



July 7, 2025

Paul Weiss, P.E.

Principal, Williams and Weiss Consulting

5525 Ronald Reagan Blvd, Suite 220

Johnstown, CO 80534

Re: Sweet Valley Substitute Water Supply Plan (WDID 0202684)
Sweet Valley Pit, DRMS Permit No. M-2024-015 (WDID 0210575)
NE ¼ of Section 30, T 4N, R 66W, 6th P.M., Weld County
Water Division 1, Water District 2
SWSP ID: 9531

Approval Period: July 1, 2025 through March 31, 2026

Contact Information for Paul Weiss: pswwater@msn.com

Dear Paul Weiss:

We have reviewed your letter dated January 28, 2025 and the additional information received on April 1, 2025, May 23, 2025, and July 1, 2025 requesting approval of the above-referenced substitute water supply plan in accordance with section 37-90-137(11), C.R.S. to cover depletions caused by a gravel mining operation operated by J-2 Contracting Company (“J-2” or “Applicant”). The required fee of \$1,593.00 for a new substitute water supply plan (“SWSP”) has been submitted (receipt no. 10040447). The period of this SWSP approval is July 1, 2025 through March 31, 2026.



Plan Operation

The Sweet Valley Pit is located on approximately 150.92 acres in the NE $\frac{1}{4}$ of Section 30, T 4N, R 66W, 6th P.M., Weld County as shown on **Exhibit 1**. An estimated 450,000 tons of sand and gravel are expected to be mined during the July 2025 through March 2026 period. This plan seeks to replace depletions resulting from mining operations at the Sweet Valley Pit. The depletions that result from the mining operation during this SWSP period are evaporation from a proposed recharge pond, dewatering trenches, process water system, an evaporation contingency, water lost after washing the mined product in a dewatered state, and dust control. The proposed replacement source is water leased from the Groundwater Management Subdistrict (GMS) of the Central Colorado Water Conservancy District (CCWCD).

Dry mining will be conducted in two cells (North Cell and South Cell) lined with a slurry wall to prevent the exposure of groundwater during mining. The North Cell will be located on the North side of the Western Mutual Ditch, and the South Cell will be located on the South side of the Western Mutual Ditch. The North Cell will be mined first. Upon conclusion of mining operations in the North Cell, the South Cell will subsequently be mined. Mining operations are expected to be ongoing for approximately 15 years. Upon conclusion of mining operations, the cells will be converted into reservoirs capable of water storage during final reclamation. The mining site map is shown in **Exhibit 2**.

According to the application documents, well no. 13660-R (decreed as Miller Well 13660 under Water Court Division 1 Case nos. W-1802 for irrigation purposes and changed in case no. 22CW3129 for augmentation purposes) will be used for dust control on the site. An application to use well no. 13660-R for industrial purposes (including dust control) was received and a new permit issued on May 22, 2025 under well permit no. 90012-F. A dewatering well permit was also subsequently issued on June 9, 2025 under well permit no. 90060-F to prevent water from mounding behind

the slurry wall. Lastly, a new well permit application has been submitted to our office under well permit application receipt no. 10040449 for the washing of mined material at the site. Well permit application receipt no. 10040449 is in an “application received” status pending the approval of this SWSP.

Depletions

As mentioned above, the projected depletions that result from the mining operation during this SWSP period are evaporation from the proposed recharge pond, dewatering trenches, process water system, water lost after washing the mined product in a dewatered state, and dust control.

Evaporative Depletions

The Applicant proposes to replace gross evaporation from exposed groundwater 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. The SWSP proposes to expose a total of 4.5 acres of groundwater at the Sweet Valley Pit (infiltration pond - 1.8 acres, dewatering trenches - 1.3 acres, process water system - 0.7 acres, and a contingency of 0.7 acres). Gross annual evaporation at the gravel pit location is estimated at 46.00 inches per year. The Applicant claims the timing of lagged depletions from dewatering will be offset in time and location by the infiltration pond. Water lost through evaporation in the infiltration pond has been accounted for under evaporative losses, as shown in **Tables 1 and 3**. The gross evaporation from the exposed water surface is 11.14 acre-feet for the SWSP period (**Table 1**).

Although no ice-covered periods have been assumed under this SWSP request, in the event that ice-covered is being claimed, the Applicant must replace depletions from the exposed groundwater surface area that may occur during any assumed ice-

covered period for any time that the exposed groundwater surface is not completely covered by ice and therefore must have sufficient replacement supplies to cover all evaporative depletions, assuming no ice cover.

Water lost with Mined Product

Mining will begin below the groundwater table within the North Cell in a dewatered state with an estimated 40,000 to 60,000 tons mined per month. The Applicant projects a total of 450,000 tons per year of gravel will be produced below the groundwater table during the SWSP period.

Gravel mined below the groundwater table will be washed, therefore, the groundwater lost with the mined product during this period is estimated at 4 percent by weight. The water lost with the mined product is projected to total **13.26 acre-feet** for the SWSP period, as shown in **Table 2**.

Dust Suppression

Water used for dust suppression is anticipated to be sourced from the existing Miller Well no. 13660-R. As mentioned above, the Applicant has submitted to our office and subsequently received a new permit issued on May 22, 2025 under well permit no. 90012-F to change or increase the allowable uses of an existing well for industrial uses on the site through Miller Well 13660 (which would include dust control).

The estimated water used for dust suppression monthly is estimated to vary between 1.62 and 3.24 acre-feet, for a total of **20.25 acre-feet** for the SWSP period. A summary of these depletions are shown in **Table 2**.

Dewatering

A recharge pond will be located in the north east corner of the property, directly north of the North Cell. The timing of lagged depletions from dewatering will be offset nearly identically in time and location by the recharge pond. Therefore the depletive effects to the river will be canceled by the accretion from the recharge pond, other than that portion of water lost through evaporation, identified above under “Evaporative Losses”. The active mining cell will have a dewatering sump excavated, and a dewatering spud and submersible sump pump set. The discharge will be pumped through a 4” meter and 12” HDPE line to a recharge pond located directly east of the active mining cell. The recharge pond will be excavated to the alluvium for infiltration approximately 3’ above the maximum ground water elevation. As mentioned above, the Applicant claims that the accretions from infiltration inside the recharge pond will offset depletions from dewatering in both time and location. The Applicant shall follow the guidance for Administrative Protocol for Recharge in Division 1 that has been attached to this letter.

Lagged Depletions

The total consumptive use at this site during this plan period from evaporation, water lost with mined product, and dust suppression is **44.64 acre-feet (Table 3)**. The depletions from evaporation and operational losses were lagged to the stream using a Glover analysis assuming a distance (X) from the centroid of the exposed ground water surface to the stream of 4,380 feet, 6,220 feet for the proposed new well, and 7,290 feet for the existing Miller Well 13660-R, a distance (W) to the impermeable boundary of 17,380 feet, a transmissivity (T) of 65,000 gpd/ft, and a specific yield (S) of 0.2. The distances above are shown in **Exhibit 5**.

The **total lagged depletions are 10.05 acre-feet for this SWSP period** as shown on **Table 3**. Depletions from mining operations at the Sweet Valley Pit will impact the South Platte River in the SE $\frac{1}{4}$ of Sec. 24, Twp. 4N, Rng. 67W, 6th P.M.

Replacements

The proposed source of replacement for the Sweet Valley Pit is **leased water from the Ground Water Management Subdistrict (GMS) of the Central Colorado Water Conservancy District (“CCWCD”)**. The replacements will consist of any of the supplies listed in **Exhibit 3** that are available upstream from the point of depletion. A conveyance loss of 0.5% per mile will be assessed for replacement water that is supplied from CCWCD, unless a different assessed conveyance loss is directed by the water commissioner. For the purposes of this SWSP, the distance between the replacement sources and the point of depletion is 16 miles. The Applicant must account for the actual distance between the replacement sources and the point of depletion to assess conveyance losses. A copy of the Lease Agreement was provided to this office on April 1, 2025 and is attached to this letter. A monthly breakdown of depletions and replacements is shown on **Table 3**.

Long Term Augmentation

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, attached, requires that the Applicant provide information to DRMS to demonstrate the ability to replace long term injurious stream depletions that result from mining related exposure of groundwater.

For any gravel pit whose reclamation includes lining or backfilling of the pit, bonds must be posted that can be used to complete the reclamation plan should the operator walk away from the site. The Mined Land Reclamation Board (“Board”) has

granted an exemption to the Central Colorado Water Conservancy District (as owner of the subject property) under Rule 4.1.2(2) of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials from the requirement to submit a financial warranty. According to the Board, as a water conservation district formed under the Colorado Water Conservancy Act, section 37-45-101, C.R.S., the Applicant (Central Colorado Water Conservancy District) is a political subdivision of the State of Colorado and is eligible for exemption from the requirement to submit a financial warranty under Rule 4.1.2.

Conditions of Approval

I hereby approve the proposed substitute water supply plan 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 **July 1, 2025 through March 31, 2026**, unless otherwise revoked, or superseded by decree. If this plan will not be made permanent by a water court action by the plan's expiration date, a renewal request must be submitted to this office with the statutory fee (currently \$257), with all necessary leases and other supporting documentation, **no later than December 1, 2025**. If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP and the \$1,593 filing fee will apply.
2. A well permit must be obtained for this pit in accordance with sections 37-90-137(2) and (11), C.R.S. prior to the exposure or use of groundwater. Well permit application (receipt no. 10040448) was submitted on January 28, 2025 and this application is pending evaluation. 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 held in accordance with the procedural rules in 2 CCR 402-5. 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 substitute water supply plan will be canceled.

3. The total surface area of the groundwater exposed at the site must not exceed 4.5 acres during the approval period of this SWSP, which results in a maximum annual evaporative loss of 11.14 acre-feet from the Sweet Valley Pit.
4. The annual water used for dust control at the Sweet Valley Pit shall not exceed 20.25 acre-feet, the total product mined at the Sweet Valley Pit site shall not exceed 450,000 tons per year, which results in 13.26 acre-feet of water lost with the mined aggregate.
5. Total consumption at the Sweet Valley Pit must not exceed these aforementioned amounts unless an amendment is made to this plan.
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.
7. All diversions shall be measured in a manner acceptable to the Division Engineer. The Applicant shall install and maintain such measuring devices as required by the Division Engineer prior to and for the operation of this SWSP. A Totalizing Flow Meter (TFM) is required for each of the subject wells. The TFM must be installed and maintained in accordance with the Division One Ground Water Measurement Rules decreed in Case No. 2011CW292 (Rules). Installation and verification of accuracy in accordance with the Rules must be accomplished prior to operation under this SWSP.

