



COLORADO
Division of Water Resources
Department of Natural Resources

November 12, 2024

Lauren Tiedemann Loob and David M. Heintz
BBA Water Consultants, Inc.
333 West Hampden Ave., Suite 1050
Englewood, CO 80110

Re: Parkdale Project Substitute Water Supply Plan
DRMS File No. M-1997-054
Sec. 12, Twp. 18S, Rng. 72W, 6th P.M.
Water Division 2, Water District 12
Plan ID 2654, WDID 1207022

Approval Period: October 1, 2024 through March 31, 2025 (with potential extension through September 30, 2025 subject to condition of approval nos. 1 & 2)

Contact Information: 303-806-8952; ltiedemann@bbawater.com, dheintz@bbawater.com

Dear Lauren Tiedemann Loob and David M. Heintz,

We have received your August 1, 2024 letter requesting the renewal of a substitute water supply plan ("SWSP") pursuant to section 37-90-137(11), C.R.S., for a sand, gravel, and granite mine known as the Parkdale Project, and operated by Martin Marietta Materials ("Applicant"). The mine is permitted with the Division of Reclamation, Mining, and Safety ("DRMS") under file no. M-1997-054. The \$257 renewal fee has been received and given receipt no. 10037562.

SWSP Operation

The Parkdale Project is located approximately 12 miles west of Cañon City on the north bank of the Arkansas River, as shown on the attached Figure 1. The DRMS permit for this mining operation allows for production of sand, gravel, and granite. For the term of this SWSP, depletions are anticipated to occur from evaporation from the groundwater exposed as a result of previous sand and gravel mining operations, dust control, material washing, and water retained in mined product hauled off site. All source materials mined in this project are crushed and used for asphalt, concrete, railroad ballast, and other construction-related products.

This SWSP continues to be approved pursuant to section 37-90-137(11), C.R.S., and this section allows approval of SWSPs only for open mining of sand and gravel. The granite that is mined at this site is processed, and used for gravel and other construction materials; therefore, for the purposes of this SWSP, granite mining may also be included in this SWSP approved pursuant to section 37-90-137(11).



In accordance with the letter dated April 30, 2010 from the Colorado Division of Reclamation, Mining, and Safety (“DRMS”), mining operators must comply with the requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials 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, a bond has been obtained for \$7,156,889 through DRMS to assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, which would lead to the abandonment of the Parkdale Project Pit. In addition, Martin Marietta owns and has dedicated five shares of Twin Lakes Reservoir and Canal Company to cover these potential long-term depletions. The Applicant must continue to commit those shares to this plan until such time as the State Engineer authorizes the release of this commitment.

The well permit for the Parkdale Project Pit is permit no. 78822-F (WDID 1205065). This permit was issued on February 9, 2015, and states the annual amount of water appropriated shall not exceed 36.63 acre-feet (consisting of 13.66 acre-feet for the mining and washing of product, and 8.88 acre-feet for onsite dust control), and not exceeding a pumping rate of 100 GPM. An application (receipt no. 10037563) was submitted to the State Engineer’s Office on August 2, 2024 for a new permit to cover groundwater depletions in excess of the existing permit.

Depletions

The depletions that will result from the mining operation over the period of this SWSP include dewatering, evaporation, and mining operational losses (including water retained in product hauled off site). Evaporation losses will result from the exposure of groundwater in the settling ponds, an aggregate washing pond, and dewatering trenches. The maximum exposed water surface area during this SWSP period is 5.0 acres, and will be maintained at 5 acres by pairing backfilling operations for reclamation with dewatering operations. During the actual operations under this approval period, the Applicant will note the actual exposed surface water in monthly accounting submittals and calculate lagged depletions and replacements accordingly. The Applicant’s DRMS permit application proposed an increase of the exposed groundwater surface area from 5 acres to 10 acres, but this SWSP period limits exposed groundwater to 5 acres.

Gross annual evaporation at the mining operation is estimated to be 46.0 inches per year and the monthly distribution is as depicted on the attached Table 1. Consistent with section 37-80-120(5) (see State Engineer Guideline 2019-1 for further explanation and statutory references), net evaporation was used to determine the evaporative depletions that are required to be replaced from the exposed groundwater at the Parkdale Project. Net evaporation is defined as gross evaporation less the consumptive use of water by vegetation that naturally occurred at the site prior to construction of the pit. The

consumptive use of natural vegetation was assumed to be equal to the effective precipitation, which was estimated as 70% of the 12.36 inches of average annual precipitation based on data from the Cañon City weather station over the period 1893 through 2023, which equals 8.65 inches of effective precipitation. Net evaporation was estimated to be $46 - 8.65 \text{ inches/year} = 37.35 \text{ inches/year}$, or 3.11 feet/year, which results in an evaporation volume for the exposed water surface of 15.53 acre-feet per year (calculated as $3.11 \text{ feet/year} \times 5 \text{ acres}$) with a monthly distribution as shown on the attached Table 1.

