



COLORADO
Division of Water Resources
Department of Natural Resources

John W. Hickenlooper
Governor

Robert Randall
Executive Director

Dick Wolfe, P.E.
Director/State Engineer

May 5, 2017

Tom Hatton
Applegate Group, Inc.
1490 W 121st Avenue, Suite 100
Denver, CO 80234

Re: Valley's Edge Resource Gravel Mine Substitute Water Supply Plan (WDID 0202660)
DRMS File No. M-2016-030 (WDID 0210499)
SWSP File ID: 5868
Section 20, T1N, R66W of the 6th P.M.
Water Division 1, Water Districts 2, Weld County

Approval Period: May 5, 2017 through April 30, 2018

Contact phone number for Mr. Tom Hatton: 303-452-6611

Contact email address for Mr. Tom Hatton: TomHatton@applegategroup.com

Dear Mr. Hatton:

This letter is in response to your application of December 27, 2016 requesting a substitute water supply plan (SWSP) for a sand and gravel pit operated by Brannon Sand and Gravel (Brannon or Applicant) in accordance with § 37-90-137(11), C.R.S. The Applicant shall be responsible for compliance with this SWSP, but the State Engineer's Office may also pursue the landowner, for eventual compliance. The required fee of \$1,593 for the SWSP has been paid (receipt no. 3677657).

SWSP Operations

This SWSP seeks to replace depletions resulting from the Valley's Edge Resource Gravel Mine (Figure 1, attached). The Lupton Meadows Gravel Mine is located in Section 20, Township 1 North, Range 66 West of the 6th P.M. The Applicant plans to commence mining of the site in May 2017. The depletions that result from the mining operation over the first year of existence include evaporation from exposed ground water, dust suppression, and water lost with the mined product. According to the DRMS permit, the life expectancy of the Valley's Edge Resource Gravel Mine is less than 20 years. Approximately 100,000 tons are to be excavated from the pit each month during this plan period. The proposed reclamation of the site is an industrial development, which will require a complete backfill of the site. Depletions for this site will be replaced using effluent water leased from the City of Aurora.

In accordance with the letter dated April 30, 2010 (copy attached) 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 ground water. The DRMS letter identifies four approaches to satisfy this requirement.

In accordance with approach nos. 1 and 3, you have obtained a bond for \$873,550 through the DRMS for complete reclamation of the site which, according to your DRMS permit, will require a complete backfill of the site.



Depletions

The projected depletions for the period of this SWSP consist of net evaporation from exposed groundwater surface area, water removed in the mined product, and dust suppression. The SWSP anticipates that a total of 1 acre of water surface will be exposed at the site in the first year of operation.

Evaporation and Mining Operations

The Applicant proposed to replace evaporation from exposed ground water at the site based upon evaporation atlases in NOAA Technical Report NWS 33 and the SEO monthly distribution factors for sites below 6,500 feet, as shown in attached Table 1. Gross annual evaporation at the gravel pit location is estimated to be 45.00 inches per year. 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 historical consumptive use was assumed to be equal to the effective precipitation, which was estimated based on the data from the Brighton NOAA weather station. The Brighton Station was used instead of the Ft. Lupton Station because it has a large, recent data set available. The net evaporation from the 1.0 acres of exposed water surface is 2.93 acre-feet per year. The one acre pit will be located within the area described in Figure 1. Over the life of the mine the location of the exposed groundwater will move within the boundaries in Figure 2, not to exceed 5.0 acres at any one time. Only 1.0 acres of groundwater shall be exposed during this SWSP period.

In addition to the evaporation, water is lost with the mined product removed from the mine site and water is used for dust suppression. The Applicant projected that they will produce 950,000 tons of mined product in the first year. During this SWSP period the applicant will only mine product located above the groundwater table; the product will be washed and therefore the ground water lost with the mined product during this period is estimated at 2 percent by weight. The water lost with the mined product is projected to total 13.98 acre-feet each year, as shown in Table 1. The estimated water used for dust suppression during the first year of operation is 6.72 acre-feet/year as shown in Table 1.

The total operational losses at this site are 23.63 acre-feet during the SWSP plan year. You have provided a monthly breakdown of the total annual depletions, as shown in Table 1.

Lagged Depletions

The IDS AWAS stream depletion model was used to determine the lagged depletions to the South Platte River. The aquifer characteristics used in the model for the evaporative depletions are: transmissivity (T) = 70,000 gallons per day per foot, specific yield (SY) = 0.2, the distance from the well to the stream = 5,700 feet and the location of the parallel impermeable boundary was estimated to be 7,900 feet from the stream.

The total replacement obligations for May 2017 through April 2018 are 3.93 acre-feet. Depletions from this operation will accrue to the South Platte River in the SE ¼ of the NW ¼ of Section 19, Township 1 North, Range 66 West, 6th P.M. For purposes of this SWSP the depletions will be owed at the location where the South Platte River crosses the north line of the SE ¼ of the NW ¼ of Section 19.

Replacements

Out-of-priority depletions from the Valley's Edge Resource Gravel Mine will be replaced using fully consumable municipal return flows leased from the City of Aurora. The replacement is provided through a lease dated March 7, 2017. The amount of replacement water to be provided exceeds the projected depletions each month. If actual depletions are greater than projected depletions in any month, the

amount of replacement water required from the City of Aurora may exceed the agreed upon volume. The Applicant is responsible for assuring that adequate replacement volume is provided.