8. As mentioned previously, an application to use well no. 13660-R for industrial purposes (including dust control) was received and a new permit issued on May 22, 2025 under well permit no. 90012-F. A dewatering well permit was also subsequently issued on June 9, 2025 under well permit no. 90060-F to prevent water from mounding behind the slurry wall. Lastly, a new well permit application has been submitted to our office under well permit application receipt no. 10040449 for the washing of mined material at the site. Well permit application receipt no. 10040449 is in an “application received” status pending the approval of this SWSP.
9. Water shall not be impounded in the slurry wall reservoirs except pursuant to lawful diversions allowed by statute or decree. At all other times, all inflow of water into the reservoirs from any source, including precipitation and groundwater inflows, shall be removed by the Applicant. The water may be removed from within the lined area and returned to the stream system without need for replacement, so long as the operator does not put the water to beneficial use.
10. All releases of 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. The release of replacement water may be aggregated to maximize beneficial use, subject to approval by the Division Engineer or Water Commissioner. The Water Commissioner and/or the Division Engineer shall determine the rate and timing of an aggregated release.
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 shall notify the water commissioner prior to operation under this plan to obtain an inspection and approval of all required surface water measurement devices.

13. The Applicant shall provide daily accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be uploaded to the CDSS Online Reporting Tool within 30 days of the end of the month for which the accounting applies (<https://dwr.state.co.us/Tools/reporting>). Instructions for using the tool are available on the Division of Water Resources website on the “Services” □ “Data & Information” page under the heading of Online Data Submittal. Accounting and reporting procedures are subject to approval and modification by the Division Engineer. Accounting forms need to identify the WDID number for each structure operating under this SWSP. Additional information regarding accounting requirements can be found in the attached Augmentation Plan Accounting Protocol. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.

In addition, the **Applicant** shall verify that the Groundwater Management Subdistrict of the Central Colorado Water Conservancy has submitted a report to the Division Engineer that includes an accounting of **all** replacement water controlled by the **GMS** of the **CCWCD**, showing the total volume of water under its control and the amount committed to each of the recipients of the water, including the water committed to this plan.

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. The Applicant should reference the *Augmentation Plan Accounting* or any other applicable protocols as referenced in the attached documents, for the operation of this SWSP.
16. Conveyance loss for delivery of replacement water is subject to assessment and modification as determined by the Division Engineer.
17. In order to prevent injury to other water rights, the Division Engineer and Water Commissioner must be able to administer Applicants' replacement water past headgates on the river at times when those headgates would otherwise be legally entitled to divert all available flow in or "sweep" the South Platte or its tributaries. Applicant shall not receive credit for replacement of depletions to the South Platte below such diversion structures unless bypass and measurement structures are in place to allow the Division Engineer and Water Commissioner to confirm that Applicant's replacement water is delivered past the headgates. In the event that delivery past dry-up points requires the use of a structure for which a carriage or use agreement with a third party is required, Applicant shall be responsible for securing such agreement. Until such time as the Applicant provides a copy of the carriage or use agreement to the Division Engineer and Water Commissioner, no credit will be allowed for replacement of depletions to the South Platte below such diversion structure.
18. 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.
19. **The Applicant must account for the depletions and accretions that result from the dewatering operations. If at any time it is found that the dewatering accretions are not adequate to replace the depletions resulting**

from the mining operation, including the dewatering depletions, an amendment to this SWSP must be obtained. All dewatering activities must be metered with a totalizing flow meter that is recorded and reported on the submitted monthly accounting. 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.

20. 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. 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 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.
21. As part of any renewal of this SWSP the Applicant must specify the proposed replacement source that will be used to replace all lagged depletions that result from operation under this SWSP, including those that extend beyond the approval period of the SWSP. If the intent is to obtain a short-term lease for such future replacement water an executed lease for depletions that extend beyond the SWSP approval period is not required, however the Applicant must demonstrate that there is a reasonable likelihood that such a lease could be obtained.
22. In accordance with the letter dated April 30, 2010 (copy attached) from the

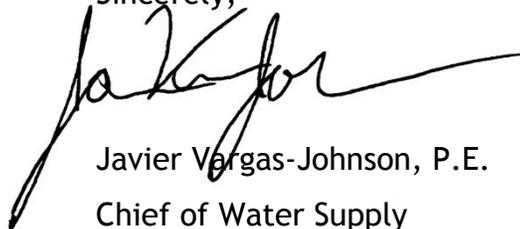
Colorado Division of Reclamation, Mining, and Safety (“DRMS”), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS requires that you provide 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 no. 4, you have indicated that the Mined Land Reclamation Board (“Board”) has granted an exemption to the Central Colorado Water Conservancy District (as owner of the subject property) under Rule 4.1.2(2) of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials from the requirement to submit a financial warranty.

23. 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 substitute water supply plan expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all excavation of product from below the water table, and all other use of water at the pit, must cease immediately.
24. 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 the substitute supply is of a quality to meet 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.

25. 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 substitute water supply 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 Michael Matz of this office or Corey Deangelis of our Division office in Greeley at (970) 352-8712.

Sincerely,



Javier Vargas-Johnson, P.E.
Chief of Water Supply

Attachments: Exhibits 1-4 and Tables 1-3

CCWCD Lease

Augmentation Plan Accounting Protocol

Administrative Protocol - Recharge

April 2010 DRMS Letter

Ec: Corey Deangelis, Division 1 Engineer, corey.deangelis@state.co.us

Travis Tyner, Accounting Operations, dnr_div1accounting@state.co.us

Jean Lever, Water Commissioner, District 2, Jean.Lever@state.co.us

Louis Flink, Tabulation / Diversions Record Coordinator Louis.Flink@state.co.us

Division of Reclamation Mining and Safety, Peter.Hayes@state.co.us

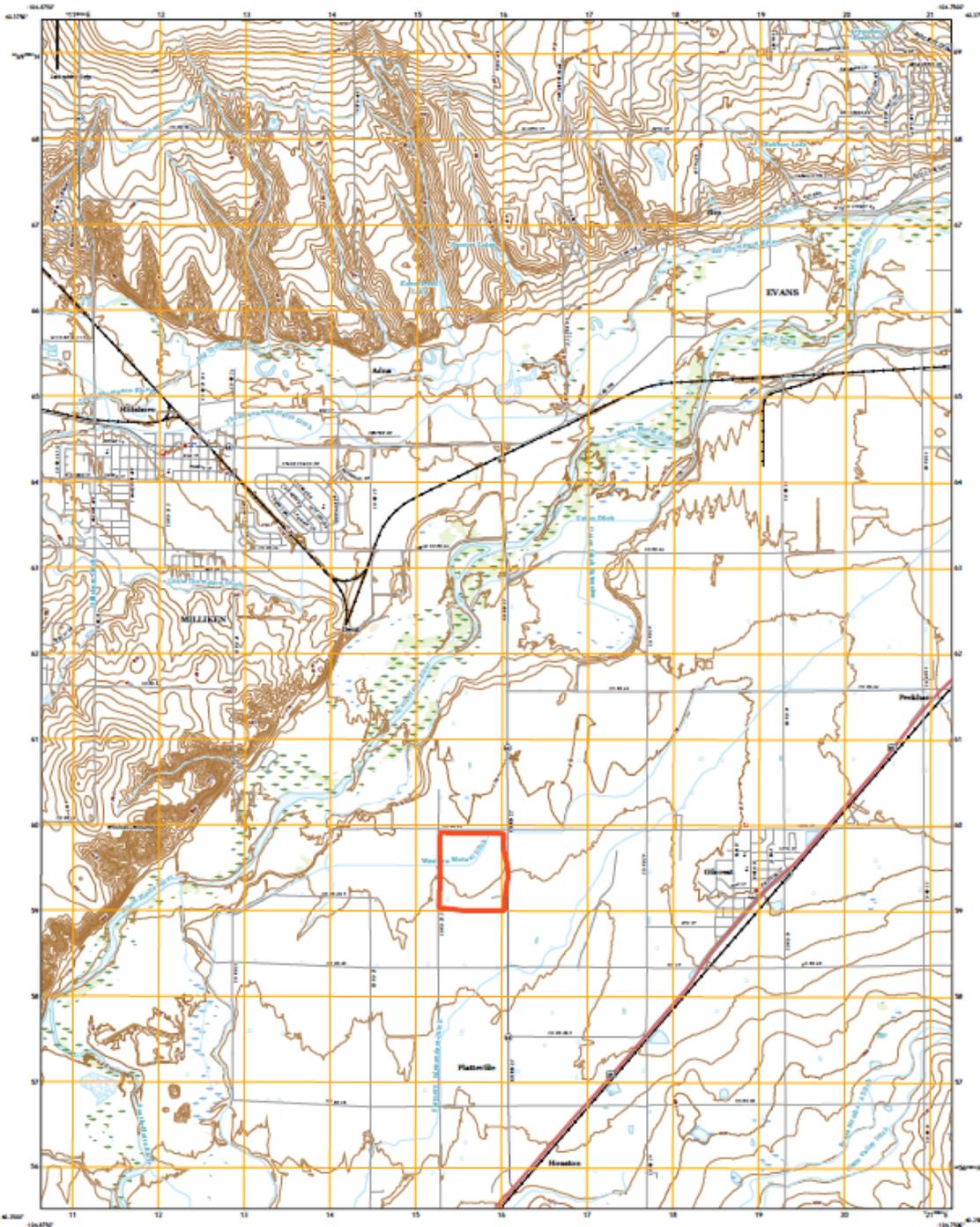
M-2024-015 Sweet Valley SWSP Approval

July 7, 2025

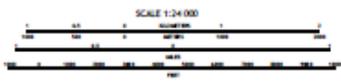
Page 15 of 15

JMW/idc/mbm: 2025 M-2024-015 Sweet Valley Pit SWSP Letter

Exhibit 1. USGS 7 1/2 Quadrangle Map



Produced by the United States Geological Survey
 North American Datum of 1983 (NAD83)
 Project Manager: Stephen J. H. ...
 The map is not a legal document. Accuracy may be
 guaranteed for the map. Other products and
 information are available from the USGS.
 Date: 2022 August 21
 Scale: 1:24,000
 Projection: UTM
 Zone: 18N
 Datum: NAD83
 Spheroid: GRS80
 Ellipsoid: GRS80
 Prime Meridian: Greenwich
 Units: Meter
 Contour Interval: 5
 Contour Type: Spot



VERTICAL DATUM IS NA83
 WITH A QUOTE VERTICAL DATUM OF 1983
 THE MAP IS NOT A LEGAL DOCUMENT
 OTHER PRODUCTS AND INFORMATION ARE AVAILABLE FROM THE USGS

| | | | |
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| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |

ROAD CLASSIFICATION

| | |
|------------------|-----------------|
| Expressway | Local Connector |
| Interstate Hwy | Local Road |
| Artery | Other |
| Interstate Route | Other |
| | Other |