The Applicant has also requested the ability to pump surface water directly from the Arkansas River for dust suppression and material washing purposes. Depletions associated with pumping directly from the river will be considered instantaneous depletions and will be accounted for accordingly.

Table 1 shows a monthly breakdown of the depletions under this SWSP, which includes 15.53 acre-feet of net evaporative loss, 6.03 acre-feet of water lost in the mined product (based on an estimated 410,000 tons of washed aggregate and 207,000 tons of unwashed aggregate, with all mining expected to be done above the water table), and 30.08 acre-feet for on-site dust control, for a total consumptive use of 47.08 acre-feet. Total depletions from surface water are estimated as 36.11 acre-feet/year and total depletions from groundwater use are estimated to be 15.53 acre-feet/year, with the lagged depletions from groundwater use estimated to be 18.67 acre-feet for the term of this SWSP. Total depletions, including the lagged depletions for the SWSP period and the instantaneous depletions from surface water use are equal to **54.79** acre-feet.

The IDS Alluvial Water Accounting System (“AWAS”) stream depletion model was used to determine the lagged depletions from groundwater use to the Arkansas River. The aquifer characteristics used in the model are as follows: a transmissivity (T) of 55,000 gallons per day per foot; a specific yield (SY) of 0.2; a distance (X) from the centroid of the exposed groundwater to the stream of 1,400 feet; and a distance (W) from the parallel impermeable boundary to the stream of 2,650 feet.

Based on the AWAS modeling, 17.24% of depletions affect the river in the month that the depletions occur, and approximately 99% of the depletions occur within the first year.

Site Dewatering

The Applicant began dewatering the Parkdale Project Pit in 2012 to assist in the mining of material below the groundwater table. The water is removed from the ground and placed into a series of dewatering trenches. This water will be eventually piped and then discharged on the north side of the property boundary into Currant Creek which is a tributary to the Arkansas River. All water pumped from the pit reaches the Arkansas River within the same month it is pumped. The Applicant will monitor the dewatering operations and include the data in their monthly accounting submissions to the Division 2 Office.

Replacements

The proposed sources of replacement water for this pit include a one-year lease of up to 60 acre-feet of fully consumable water from the Board of Water Works of Pueblo, Colorado ("PBWW"), valid February 21, 2024 through March 31, 2025 (PBWW lease attached). To extend this SWSP through September 30, 2025, the Applicant will obtain a new lease with PBWW or Upper Arkansas Water Conservancy District ("UAWCD") for replacement water to be used for replacement after March 31, 2025, and will provide the signed lease agreement to the Division 2 Office by March 1, 2024.

The applicant also owns 5 shares of Twin Lakes Reservoir and Canal Company (TLCC). This source may not be used for replacement purposes in this SWSP until the Applicant has provided verification of the yield per share.

Finally, the Applicant may also use an additional source of augmentation water provided through an extraterritorial water agreement with the Cañon City Water Department for up to 50 acre-feet of raw water (agreement attached). The original agreement between Cañon City and Agile Stone Systems, Inc., was signed on January 3, 2000 and is valid for 35 years. Pursuant to an agreement entered into on January 3, 2021, Agile Stone Systems, Inc., assigned the January 3, 2000 agreement to the Applicant, with the consent of Cañon City. The augmentation water will be delivered at an existing diversion intake on the Arkansas River near Parkdale Colorado at a rate not exceeding 80 GPM.

The PBWW water will be provided at the City of Pueblo wastewater treatment plant located east of Pueblo when adequate exchange potential exists to make that replacement water available at the Parkdale Project site. When there is insufficient exchange potential to utilize reusable effluent, the PBWW will release water from a number of sources including Clear Creek Reservoir, Turquoise Reservoir, Twin Lakes Reservoir, Pueblo Reservoir, or from direct flow of transmountain water rights.

Upstream reservoir releases will be subject to a 0.07% per mile river transit loss. As an example, a Twin Lakes reservoir release will be subject to a 6.55% transit loss from Twin Lakes to Parkdale. The Applicant will confirm with the water commissioner that an exchange potential exists and is sufficient for exchange of the lease water to the point of depletion. The yield of the Applicant's 5 shares of Twin Lakes Reservoir and Canal Company stock that is available to be used for replacement purposes is subject to evaluation by the Division 2 Division Engineer prior to use.