Under the lease, water will be delivered to the outfall of the Robert W. Hite Treatment Facility (aka Metro Sewer, WDID 0200700) located on the South Platte River. According to the lease, Aurora may alternatively deliver water at other points along a reach of the South Platte River beginning at or below the Hite Treatment Facility extending downstream to the confluence of the St. Vrain River and the South Platte River. The Applicant must notify the water commissioner at least 48 hours prior to making replacement deliveries at a location other than the Hite Treatment Facility; in the instance of an intervening call the Applicant will not be allowed to make replacements downstream of the calling right.

The Hite Treatment Facility is located approximately 22 miles upstream of the Pit. The delivery schedule includes a transit loss of 0.5% per mile (11% for 22 miles) during the months of April through October and 0.25% per mile (5.5% for 22 miles) during the months of November through March. Conveyance loss for delivery of augmentation water to the South Platte River is subject to assessment and modification as determined by the Division Engineer.

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 is approved with the effective date of May 5, 2017 through April 30, 2018 unless otherwise revoked or superseded by decree. If this plan is not decreed in water court by the SWSP expiration date, a renewal request must be submitted to this office with the statutory fee of \$257 no later than **February 1, 2018**.
2. A well permit must be issued for the gravel pit in accordance with Section § 37-90-137(2) and (11), C.R.S. prior to the exposure or use of groundwater. A well permit application has been submitted to this office (receipt no. 3677658) and this application is pending evaluation. Until a gravel pit well permit is approved, consumptive use and exposure of groundwater on this site is prohibited. The provisions of § 37-90-137(2), C.R.S. prohibits 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 held in accordance with the procedural rules in 2CCR402-5. This hearing may 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. Should a new well permit be denied for reasons of 600 foot spacing, or any other legitimate reason, approval of this SWSP will be cancelled.
3. The total surface area of the groundwater exposed at the Valley's Edge Resource Gravel Mine must not exceed 1 acre during this plan period, which results in a maximum annual evaporative loss of 2.93 acre-feet.
4. The annual water used for dust control at the Valley's Edge Resource Gravel Mine shall not exceed 6.72 acre-feet/year and the total product mined at the Valley's Edge Resource Gravel Mine shall not exceed 950,000 tons per year, which results in 13.98 acre-feet/year of water lost with the mined aggregate.
5. Total consumption at the Lupton Meadows Gravel Mine must not exceed these aforementioned amounts unless an amendment is made to this SWSP.
6. Approval of this SWSP is for the purposes as stated herein. This office must first approve any additional uses for the water.
7. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity. 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.

8. Adequate accounting of depletions and replacements must be provided to the division engineer in Greeley (Div1Accounting@state.co.us), the water commissioner (Jorge Vidal at Jorge.Vidal@state.co.us) and the River Operations & Compact Coordinator (Brent Schantz, at Brent.Schantz@state.co.us) on a monthly basis. All amounts shall be in acre-feet. All submitted accounting must conform to the Administration Protocol *"Augmentation Plan Accounting - Division One, South Platte River"* (attached).
9. Applicant shall verify that the entity making replacement, in this case the City of Aurora, has included them on their accounting submitted to our office.
10. All pumping for dust control shall be measured in a manner acceptable to the division engineer.
11. Conveyance loss for delivery of augmentation water to the point of depletion on the South Platte River is subject to assessment and modification as determined by the division engineer. Any changes to the assessed conveyance loss will be communicated to the Division One Call List via email.
12. The division engineer, or his designated representative, will administer all such water transported in the South Platte River or its tributaries under this SWSP, including water for replacement of depletions, past intervening headgates to ensure that such water is not intercepted or otherwise diminished in quantity by diversion, use or other interference by intervening water rights and to assure that such water remains available and suitable for Applicant's uses under this SWSP, except when any intervening headgate is diverting the entire flow of ("sweeping") the river. In the event that delivery past headgates which sweep the river requires the installation of a bypass structure or the use of an existing bypass structure by agreement with a third-party, Applicant is responsible for either installing a new bypass structure with a continuous recording measuring device(s) as approved by the Water Commissioner or securing an agreement with a third-party to use an existing bypass structure and providing such information and agreement to the division engineer.
13. The Division of Water Resources will not be responsible for any enforcement or administration of third party agreements that are not included in a decree of the water court.
14. The name, mailing address, and phone number of the contact person who will be responsible for operation and accounting of this plan must be provided on the accounting forms to the division engineer and water commissioner.
15. In accordance with the letter dated April 30, 2010 (copy attached) 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 ground water. The DRMS letter identifies four approaches to satisfy this requirement.

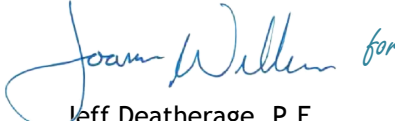
In accordance with approach nos. 1 and 3, you have indicated that a bond has been obtained for \$873,550 through the DRMS for lining of this site to assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, that would lead to the abandonment of the Pit.
16. All releases of replacement water must be sufficient to cover all out of priority depletions and be made under the direction and/or approval of the water commissioner.
17. 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 1 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 stream flow.

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 excavation of the product from below the water table, and all other use of water at the pit, must cease immediately.
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 if the substitute 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.
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 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.

If you have any questions concerning this approval, please contact Karlyn Armstrong in Denver at (303) 866-3581 or Dean Santistevan in Greeley at (970) 352-8712.

Sincerely,


Jeff Deatherage, P.E.,
Chief of Water Supply

Attachment: Figure1, Table 1
Lease with City of Aurora
Letter from DRMS dated April 30, 2010
Augmentation Plan Accounting Protocol

cc: Dean Santistevan, Assistant Division Engineer, Dean.Santistevan@state.co.us
Brent Schantz, River Operations & Compact Coordinator, Brent.Schantz@state.co.us
Jorge Vidal, District 2 Water Commissioner, Jorge.Vidal@state.co.us
Division of Reclamation Mining and Safety