MILLIKEN, CO
 2022

Exhibit 2 Site Map

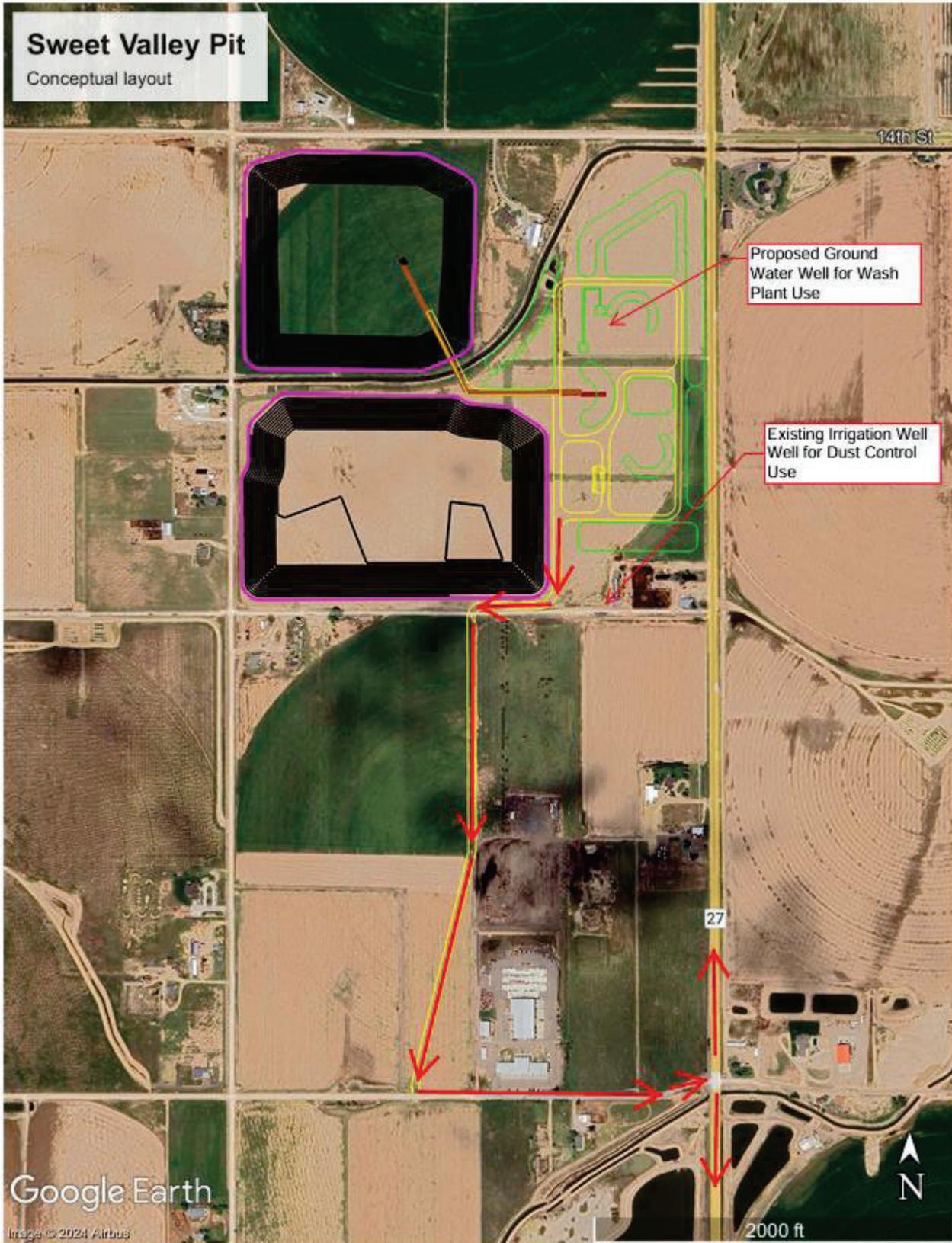


Exhibit 3. Central Colorado Augmentation Supplies

| COLORADO WATER CONSERVANCY DISTRICT GROUND WATER MANAGEMENT SUBDISTRICT AND WELL AUGMENTATION SUBDISTRICT | | | |
|--|--|--------------------|-------------|
| CASE NO. | NAME | SOURCE | DECREE DATE |
| W7905/84CW0405 | Brighton and Fort Lupton Augmentation Well Fields | South Platte River | 2/25/1985 |
| 81CW0382 | Milliron & Kiowa Recharge & Storage Project | South Platte River | 4/29/1987 |
| 82CW0413 | Box Elder Recharge and Storage Project | South Platte River | 10/6/1993 |
| 83CW0184 | Chatfield Reservoir | South Platte River | 03/29/1989 |
| 85CW0370 | Farmers Independent Recharge Project | South Platte River | 3/29/1989 |
| 86CW0397 | McDowell Ranch | South Platte River | 5/10/2000 |
| 87CW0304 | Western Mutual Ditch Recharge Project | South Platte River | 6/21/1991 |
| 88CW0127 | Siebring Reservoir and W.R. Jones Ditch (62 shares) | Cache La Poudre | 5/25/1990 |
| 92CW0021 | Koenig Reservoir | South Platte River | 2/3/2000 |
| 92CW0165 | Jo Dee Reservoir, Jacoby/Schmidt Ditch, Box Elder Ditch (1 share) | Cache La Poudre | 11/29/1996 |
| 93CW0085 | Lupton Bottoms Ditch (5 shares) | South Platte River | 8/9/1995 |
| 94CW0096 | 83rd Avenue Reservoir | Cache La Poudre | 2/27/1995 |
| 94CW0097 | La Poudre Reservoirs 3 & 4 | Cache La Poudre | 4/12/1996 |
| 94CW0199 | Lupton Bottoms Recharge & Storage Project | South Platte River | 12/16/1996 |
| 97CW0077 | Greeley-Loveland (26+ shares), Seven Lakes, Lake Loveland | Big Thompson River | 7/1/2003 |
| 97CW0078 | Greeley Irrigation Co. (20 shares) | Cache La Poudre | 12/11/2001 |
| 00CW0072 | W.R. Jones Ditch (15 shares) | Cache La Poudre | 3/14/2005 |
| 00CW0083 | Shores Lake | Boulder Creek | 7/22/2009 |
| 00CW0166 | B. H. Eaton (9 shares) & Bowelder (1.5 shares) | Cache La Poudre | 11/21/2006 |
| 01CW0048 | Platteville Recharge & Storage Project | South Platte River | 11/19/2008 |
| 01CW0255 | Rural and Godding Ditch Shares, Boulder and Weld Reservoir | St. Vrain Creek | 5/6/2010 |
| 01CW0263 | Weldon Valley Ditch (4 shares) | South Platte River | 3/17/2007 |
| 01CW0264 | Fulton Irrigating Ditch Company (150 shares) | South Platte River | 6/23/2008 |
| 02CW0172 | Union Reservoir (20.5 shares) | St. Vrain Creek | 9/20/2007 |
| 02CW0200 | W.R. Jones Ditch (62 shares) | Cache La Poudre | 3/14/2005 |
| 02CW0265 | Lupton Meadows Ditch (60 shares) | South Platte River | 2/8/2008 |
| 02CW0269 | Bernhardt Reservoir | Big Thompson River | 10/20/2005 |
| 02CW0270 | Nissen Reservoir | South Platte River | 10/20/2005 |
| 02CW0377 | Weldon Valley Recharge (pro-rata) | South Platte River | 11/5/2009 |
| 02CW0335 | Augmentation Wells | South Platte River | 6/3/2005 |
| 03CW0348 | Greeley Irrigation Company (65 3/4 shares) | Cache La Poudre | 6/26/2009 |
| 04CW0276 | Farmers Independent Ditch Co. (27.75 shares and 10.0 shares) | South Platte River | 11/20/2009 |
| 05CW0053 | Big Thompson & Platte River Ditch Co. (7 shares) | Big Thompson River | 6/22/2009 |
| 05CW0054 | Greeley Irrigation Co. (12 shares) | Cache La Poudre | 5/13/2009 |
| 05CW0069 | Platteville Milling & Irrigation Co. (13/24 shares) | South Platte River | 7/10/2009 |
| 05CW0079 | Brighton Ditch Co. (1/10 Share) | South Platte River | 9/23/2009 |
| 05CW0223 | Godfrey Ditch Co. (5 shares) | South Platte River | 1/24/2011 |
| 05CW0331 | Central Recharge and Exchange Plan | South Platte River | 10/7/2011 |
| 07CW0006 | Plumb Ditch (47 shares) | South Platte River | 7/26/2010 |
| 08CW0071 | Platte Valley Irrigation Co. (7.0 shares) | South Platte River | 5/27/2014 |
| 10CW0139 | Alternate Points and Diversion and Storage | Cache la Poudre | 10/4/2013 |
| 10CW0173 | Greeley Irrigation Co. (2.0 shares) | Cache La Poudre | 5/22/2012 |
| 11CW0020 | Greeley Irrigation Co. (10.8 shares) | Cache La Poudre | 10/18/2013 |
| 12CW0163 | Greeley Irrigation Co. (2.9 shares) | Cache La Poudre | 4/14/2014 |
| 12CW0304 | Geisert Reservoir | Cache La Poudre | 2/1/2016 |
| 13CW0029 | Rural Ditch (2.5 shares), Godding Ditch (20 shares) | Boulder Creek | 9/22/2015 |
| 13CW3025 | Fulton Ditch Co. (17.85 shares) | South Platte River | 11/10/2016 |
| 14CW3006 | Fulton Ditch Co. (30 shares) | South Platte River | 6/10/2015 |
| 14CW3007 | Lupton Bottom Ditch Co. (1.5 shares), Lupton Meadows Ditch Co. (90 shares) | South Platte River | 11/27/2015 |
| 14CW3123 | Fulton Ditch Co. (50 shares), Recharge, and Exchange | South Platte River | 3/22/2018 |
| 15CW3148 | Chatfield Reservoir Refill Storage Right | South Platte River | 4/5/2019 |
| 16CW3008 | Greeley Irrigation Co. (8 shares) | Cache La Poudre | 10/12/2018 |
| 16CW3119/05CW315 | Rural Ditch Co. (7.04 shares) and Rinn Valley Water Storage Reservoir | Boulder Creek | 1/25/2019 |
| 16CW3202 | Walker Recharge Project | South Platte River | 7/29/2019 |
| 17CW3202 | Rural Ditch Co. (3.75 shares) and Hokestra Reservoir | Boulder Creek | 4/13/2022 |
| 18CW3106 | Greeley Irrigation Co. (6.5 shares) | Cache La Poudre | Pending |
| 19CW3088 | Pioneer Reservoir | South Platte River | 8/24/2022 |
| 20CW3125 | Fulton Ditch Co. (28 shares), Recharge, and Exchange | South Platte River | Pending |
| 20CW3162 | Lupton Bottoms Ditch (2 shares) | South Platte River | Pending |
| 22CW3022 | Greeley Irrigation Co. (6.5 shares) | Cache La Poudre | Pending |
| 22CW3224 | Western Mutual Ditch Company (94 shares) | South Platte River | Pending |
| 23CW-Pending | Farmers Independent Ditch Company (28 shares) | South Platte River | Pending |