Conditions of Approval

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

1. This SWSP shall be valid for the period of October 1, 2024 through March 31, 2025, unless otherwise revoked or superseded by decree. This SWSP may be extended through September 30, 2025 if the Applicant provides a copy of a new lease for

replacement water as described in condition of approval #2 by March 1, 2025. If this SWSP will not be made absolute by a water court action by the plan's 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 renewal fee (currently \$257 per mining site) by **February 1, 2025** (or **August 1, 2025** if extended). 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 a \$1,593 filing fee will apply.

2. The current supply of replacement water from PBWW expires on March 31, 2025. Subject to approval by the Division Engineer, if the Applicant leases or purchases replacement water from the sources approved in this SWSP for the time period after March 31, 2025, this SWSP may be extended until September 30, 2025 or the expiration of the lease, whichever occurs first. The Applicant must 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, **no later than March 1, 2025**.
3. The Applicant must provide proof to the State Engineer's Office and the Division Engineer no later than March 1, 2025, demonstrating that the water sources owned or controlled by the Applicant are sufficient to continue to make replacements after March 31, 2025, the end date of the current PBWW water supply lease.
4. A new well permit application was submitted to the State Engineer's Office on August 2, 2024 (receipt no. 10037563), for the proposed uses and exposed pond surface area of the gravel pit in accordance with sections 37-90-137(2) and (11), C.R.S., and will be evaluated subsequent to approval of 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. WDID 1205065 is assigned to the gravel pit structure. Should a permit for this structure be issued, the new permit number and the WDID should be included in all reporting.
5. The total surface area of the groundwater exposed at the Parkdale Project site must not exceed 5.0 acres during this SWSP period, which will result in a net annual evaporative loss of 15.53 acre-feet. No other use of groundwater is allowed unless the Applicant first obtains written approval from this office first.
6. The annual amount of surface water used at the operation shall not exceed 36.11 acre-feet, estimated as 30.08 acre-feet for dust control and 6.03 acre-feet for water lost in the mined and washed product. The washed mined product will be charged a depletion of 2 percent by weight of the material, and the unwashed product (mined above the water table) will be charged a depletion of 0 percent by weight of the material.

7. Total consumption at the Parkdale Project site must not exceed the aforementioned amounts unless the Applicant obtains a new SWSP for such additional amounts.
8. Approval of this SWSP is for the purposes as stated herein. Any additional uses of groundwater must first be included in a new SWSP approved by this office.
9. 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/or approval of the water commissioner.
10. 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.
11. Any water placed in aggregate washing ponds that does not infiltrate within 24 hours may require submittal of a new SWSP to include additional areas of exposed water surface subject to evaporation, and to include additional replacement supplies. Field visits by the Water Commissioner may be made to confirm that the maximum surface area of exposed groundwater allowed by this plan (5.0 acres) is not exceeded.
12. All pumping for product washing and dust control shall be measured in compliance with the Amended Rules Governing the Measurement of Tributary Ground Water Diversions Located in the Arkansas River Basin.
13. The Applicant shall provide adequate accounting (including, but not limited to surface water diversions, groundwater 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
14. 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 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 from mining and dewatering shall continue until there is no longer an effect on stream flow.

15. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.
16. Dewatering at this site will produce delayed depletions to the stream system. As long as the pit is continuously dewatered at a relatively constant rate, the water returned to the stream system should be adequate to offset the depletions attributable to the dewatering operation. Dewatering operations must be measured by totalizing flow meters that can accurately show the monthly volume of dewatered water that is pumped and returns to the stream. If dewatering at the site ceases, or is significantly reduced, the monthly meter readings will be used to determine post pumping depletions that must be replaced. At least three years prior to completion of dewatering at the Parkdale Pit, 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. Should it be determined by the water commissioner or division engineer that dewatering water is being diverted for any purpose by the operator and accounting is not adequate to show that 100 percent of the dewatering water is returned back to the Arkansas River, the Applicant will need to account for any lagged dewatering depletions at the site. In addition, if it is determined by the water commissioner or division engineer that the pit is not continuously dewatered at a relatively constant rate, the Applicant must track depletions and dewatering return flows in their accounting and replace any dewatering depletions that are not offset by dewatering return flows.
17. In accordance with the letter dated April 30, 2010 from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), 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, a bond has been obtained for \$7,156,889 through DRMS 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. In addition, Martin Marietta Materials owns and has dedicated five shares of Twin Lakes Reservoir and Canal Company to cover these potential long-term depletions. Martin Marietta Materials must continue to commit those shares to this plan until such time as the State Engineer authorizes the release of this commitment.

18. 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.

19. 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 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.
20. 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.

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

Sincerely,



Sarah Brucker, P.E.
Deputy State Engineer

Attachments: Figure 1
 Tables 1 - 2
 PBWW Lease Agreement
 Cañon City Water Department Lease Agreement

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

kea: Parkdale Pit 2024-25 SWSP.docx