, LLC
 is the
 registered holder of Two hundred
 Shares

*****Two hundred*****

transferable only on the books of the Corporation by the holder hereof in person or by Attorney upon surrender of this Certificate properly endorsed.

In Witness Whereof, the said Corporation has caused this Certificate to be signed by its duly authorized officers and its Corporate Seal to be hereunto affixed
 This Fifteenth day of December A.D. 2021

Mrs. Fiftenth

day of December

1702. F. B.

CERTIFICATE

888

007

For 200 Flowed to Shares

Flamed to

Brannan Sand and Gravel Company, LLC

Dated December 15, 2021

FROM WHOM TRANSFERRED

ARF: Rabo

Dated

NO. ORIGINAL
CERTIFICATE

NO. ORIGINAL
CERTIFICATE

548

**NO. ORIGINAL
SHARES**

**NO. ORIGINAL
SHARES**

430

NO. OF SHARES TRANSFERRED

NO. OF SHARES TRANSFERRED

22

Received Certificate No. 888

For ~ 2000 - Shares

thus day of 20th

CERTIFICATE



For 230 Shares

Flowed to

Arkansas River Farms, LLC, a Colorado limited liability company, Equity Owner, Rabo AgriFinance, LLC, a Delaware limited liability company, First Mortgage

Dated December 15, 2021

FROM WHOM TRANSFERRED

ARF & Rabo

No. ORIGINAL CERTIFICATE	845
No. ORIGINAL SHARES	430
No. OF SHARES TRANSFERRED	230
Dated	80

Received CERTIFICATE No. 889
for 230 Shares
this day of 80

LOWER ARKANSAS WATER MANAGEMENT ASSOCIATION

BOX 1161
LAMAR, COLORADO 81052

NUMBER 889
SHARES 230

Arkansas River Farms, LLC, a Colorado limited liability company, Equity Owner, Rabo AgriFinance, LLC, a Delaware limited liability company, First Mortgage

This certifies that
registered holder of Two hundred thirty Shares
is the

transferable only on the books of the Corporation by the holder hereof in person or by attorney upon surrender of this Certificate properly endorsed.

In Witness Whereof, the said Corporation has caused this Certificate to be signed by its duly authorized officers and its Corporate Seal to be hereunto affixed
this Fifteenth day of December 80

Donald F. Fine
W. L. G. L.