Exhibit 4. GWS-80 Well Permit Applicant 600 Foot Spacing Verification Affidavit

| | | |
|---|---|--------------------------------|
| Form No. GWS-80 8/2024 Page 1 of 3 | STATE OF COLORADO OFFICE OF THE STATE ENGINEER 1313 Sherman St., Room 821, Denver, CO 80203 Phone: (303) 866-3581 Website: https://dwr.colorado.gov/ Email to: dwrpermitsonline@state.co.us | Office Use Only |
| Well Permit Applicant 600 Foot Spacing Verification Affidavit | | |
| Well permit application receipt no. _____ | | |
| I (WE), <u>Chris Leone</u> state as follows: Name of applicant(s) | | |
| 1. Well(s) Owned by the Applicant(s) | | |
| I (we) own wells within 600 feet of the location where the well sought under the above stated well permit application will be constructed or located. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> . If yes, list the well permit numbers for the wells. If the wells are unregistered, provide the well location. _____ | | |
| If yes, is the Division of Water Resources well ownership information for the well(s) up to date? Yes <input type="checkbox"/> No <input type="checkbox"/> . If the well ownership information is not up to date, a Change of Owner Name/Contact Information eForm for the well(s) must be filed with the Division of Water Resources, see instructions on page 3. | | |
| 2. Existing Well Verification (Check one of the following) | | |
| <input checked="" type="checkbox"/> A. I (we) have conducted a site inspection to verify that there are NO existing production groundwater wells (either permitted or unregistered) within 600 feet of the location where the well sought under the above stated well permit application will be constructed or located, other than the wells I own as listed in Item 1 above (if any). AND The well sought under the above stated well permit application will not be constructed or located within 600 feet of an existing production groundwater well, other than the wells I own as listed in Item 1 above (if any). | | |
| <input type="checkbox"/> B. I (we) have conducted a site inspection to verify that there are existing production groundwater wells (either permitted or unregistered) within 600 feet of the location where the well sought under the above stated well permit application will be constructed or located, other than the wells I own as listed in Item 1 above (if any). AND The well permit number (if any), well location (if known), name of the current well owner and mailing address of the current well owner for ALL existing production groundwater wells within 600 feet of the location where the well sought under the above stated well permit application will be constructed or located, other than the wells I own as listed in Item 1 above (if any), are provided on Page 2. | | |
| 3. Signed 600 foot spacing statements (Complete if Item 2.B above is checked) | | |
| I have obtained 600 foot well spacing statements (forms GWS-38 or GWS-38A) signed by the owners of ALL production groundwater wells located within 600 feet of the location where the well sought under the above stated well permit application will be constructed or located, other than the wells I own as listed in Item 1 above (if any). Yes <input type="checkbox"/> No <input type="checkbox"/> All signed 600 foot well spacing statements must be provided to the Division of Water Resources with this form. | | |
| 4. Sign or Enter Name of Applicant(s) or Authorized Agent | | |
| The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104 (13)(a). I (we) have read the statements herein, know the contents thereof and state that they are true to my (our) knowledge. | | |
| Sign or Enter Name of Applicant  | Print Name and Title of Applicant Chris Leone, President | Date (mm/dd/yyyy) 12/3/2024 |
| _____ | _____ | _____ |

Exhibit 5. Distances derived for AWAS Modeling

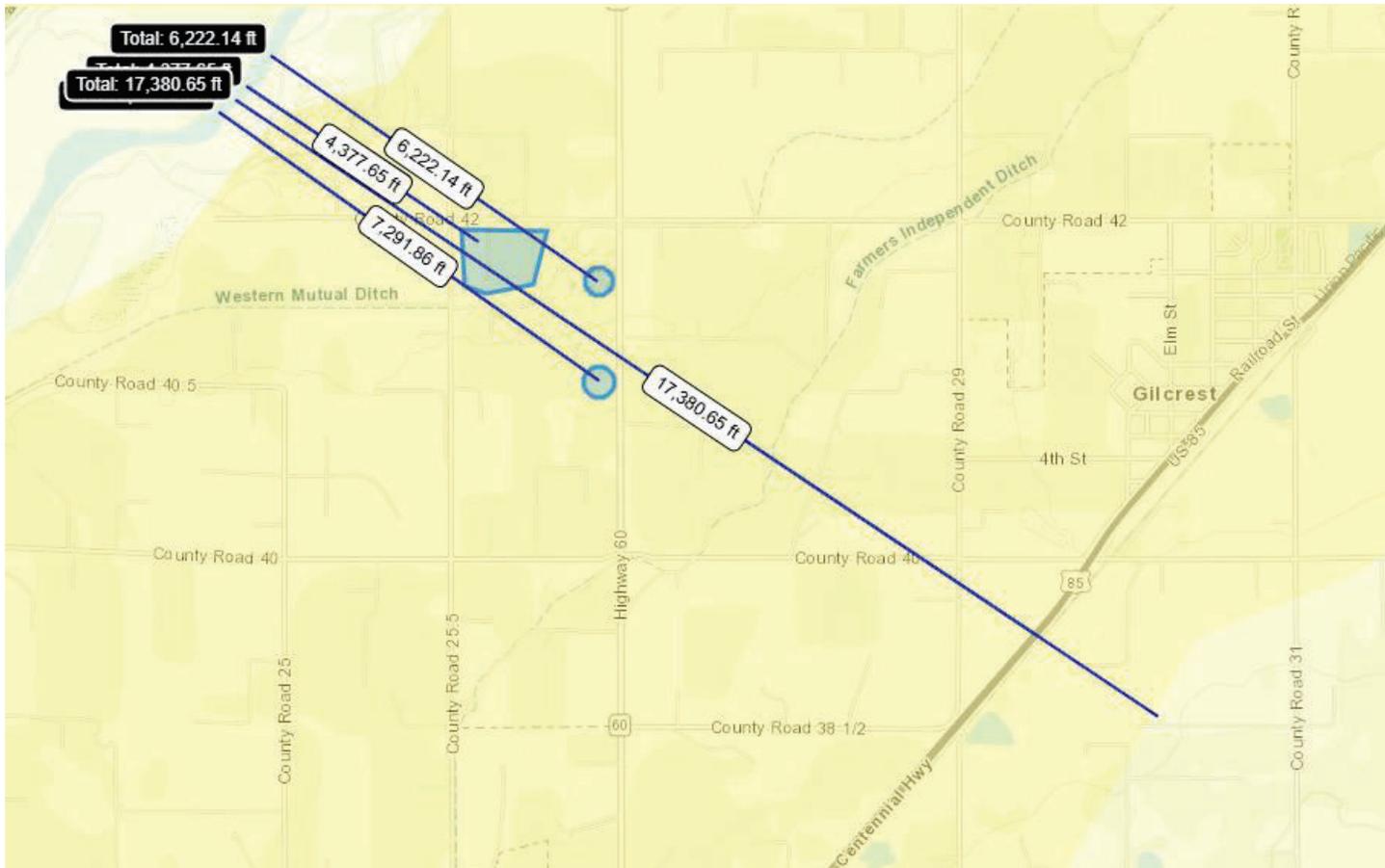


Table 1. Monthly Evaporative Losses at Sweet Valley (ac-ft)

| | | | | | | | | | | | | | | |
|---|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Sweet Valley Pit | | | | | | | | | | | | | | |
| Evaporative Losses | | | | | | | | | | | | | | |
| Table 1 | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | |
| Submitted by: Paul Weiss 5255 Ronald Reagan Boulevard, Ste. 220 Johnstown, CO 80534 Ph: 970-221-5159 | | | | | | | | | | | | | | |
| Total Exposed Water Surface Area ¹ = | | 4.500 acres | | | | | | | | | | | | |
| | | 2025 | | | | | | | | | 2026 | | | |
| | | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Totals |
| Distribution of Annual Evaporation ² | | 0.090 | 0.120 | 0.145 | 0.150 | 0.135 | 0.100 | 0.070 | 0.040 | 0.030 | 0.030 | 0.035 | 0.055 | 1.00 |
| Pond Evaporation ³ inches | | 4.14 | 5.52 | 6.67 | 6.90 | 6.21 | 4.60 | 3.22 | 1.84 | 1.38 | 1.38 | 1.61 | 2.53 | 46.0 |
| Net Pond Evap af/acre | | 0.35 | 0.46 | 0.56 | 0.58 | 0.52 | 0.38 | 0.27 | 0.15 | 0.12 | 0.12 | 0.13 | 0.21 | 3.83 |
| Net Evaporation acre-feet | | 1.55 | 2.07 | 2.50 | 2.59 | 2.33 | 1.73 | 1.21 | 0.69 | 0.52 | 0.52 | 0.60 | 0.95 | 17.25 |
| Notes: ¹ See Map 2b of SWSP for the delineation of the de-watering pond exposed water surface area at Sweet Valley Pit ² Distribution of Annual Evaporation per DWR Guidelines for gravel pits at elevations below 6,500 feet. ³ Annual evaporation rate are taken from NOAA Technical Report NWS 33. | | | | | | | | | | | | | | |

Table 2. Operational Losses at Sweet Valley (ac-ft)

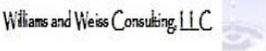
| Sweet Valley Pit Operational Losses Table 2 | |  | | | |
|---|--------------------------------|---|--|---|--|
| | | Submitted by: Paul Weiss 5255 Ronald Reagan Boulevard, Ste. 220 Johnstown, CO 80534 Ph: 970-221-5159 | | | |
| Month | Aggregate Production (tons) | Water Retained in Product (ac-ft) | Water Used for Dust Control (ac-ft) | Water Pumped for Batch Plant (ac-ft) | Total Operational Consumptive Use (ac-ft) |
| Apr-25 | 60,000.00 | 1.77 | 2.43 | | 4.20 |
| May-25 | 60,000.00 | 1.77 | 3.24 | | 5.01 |
| Jun-25 | 60,000.00 | 1.77 | 3.24 | | 5.01 |
| Jul-25 | 60,000.00 | 1.77 | 4.05 | | 5.82 |
| Aug-25 | 60,000.00 | 1.77 | 3.24 | | 5.01 |
| Sep-25 | 60,000.00 | 1.77 | 2.43 | | 4.20 |
| Oct-25 | 50,000.00 | 1.47 | 1.62 | | 3.09 |
| Nov-25 | 40,000.00 | 1.18 | 1.62 | | 2.80 |
| Dec-25 | 40,000.00 | 1.18 | 1.62 | | 2.80 |
| Jan-26 | 40,000.00 | 1.18 | 1.62 | | 2.80 |
| Feb-26 | 50,000.00 | 1.47 | 1.62 | | 3.09 |
| Mar-26 | 50,000.00 | 1.47 | 2.43 | | 3.90 |
| Year 1 Total | 630,000.00 | 18.54 | 29.17 | 0.00 | 47.71 |

Table 3. Summary of Monthly Depletions and Augmentation (ac-ft)

Table 3

Submitted by:
 Paul Weiss
 5255 Ronald Reagan Boulevard, Ste. 220
 Johnstown, CO 80534 Ph: 970-221-5159

| Month | Operational Losses (ac-ft) | Evaporative Losses (ac-ft) | Total Losses (ac-ft) | Lagged Depletions ¹ (ac-ft) | Percent of Month Under Call Conditions | Net Augmentation Requirement ² (ac-ft) |
|--------------|----------------------------|----------------------------|-------------------------------------|--|--|---|
| Apr-25 | 4.20 | 1.55 | 5.75 | 0.00 | 100% | 0.00 |
| May-25 | 5.01 | 2.07 | 7.08 | -0.05 | 100% | -0.05 |
| Jun-25 | 5.01 | 2.50 | 7.51 | -0.19 | 100% | -0.19 |
| Jul-25 | 5.82 | 2.59 | 8.40 | -0.42 | 100% | -0.42 |
| Aug-25 | 5.01 | 2.33 | 7.34 | -0.68 | 100% | -0.68 |
| Sep-25 | 4.20 | 1.73 | 5.92 | -0.90 | 100% | -0.90 |
| Oct-25 | 3.09 | 1.21 | 4.30 | -1.14 | 100% | -1.14 |
| Nov-25 | 2.80 | 0.69 | 3.49 | -1.26 | 100% | -1.26 |
| Dec-25 | 2.80 | 0.52 | 3.32 | -1.40 | 100% | -1.40 |
| Jan-26 | 2.80 | 0.52 | 3.32 | -1.45 | 100% | -1.45 |
| Feb-26 | 3.09 | 0.60 | 3.70 | -1.32 | 100% | -1.32 |
| Mar-26 | 3.90 | 0.95 | 4.85 | -1.48 | 100% | -1.48 |
| Total | 47.71 | 17.25 | 64.96 | -10.29 | | -10.29 |
| Month | CCWCD A Delivery (ac-ft) | CCWCD B Delivery (ac-ft) | Transit Losses ³ (ac-ft) | Supplemental Water (ac-ft) | Water Balance (ac-ft) | Dewatering (ac-ft) |
| Apr-25 | 0.00 | | 0.00 | 0.00 | 0.00 | 6.67 |
| May-25 | 0.10 | | 0.01 | 0.00 | 0.04 | 6.67 |
| Jun-25 | 0.25 | | 0.02 | 0.00 | 0.04 | 6.67 |
| Jul-25 | 0.45 | | 0.04 | 0.00 | -0.01 | 6.67 |
| Aug-25 | 0.75 | | 0.06 | 0.00 | 0.01 | 6.67 |
| Sep-25 | 0.95 | | 0.08 | 0.00 | -0.03 | 6.67 |
| Oct-25 | 1.25 | | 0.10 | 0.00 | 0.01 | 6.67 |
| Nov-25 | 1.40 | | 0.11 | 0.00 | 0.03 | 6.67 |
| Dec-25 | 1.50 | | 0.12 | 0.00 | -0.02 | 6.67 |
| Jan-26 | 1.60 | | 0.13 | 0.00 | 0.02 | 6.67 |
| Feb-26 | 1.45 | | 0.12 | 0.00 | 0.01 | 6.67 |
| Mar-26 | 1.60 | | 0.13 | 0.00 | -0.01 | 6.67 |
| Total | 11.30 | 0.00 | 0.90 | 0.00 | 0.11 | 80.00 |

¹Lagged Depletions from Operational and Evaporative Losses

²Net Augmentation Requirement

³Transit Losses are calculated as 1/2% per mile. The approx. distance from CCWCD's sources to the Sweet Valley Pit is 16 miles. Actual distances will vary.

AGGREGATE LEASE AGREEMENT

THIS LEASE AGREEMENT (which may be referred to hereafter as the "Lease Agreement," "Lease" and/or the "Agreement") is made and entered into this 17th day of October, 2023 ("Effective Date"), by and between the **Central Colorado Water Conservancy District, Groundwater Management Subdistrict of the Central Colorado Water Conservancy District, Well Augmentation Subdistrict of the Central Colorado Water Conservancy District (CCWCD)**, ("Landlord" and/or "Lessor") and **J-2 Contracting Co. a Colorado corporation** ("Lessee"). The Landlord and Lessee may hereinafter be referred to individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, Landlord is the owner of certain real property in Weld County, Colorado, legally described in Exhibit "A" and depicted in Exhibit "B" which exhibits are attached hereto and incorporated herein by this reference (hereafter, the "Real Property" and/or the "Property");

WHEREAS, the Parties believe that the Real Property contains significant quantities of alluvial material, including sand, gravel, cobbles, boulders, silt, clay, shale and rock (which hereafter may be referred to as "Construction Aggregate" and/or "Aggregate.")

WHEREAS, the Parties anticipate that Real Property may contain minor quantities of precious metals (that is, gold and silver) which might be recovered and removed incident to ongoing mining and processing operations (which hereafter may be referred to as "Precious Metals").

WHEREAS, Landlord is interested in having a responsible mining contractor explore, permit, develop, mine, process, market and sell the commercially viable Construction Aggregate and Precious Metals (which hereafter may be referred to as the "Materials") contained within the limits of the two proposed mining cells and then reclaim the two excavated mining cells so that they may be utilized by the Landlord as water storage cells (hereafter the proposed "Mining Cells" and/or "Water Storage Cells") as shown in the Lessee's draft description of the two Mining and Water Storage Cells, (see Exhibit "B" which draft description shall be replaced by the appropriate exhibits in the Lessee's Section 112 Reclamation Permit once the Lessee's aforementioned Reclamation Permit is approved by the DRMS). See, Section 3 (a)(i) and which Reclamation Permit shall be attached hereto and incorporated herein by this reference. The aforementioned Materials specifically excludes any water rights, water-storage rights, hydrocarbon minerals, oil and gas, and metallic ores other than the Precious Metals.

WHEREAS, Lessee is an experienced mining contractor who desires to lease the Real Property from Landlord to perform all of the work, unless specifically stated otherwise in this Agreement, and manage all of the operations necessary to explore, permit, develop, mine, process, market and sell the Materials contained within the limits of the aforementioned proposed Mining Cells and then reclaim them so that they may be utilized by the Landlord as Water Storage Cells (hereafter referred to as the "Work").

financial or otherwise, for Work for which it was obligated under the terms of this Lease Agreement but which it had not completed as of the Termination Date.

(vi) Lessee stipulates that Lessee has examined and inspected the Premises and that in its view as an experienced contract miner the Premises are in satisfactory condition for the purposes contemplated by this Lease Agreement, including the Work required to obtain the necessary Permits. Lessee hereby accepts the Premises in its "AS IS" condition and all risks and costs associated with permitting, bonding, and managing the ongoing Operation unless specifically stated otherwise in this Agreement.

b. Landlord. Prior to commencement of the Term, Landlord shall grant Lessee such access as is reasonably requested by Lessee in furtherance of Lessee's efforts to obtain the Permits, and Landlord shall provide such further cooperation as reasonably requested by Lessee in furtherance of Lessee's efforts to obtain the Permits. Following the completion of any environmental and geotechnical studies, Landlord and Lessee shall cooperate in an effort to agree as to the optimal layout of the mining cells for the entire property with consideration to any required ditch improvements, infrastructure relocation, wetland mitigation, slurry wall construction, minable tonnage, adjacent and surrounding property owner cooperation, and end use. Lessee shall be responsible for obtaining such environmental and geotechnical studies, the costs of which shall be subject to §3(a)(iii). Lessee and Landlord agree that the final decision as to layout will be made by Landlord and that all costs associated with any required ditch improvements, infrastructure relocation, wetland mitigation, endangered species protection or mitigation, historic preservation, and reservoir inlet, outlet, and spillway construction will be the responsibility of Landlord.

4. Parties Obligations during the Term of the Lease.

a. Landlord. Landlord makes no representations or warranties regarding the condition of the Premises, the quantities of Materials present, the suitability of the Real Property and Premises for extracting, processing, marketing and selling said Materials, and the feasibility and cost of reclaiming the Mining Cells so they may be used as Water Storage Cells. Landlord does agree that it is obligated during the Term of the Lease to do the following:

- i. Landlord shall grant Lessee the legal right of access to, from, across and within such portions of the surface of the Property in order for the Lessee to perform the Work required to successfully manage the Operations as described in more detail in Section 1(d) of this Agreement during the Term of the Lease; however, Lessee shall not use or obstruct access to the house located on the Real Property;
- ii. Landlord shall provide augmentation water as required by Lessee's Operations at such times as are detailed by Lessee's Substitute Water Supply Plan at a cost of \$300/Acre Foot per annum for the term of this Lease; subject to increases every 5 years commensurate with the highest rate paid by Landlord for water that it leases for use in the augmentation plans decreed in Case Nos. 02CW335 and 03CW99

g. The Parties agree that in the event of any dispute, disagreement, or failure to reach any related agreement as arising out of, relating to or in connection with this Lease Agreement, the Parties shall use their best efforts to resolve any dispute arising out of or in connection with this Agreement by mediation, to be facilitated by the Judicial Arbiter Group, Inc. ("JAG") in Denver, Colorado or such other mediator that the parties may mutually agree to use. In the event the Parties fail to agree on a single mediator, they shall permit JAG to designate a mediator.

h. Unless otherwise expressly stated herein, in the event of litigation, the Parties agree that each Party shall be responsible to pay their own attorneys fees and that any damages that may be adjudicated or awarded, shall exclude consequential damages and any attorneys' fees, incurred by the prevailing Party.

i. This Lease shall be construed according to the laws of the State of Colorado, and venue shall be located in Weld County, Colorado.

IN WITNESS WHEREOF, the Parties hereto have executed this Lease as of the date first above written.

Landlord
CCWCD

Lessee
J-2 Contracting Co., Inc.

By: Ralph T. Anders
Ralph Anders, President

By: Chris Leone
CHRIS LEONE
PRESIDENT, J-2 CONTRACTING CO.

Attest:

R. Roll
Secretary





ADMINISTRATIVE PROTOCOL

Recharge

Division One - South Platte River Basin

Revised May, 2022

The purpose of recharge is to intentionally introduce water into a tributary aquifer through percolation from the surface. The introduction of water to the aquifer causes a like amount of groundwater to discharge at a surface stream in a specific location and time as “accretions” or “recharge credits” available for beneficial use. Recharge as used in this document does not include artificial recharge of the Denver Basin or nontributary aquifers. A Recharge Structure can be:

- A section of ditch, the infiltration from which can be reasonably modeled as a single source of water.
 - A single pond or a group of ponds that receive water from the same delivery location and the infiltration from which can be reasonably modeled as a single source of water.
1. Recharge credits/accretion including timing, location, and amount are determined only in accordance with decrees of the court or written administrative approvals, including Substitute Water Supply Plans (SWSPs). SWSP or water court applications should include the following information about each Recharge Structure:
 - a. map(s) showing the locations of:
 - i. diversion point(s)
 - ii. Recharge Structure
 - iii. measurement structures (inflow, outflow, staff gage);
 - b. listing of the court case number for the decree(s) authorizing the diversion of water into the Recharge Structure and use of the water in a plan for augmentation, if any
 - c. the maximum water surface area of the structure or stage-area capacity curve developed for each Recharge Structure;
 - d. for ditch structures, if the ditch is divided into more than one Recharge Structure, an explanation of how the volume delivered to an upstream reach will be allocated to downstream Recharge Structures in the ditch.
 2. The division engineer will assign the Recharge Structure a WDID number. The WDID number is the identification number that will be used for the administration of the structure and must be included in all correspondence and accounting.
 3. Prior to commencement of construction, the owner/operator of the Recharge Structure must obtain water commissioner’s approval of proposed equipment, installation and construction. Prior to any diversion into the Recharge Structure, the owner/operator must obtain the water commissioner’s written approval of the final construction and equipment installation, as further described below.

- a. The flow into each Recharge Structure must be equipped with a measurement device and a continuous flow data recorder, unless the water commissioner in conjunction with the division engineer determines adequate records may be kept without such equipment. Refer to the [Administrative Protocol and Functional Standards - Surface Water Headgates and Measuring Devices](#), for minimal suggested equipment installation and operation.
 - b. If the Recharge Structure is designed to discharge water via a surface outlet, such discharge must also be equipped with a measurement device and a continuous flow recorder.
 - c. Each Recharge Structure must have a staff gage, or other devices as required, installed to provide a reading of the surface water elevation in the Recharge Structure.¹ The gage installation should be such that the gage registers the lowest water level in the Recharge Structure. The staff gage must be readable from a readily accessible location. The gage shall have permanent demarcations of 0.01 feet, with the whole feet (1.00 feet) clearly and easily identifiable.
4. All Recharge Structures must be maintained in such a way as to minimize consumptive use of the water by vegetation. Existing vegetation shall be mowed or removed prior to and during the running of water into the Recharge Structure. Crops may not be planted in a Recharge Structure during the same irrigation year that it is used as a Recharge Structure without prior approval from the water commissioner or division engineer.
 5. The timing and quantity of recharge credits/accretions is estimated by applying the lagging parameters (or Unit Response Functions “URFs”) in the decree or SWSP to the volume of water infiltrated into the ground (*Infiltrated Volume* as calculated below). One common method for determining the volume of water infiltrated for any time period can be determined by using a daily mass balance calculation, in acre-feet, and solving for the residual volume (R) of unmeasured flows² as follows. Other methods for determining the volume of water infiltrated into the ground may be considered on a case-by-case basis:

¹ Unless an alternate method of measuring or estimating the change in storage has been approved by the Division Engineer.

² For more information on the mass-balance equation as it applies to ponds or reservoirs, please refer to Guideline 2019-3, Reservoir Accounting Guideline

$$R = \Delta Storage - Meas. Inflow + Meas. Outflow + Evaporation + ET$$

where,

- a. *R* represents the net sum of all unmeasured flow. When *R* is positive, it represents the volume of unmeasured inflows (i.e., no recharge occurred) and when negative, it represents the volume of unmeasured outflow (i.e., recharge volume) that infiltrated into the ground and can be used, with the lagging parameters, to determine the amount of recharge credit.
 - b. $\Delta Storage$ is the change in storage volume compared to a previous measurement, typically based on staff gage readings and the stage-capacity table.
 - c. *Meas. Inflow* is the volume of water delivered into the recharge structure,
 - d. *Meas. Outflow* is the volume of water discharged from the recharge structure,
 - e. *Evaporation* is the volume of water lost to evaporation (see item 6, below),
 - f. *ET* is the volume of water lost from the consumption by vegetation located within the recharge structure. Appropriate vegetative consumptive use values, based on publications of actual plant water use, should be used depending on the type of plants that are found to exist, subject to DWR approval.
6. Gross Evaporative losses from the Recharge Structure must be subtracted from the volume of water delivered to the Recharge Structure. Evaporative losses must be accounted for every day the Recharge Structure has a visible water surface. If the Recharge Structure does not have a stage-surface area curve approved by the water commissioner, the maximum surface area of the Recharge Structure must be used to determine the evaporative losses, unless a different method is approved. Gross evaporation should be estimated using the processes described for off-channel reservoirs in [Guideline 2019-3 - Reservoir Accounting Guideline](#). Monthly evaporation estimates may be prorated for days when there is no visible water surface. A lack of visible water surface is determined from a field inspection. Days with no water surface may be entered from the date of field inspection until the next date of water delivery.
7. Any structure that intercepts groundwater must be permitted as a well and included in a plan for augmentation or SWSP approved by the State Engineer. The Division Engineer strongly recommends avoiding Recharge Structures that intercept groundwater, in order to simplify the accounting process.



Augmentation Plan Accounting Protocol June 2022

Accounting is an administrative tool to confirm water use is in accordance with a decree or other approval including that any required replacement is made to the stream system at the correct time, location, and amount. This guideline is subordinate to any decree language or Division Engineer specific accounting requirements. It describes basic augmentation plan accounting scenarios. Accounting for more complex scenarios can build on the fundamentals described herein.

Contents

| | |
|---|----------|
| 1. Background and definitions | 2 |
| 2. Methods to submit accounting | 2 |
| Accounting and Reporting Uploader (preferred) | 2 |
| Email | 2 |
| 3. Timing of accounting submittal | 3 |
| 4. Overall organization of accounting spreadsheet and required information per tab | 4 |
| Overall organization | 4 |
| Contact/Plan Information Tab | 4 |
| Input Tab(s) | 4 |
| Depletion & Obligation tab | 7 |
| Replacement tab | 7 |
| Summary Tab | 8 |
| DWR tab for Diversion Record Data Import | 8 |
| DWR Meters tab for Meter Reading Data Import | 8 |
| Version/Notes tab | 8 |
| 5. Requirements and recommendations for all tabs | 8 |
| 6. Example, Screenshots, and Spreadsheet Templates | 9 |

1. Background and definitions

A thorough description of augmentation plans for well pumping is available in the [Beginners Guide to Augmentation Plans for Wells](#). The following terms are used in this document:

- **Diversions** are withdrawals from a well, stream, or pond/reservoir.
- **Depletions** are the volume of reduced streamflow caused by a diversion. Lagged depletions are those that occur at a later time than when water is diverted by well pumping or groundwater pond evaporation due to the timing of water movement through the subsurface between the well/groundwater pond and the stream.
- **Hydrobase** is DWR's database of water information.
- **Colorado's Decision Support Systems ("CDSS")** is a State of Colorado website (<https://cdss.colorado.gov/>) providing access to water data and tools.
- **Replacement water** is a volume of water provided to the stream system to replace depletions and satisfy the unmet needs of senior water rights. Replacement water is typically provided from a reservoir release or another source that has been contracted for the purpose of replacing depletions. Replacement water may also be provided in the form of historic consumptive use ("HCU") credits derived from a change of water right where the use of a water right was changed to augmentation.
- **Transit loss** is the diminishment of the amount of water in a stream as water travels from upstream to the downstream location.
- **Priority Admin Number** indicates the seniority of a water right; equal to the number of days between a water right's priority date and the earliest decreed priority, December 31, 1849. For example, the Priority Admin Number for a water right with a priority date of May 5, 1950 is 36650.00000. The lower the Priority Admin Number, the more senior the water right. The five digits to the right of the period are used when the postponement doctrine applies to a water right due to a delay in decreeing the water right in the court (read more about this in the [Administrative Call Standard](#), Appendix A).
- **Administrative Call** is a term that indicates there are unfulfilled downstream water rights "calling" for curtailment of upstream junior water rights to fulfill their need. In accounting, when the downstream Administrative Call is from a senior water right (with a lower Priority Admin Number), diversions/depletions are out-of-priority and replacement water must be provided.
- **Balance** is the amount of replacement water minus the depletions and obligations, not considering the Administrative Call. The balance may be negative when the diversions resulting in the depletions are in priority.
- **Net Effect** is the amount of replacement water minus the depletions and obligations, considering the Administrative Call. When the net effect is zero or positive, it shows that the Augmentation Plan prevented injury by replacing all out-of-priority diversions/depletions.

2. Methods to submit accounting

a. Accounting and Reporting Uploader (preferred)

The preferred method to submit accounting is through the use of the [CDSS Accounting and Reporting Uploader tool](#). To set up an online account, call or email the Division contacts for the appropriate Water Division as shown in Table 1. Additional information is available on DWR's website under Data and Information/Online Data Submittal.

b. Email

Submit via email to the Water Commissioner and the Division Accounting email shown in Table 1. File names for accounting sheets should include the 7 digit Augmentation Plan WDID assigned by the Division Engineer's office.

3. Timing of accounting submittal

Accounting must be submitted as specified by your decree, DWR administrative approval (SWSP, Replacement Plan, etc.), or as requested by the Division Engineer or designated representative(s). If timing is not specified, submit accounting with the timing shown in Table 1.¹

Table 1. Accounting Submittal Emails and Phone Number by Division

| Division | Accounting Question & Submittal Email | Contact Phone Number | Standard Submittal Timing |
|--------------------------------|--|------------------------|---|
| 1 - South Platte | Div1Accounting@state.co.us | 970-352-8712 | 30 days after the end of the reporting month |
| 2 - Arkansas | water.reporting@state.co.us | 719-542-3368 | 10 days after the end of the reporting month* |
| 3 - Rio Grande | kevin.boyle@state.co.us | 719-589-6683 | 10 days after the end of the reporting month |
| 4 - Gunnison | gregory.powers@state.co.us | 970-249-6622 | 10 days after the end of the reporting month |
| 5 - Colorado | dnr_div5acct@state.co.us | 970-945-5665 | 10 days after the end of the reporting month |
| 6 - Yampa/White | brian.romig@state.co.us | 970-846-0036 | Annually by November 15 or as needed upon request |
| 7 - San Juan/ Dolores | dnr_div7acct@state.co.us | 970-247-1845 | 10 days after the end of the reporting month** |
| Designated Ground Water Basins | chris.grimes@state.co.us | 303-866-3851 ext. 8253 | Annually by February 15 for the prior year |

*for approvals deemed critical for administration; all others (including simple subdivisions) bi-annual readings before and after the irrigation season

**for approvals deemed critical for administration; annual submittals for others

¹ For proper administration, Water Commissioners may request regular and direct submission of water data in addition to accounting submittals described herein.

4. Overall organization of accounting spreadsheet and required information per tab

a. Overall organization

The following are typical spreadsheet tab names in accounting. See the [example and screenshots section](#) for an overview of what this might look like:

- i. Contact/Plan Information tab
- ii. Input tab(s)
- iii. Depletions & Obligations tab
- iv. Replacement tab
- v. Summary tab
- vi. DWR tab
- vii. DWR Meters tab
- viii. Version/Notes tab

Fewer or additional tabs as necessary for more simple or complex accounting, subject to approval by the Division Engineer

b. Contact/Plan Information Tab

The accounting must provide the contact information including name and email address for:

- i. The party(s) responsible for submitting the accounting
- ii. The plan administrator and/or the plan attorney
- iii. Water court case number (format of YYCWXXXX), SWSP name and 4-digit Plan ID, or Ground Water Commission Order represented in the accounting.
- iv. The 7-digit overall WDID(s) associated with the augmentation plan (not the individual structure WDIDs).²

c. Input Tab(s)

When possible, all cells showing diversion of water (well pumping and stream diversions) should be located on one or multiple input tabs as shown below. Cells with regular input, such as meter readings and reservoir releases, should be shaded a specifically identified color to distinguish them from cells that use formulas to convert or summarize the input.

Depending on the specific operation, the following may be included on Input tabs:

i. Estimated water use or evaporation:

When meters or measurement structures are not required, water consumption is estimated based on counts (number of homes, number of domestic animals, acreage of pond surface area, etc.) multiplied by a factor. Include a column or row for each of the following that are relevant to the augmentation plan:

1. Type of use: single family dwellings, domestic animals, area of lawn and garden (include units - square feet or acres), area of pond evaporation (include units - square feet or acres), etc.
2. Count or area input value for each type: the number of homes or domestic animals or the area (square footage or acres of home lawn and garden irrigation or pond surface evaporation). [this is the "Input" that could change regularly]

² Colorado Decision Support System Tools (<https://dwr.state.co.us/Tools>) can be used to find WDIDs (see Structures), court case numbers (see Water Rights), and other supporting information.

3. Factor to convert input to consumption in acre-feet.
4. Acre-feet of consumption.

ii. Well diversion data using flow meters:

Enter raw readings or measurements (e.g., from totalizing flow meters) and how those raw readings or measurements are converted to volumes of water. There should be one row or column for each well with a meter as described below. Once the spreadsheet formulas have been established, generally only the meter reading is entered with every submittal. The well and meter information may be located in a separate well & meter information tab (see [example and screenshots section](#)).

1. Well WDID
2. Well Permit Number
3. Priority Admin Number
4. Flow Meter Serial Number
5. Reading Date
6. Reading³ [this is the “Input” that will change regularly]
Enter reading exactly as shown on the face of the meter as a non-negative integer.
7. Comment
 - a. When a meter rolls over (such as from 999 to 000), is replaced or reset⁴, add a comment stating the old meter serial number, the maximum number before the rollover or replacement and then enter the number on the face of the meter at the end of the reporting period. Update the meter information section with the new meter’s serial number.
8. Meter information:
 - a. Make
 - b. Model
 - c. The units represented by the digits on the meter (such as gallons or acre-feet)
 - d. Multiplier for meter reading (if applicable)
 - i. Residential well meters typically have a multiplier of 1.0 with units of gallons. Readings should generally report all numbers on the face of the meter (including non-rotating digits) with a multiplier of 1.0.
 - ii. Larger agricultural or commercial wells typically read in acre-feet and typically have a decimal multiplier. For instance, with a multiplier of 0.001, a meter reading of 123456 represents 123.456 acre-feet.
 - e. Correction factor
 - i. This is a multiplier used when a meter test shows a need to correct the installed meter to an accurate reading. This will be 1.0 when there is not a test showing a need for correction.
9. Acre-feet pumped
Use a formula to convert from the meter reading to acre-feet using the multiplier and correction factor. To convert meter readings in gallons to acre-feet, divide by 325,851.

iii. Well diversion data using Electricity Consumption

For wells approved to use power records and a Power Conversion Coefficient (PCC) to estimate water pumped, the accounting information is similar to well diversion data using flow meters (section 4.c.ii) above with the following replacements (instead of 6. “Reading” and 8. “Meter information”):

³ A comment on the Meter Reading cell is used to note “Actual, Estimated, Corrected, or Calculated” for all wells subject to measurement rules when the entry is not based on a reading taken on the actual date specified.

⁴ Resetting a meter may be prohibited by local well measurement rules.

6. Power meter reading [this is the “Input” that will change regularly]
8. Power Meter Information
 - a. PCC

iv. Surface diversion data

Include a column or row for each surface diversion with the following information:

1. Diversion structure name or a.k.a.
2. Structure WDID
3. Measured flow through the measurement structure and units
 - a. If more than one water right is diverted through the structure, there should be adjacent columns for each. Each source should have a designated column or row and labeling should include the measuring structure WDID and the source of the water (e.g. case number).
 - b. If there is a multiplier that adjusts the standard measurement-flow relationship to reflect the actual measurement-flow relationship of the specific structure (“shift”), the adjusted value should be reflected in a separate column.
4. Priority Admin Number
5. Storage and release

If the diversion is to storage, which will be followed by a release of water, follow the instructions in the [Reservoir Accounting Guideline](#).

v. Administrative Call (are diversions in-priority?)

In portions of Colorado, there may be times when depletions are in-priority, and do not require replacement. Depletions are in-priority when water rights on the stream system that are senior to the diversion have enough water and are not “calling” for more water.

1. Simplified (percent of month administrative call)

For certain basic accounting, such as subdivision well depletions, the Division Engineer may allow or apply an estimate of the days of expected administrative call each month. Typically, replacement water is provided based on projected call days, which is later compared to actual administrative call data to ensure that adequate replacement was provided. In this case, the accounting should have an input field either for the number of call days or the percentage of days in the month with a call.

2. Daily record of administrative call

Provide a column that shows whether depletions are either “IN” or “OUT” of priority each day.

- Locations with minimal call variation: In areas with minimal variation in the call, the Division Office may not require a formula comparing Priority Admin Numbers, but will accept manual entries of “IN” or “OUT” of priority each day.
- All other locations: “IN” or “OUT” of priority is determined daily using formulas comparing the Priority Admin Number of depletions to the Priority Admin Number of the calling water right in each depleted stream reach. Include a column for each of the following:
 - The Priority Admin Number of the calling water right. Calling structure information can be obtained programmatically from:
 - CDSS [REST](#) services - insert a link that pulls the required information directly from DWR’s database.
 - [CDSS Administrative Calls tool](#).

DWR accounting staff can provide guidance on incorporating this information within an accounting spreadsheet.

- The Name of the calling water right
- “In” or “Out”-of-priority either for all structures covered by the accounting or for each structure in its own column. Use a formula to compare the Priority Admin Number of the calling structure to the Priority Admin Number of the structure(s) in the accounting.

d. Depletion & Obligation tab

Used to (1) convert well pumping (and groundwater pond evaporation) to lagged depletions impacting the stream and (2) show lagged depletions that are out-of-priority, and (3) include any additional water obligations of the plan for augmentation.

- i. Calculate lagged depletions - Although well pumping and modeling may use a monthly step function to determine the depletions from pumping, the monthly result may, if requested by the Division Office or required by decree, then be divided by the number of days in the month in order to calculate a daily impact for daily water administration.
 1. Well Pumping (or groundwater pond evaporation) - Reference back to the Input tab for the acre-feet of water pumped or evaporated.
 2. Consumption factor (%) - If the decree or approval describes that a percentage of the water pumped is consumed and only the consumed amount is replaced.
 3. Acre-feet consumed - Multiply the acre-feet pumped by the consumption factor.
 4. Delay Factors - show factors that convert pumping in one month to depletions in future months. These may be percentages per month, that total 100 percent over an extended period of time.
 5. Depletions - a formula that combines previous months and present month pumping with the delay factors to determine depletions impacting the stream this month and in future months.
- ii. Out-of-priority depletions are combined into one column for each reach considering the administrative call information included on the Input tab.
- iii. Return flow obligations (if applicable): Replacement water sources changed from a historical irrigation use usually have a return flow obligation that must also be tracked in accounting. Return flow obligations are similar to depletions because they must be replaced in time, place, and amount. Depending on decree language and preference, return flow obligations may be included under the replacement tab in section 4.e. below. For each replacement source with return flow obligations, include the following:
 - the basis and volume of the return flow obligation,
 - the location of the return flow obligation,
 - replacement of the return flow obligation.

e. Replacement tab

List each structure providing replacement water, transit loss information, and volumes released:

- i. Structure providing replacement water: name of reservoir, ditch, well, leased or other replacement water, its WDID, and the water court decree allowing its use for augmentation or replacement. For instructions on accounting for replacement using recharge accretions, refer to specific recharge guidance.
- ii. Replacement water travel distance (miles)
the distance from the point of release to the location of the out-of-priority depletion where replacement is owed
- iii. Transit loss percent per mile (%)

- iv. Total transit loss (%)
- v. Volume released (acre-feet)
- vi. Transit loss volume (acre-feet)
- vii. Volume delivered (acre-feet) - equal to volume released minus transit loss volume
- viii. Return flow obligations (acre-feet): Depending on decree language as described above, these may be included here instead of in the depletion tab. See description under section 4.d. above.

f. Summary Tab

The Summary Tab is used to calculate the Net Effect of the Plan on each impacted stream reach. The summary should reference back to information and formulas in the other spreadsheet tabs. The summary tab compares obligations, replacements and that replacements equal or exceed obligations in time, place, and amount. The Summary tab should only summarize data and calculations located in other tabs of the accounting. It should not contain manual entries, input data, or make calculations that are used in other tabs.

The Summary Tab should contain the following for each impacted stream reach (typically on a daily basis or as required by the division office):

- i. Total depletions and obligations
- ii. Total replacement
- iii. Balance - Total replacement minus total depletions and obligations, which may be negative when the diversions resulting in the depletions are in priority.
- iv. Net Effect - Total replacement minus out-of-priority depletions and obligations. If the net effect is negative, the Plan resulted in injury.

g. DWR tab for Diversion Record Data Import

A tab titled “DWR” can be used to convert data input or numbers calculated in other tabs into rows that represent diversion record water classes, which DWR staff can upload to create official diversion records. When appropriate, DWR staff will develop this tab or work with plan owners to develop this tab, ensure it follows DWR’s standard format and utilizes water classes according to the [Diversion Records Standard](#). This format is necessary to allow the records to be imported directly into Hydrobase.

h. DWR Meters tab for Meter Reading Data Import

A tab titled “DWR Meters” can be included for use in bulk uploading meter readings. This calculates pumping totals in compliance with well rules or to meet other Division-specific requirements. In order for this tab to be bulk uploaded into Hydrobase, the columns in this tab must be formatted as shown in the “[User Guide - How to Bulk Upload Meter Readings](#)”.

i. Version/Notes tab

A tab to document changes in accounting formulas and the date of those changes.

5. Requirements and recommendations for all tabs

- a. Accounting should show how raw input data is manipulated using formulas to determine the resulting impact on the river. Accounting must therefore include a functional spreadsheet (ie no pdfs) showing all operations, formulas, etc. to clearly show calculations.
- b. The use of a water year of November 1 through October 31 is required unless specifically decreed otherwise. When a different water year is required by decree, DWR may request additional months of data in the accounting to include the November 1 through October 31

time period, resulting in more than 12 months of data being reported.

- c. For all tabs other than the Summary tab, include running accounting for the entire water year without monthly subtotals. Monthly subtotals commonly result in errors in the spreadsheet. The Summary tab can be used as a place to show monthly totals.
- d. Date fields should be complete dates (month, day, and year, recognized as a date value by the spreadsheet software) but may be formatted to display as desired.
- e. Use consistent cell color shading to clearly identify the different types of information, such as manual input cells and formula cells (provide a legend for data types, see example below)
- f. Enter “0” in cells to document no diversion or use, rather than blanks, hyphens, or another character.
- g. When a formula is overwritten with a manual entry, the cell should be highlighted and a comment added for the reasoning.
- h. When there are multiple stream reaches involved, organize accounting from upstream to downstream.
- i. Footnotes should be utilized, as necessary, to describe the basis for formulas, calculations imposed on the raw input data, and column descriptions.

6. Example, Screenshots, and Spreadsheet Templates

Water users may request spreadsheet templates from their local division office for use as examples of how accounting may be assembled, but are responsible for developing their own functional accounting customized for their own Plan requirements. Note that example and actual accounting may have slightly different organization than what is described above.

a. (List of relevant tabs)

The screenshot shows an Excel spreadsheet with the following content:

| | A | B | C | D | E | F | G | H | I |
|----|---|------------------------------------|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | | Example Aug Plan | | | | | | | |
| 3 | | Case No. 12CW3456 | | | | | | | |
| 4 | | Plan WDID: 0101234 | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | Water Year | | | | | | | |
| 7 | | 2021 | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | Person responsible for Accounting: | | | | | | | |
| 13 | | (Name of Contact) | | | | | | | |
| 14 | | (Address) | | | | | | | |
| 15 | | (Email) | | | | | | | |
| 16 | | (Phone) | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | Aug Plan Contact: | | | | | | | |
| 19 | | (Name of Contact) | | | | | | | |
| 20 | | (Address) | | | | | | | |

At the bottom of the workbook you will see tabs for all the pertinent information. In this example, the complexity warrants separating them into different tabs: i.e. Contact and Plan Information, Well and Meter Information, Depletions and Obligations, Example Pond, Replacements, Summary, DWR, and Version tabs.

b. (Contact & Plan Information)

The accounting should be titled with the Aug Plan Name, Aug Plan Water Court Case No(s) and Plan WDID. Contact your local DWR office for help obtaining any of this information.

A color legend that includes any relevant cell shading and conditional formatting.

This tab should also include the contact information for the Aug Plan. This may include the Plan Owner, Plan Operator, Person responsible for submitting the accounting and the Plan attorney.

Any other static information that may be helpful can be added to this tab. This may include Decreed rates or volumes, Appropriation/Adjudication dates, Administration numbers, schematics, etc.

Example Aug Plan
 Case No. 12CW3456
 Plan WDID: 0101234

Water Year
 2021

Cell Fill Color Legend
 Yellow Indicates Input Cells
 Orange Indicates Data Error
 Red Indicates Operational Violation
 Grey Indicates Cells Not In Use

Person responsible for Accounting:
 (Name of Contact)
 (Address)
 (Email)
 (Phone)

Aug Plan Contact:
 (Name of Contact)
 (Address)
 (Email)
 (Phone)

Plan Attorney Contact:
 (Name of Contact)
 (Address)
 (Email)
 (Phone)

| Decreed Water Rights & Replacement Sources | | | | |
|--|------------------|------------|------------|-------------|
| Case No. | Right Name | Adj Date | Appr Date | Admin No |
| 12CW3456 | Example Aug Plan | | 12/31/2012 | 59535.00000 |
| 12CW3456 | Example Pond | | 8/10/2012 | 59392.00000 |
| W1717 | Well 1 | 12/31/1972 | 12/31/1940 | 33237.00000 |
| W1717 | Well 2 | 12/31/1972 | 7/26/1959 | 40018.00000 |

Navigation tabs: Contact & Plan Info, Well & Meter Information, Depletions & Obligations, Replacements, Example Pond, Summary, DWR, Version

c. (Well & Meter Information)

| | A | B | C | D | E | F | G | H | I |
|----|--|---|---|---|---|---|---|---|---|
| 1 | Example Aug Plan | | | | | | | | |
| 2 | Well & Meter Information | | | | | | | | |
| 3 | Water Year | | | | | | | | |
| 4 | 2021 | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | Well Information | | | | | | | | |
| 7 | Name | Well 1 | Well 2 | | | | | | |
| 8 | WDID | 0104567 | 0105678 | | | | | | |
| 9 | Permit No. | 12345F | 12346FR | | | | | | |
| 10 | Owner | John Brown | Jane Smith | | | | | | |
| | Contact | 123 Fake St. Springfield CO 80123 | 124 Fake St. Springfield CO 80123 | | | | | | |
| 11 | | | | | | | | | |
| 12 | Meter Information | | | | | | | | |
| 13 | Make | McCrometer | McCrometer | | | | | | |
| 14 | Model | MO310 | MO306 | | | | | | |
| 15 | Serial Number | 9-8-RC263N | 15-08090-6 | | | | | | |
| 16 | Correction Factor | 0.931 | 1 | | | | | | |
| 17 | Multiplier | 0.001 | 0.001 | | | | | | |
| 18 | Units | acre-feet | acre-feet | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | * Owner and Contact info is not needed here if the wells are owned by the owner of the plan. | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
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| 48 | | | | | | | | | |
| 49 | | | | | | | | | |
| 50 | | | | | | | | | |

Meter and Well information should be kept current. This information is verified through field visits and meter testing.

If convenient, this information can be listed on the tab where meter readings are entered or separated as shown here.

Contact & Plan Info
Well & Meter Information
Depletions & Obligations
Replacements

d. (Depletions & Obligations) - in this example, the Depletions & Obligations tab includes cells for entering meter readings, calculating well pumping over the period, and converting that to lagged depletions.

| Example Aug Plan Depletions & Obligations Water Year 2021 | | | | |
|--|---------------------------|--------------|---------------------------|--------------|
| Meter Readings (EOM) | | | | |
| Month | Well 1 0104567 (af) | Reading Type | Well 2 0105678 (af) | Reading Type |
| 10 | 124651 | Actual | 133356 | Actual |
| 11 | 124653 | Actual | 133358 | Actual |
| 12 | 124655 | Calculated | 133360 | Calculated |
| 1 | 124657 | Actual | 133362 | Actual |
| 2 | 124659 | Actual | 133364 | Actual |
| 3 | 124661 | Actual | 133366 | Actual |
| 4 | 124663 | Actual | 133368 | Actual |
| 5 | | " | | " |
| 6 | | " | | " |
| 7 | | " | | " |

The Meter Reading section is a manual entry section of the Depletions and Obligations tab. This should be the actual meter reading as shown on the face of the meter. Adjacent tables or columns/rows may be added to calculate multipliers, correction factors, or conversions.

e. (Depletions & Obligations)

| Well Pumping | | |
|-------------------|---------------------------|---------------------------|
| Multiplier | 0.001 | 0.001 |
| Correction Factor | 0.931 | 1 |
| Month | Well 1 0104567 (af) | Well 2 0105678 (af) |
| 11 | 0.00186 | 0.00200 |
| 12 | 0.00186 | 0.00200 |
| 1 | 0.00186 | 0.00200 |
| 2 | 0.00186 | 0.00200 |
| 3 | 0.00186 | 0.00200 |
| 4 | 0.00186 | 0.00200 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

The Well Pumping section calculates the value of the amount of pumping determined by the difference in the monthly (or the frequency as required) reading by the subsequent monthly reading and then factoring in values for multipliers, correction factors and/or conversions.

f. (Depletions & Obligations) - calculate lagged depletions for the month

| EOM | | Well Pumping | | URF | | Lagged Depletions | |
|---------|--------------|-------------------|---------|---------|-----------------------|-------------------|---------|
| Well 2 | Reading Type | Multiplier | 0.001 | 0.001 | Previous Year Pumping | 10.00 | 10.00 |
| 0105678 | (af) | Correction Factor | 0.931 | 1 | Month | Well 1 | Well 2 |
| 133356 | Actual | Month | 0104567 | 0105678 | Month | 0104567 | 0105678 |
| 133358 | Actual | (af) | (af) | (af) | (af) | (af) | (af) |
| 133360 | Calculated | 11 | 0.00186 | 0.00200 | 11 | 0.0887 | 0.75300 |
| 133362 | Actual | 12 | 0.00186 | 0.00200 | 12 | 0.0660 | 0.50500 |
| 133364 | Actual | 1 | 0.00186 | 0.00200 | 1 | 0.0396 | 0.39600 |
| 133366 | Actual | 2 | 0.00186 | 0.00200 | 2 | 0.0334 | 0.33400 |
| 133368 | Actual | 3 | 0.00186 | 0.00200 | 3 | 0.0294 | 0.29400 |
| | | 4 | 0.00186 | 0.00200 | 4 | 0.0340 | 0.34000 |
| | | 5 | | | 5 | 0.0628 | 0.62800 |
| | | 6 | | | 6 | 0.1070 | 1.07000 |
| | | 7 | | | 7 | 0.1478 | 1.47800 |
| | | 8 | | | 8 | 0.1635 | 1.63500 |
| | | 9 | | | 9 | 0.1454 | 1.45400 |
| | | 10 | | | 10 | 0.1113 | 1.11300 |

Lagged Depletions should be calculated utilizing the Well Pumping data and the lagging method established by the relevant decree or SWSP (Stream depletion Factors or Glover Parameters).

g. (Depletions & Obligations) - convert monthly lagged depletions to daily

| DATE | Lagged Depletions | | | | | Return Flow Obligations | | |
|------------|-------------------|-------------------|------------------------|------------------------|-----------------------|-------------------------|-----------|-----------|
| | Well 1 | Well 2 | Well 1 Out-of-Priority | Well 2 Out-of-Priority | Total Out-of-Priority | Subsurface RFO | | |
| | 0104567 (cfs) (1) | 0104567 (cfs) (2) | 0105678 (cfs) (3) | 0105678 (cfs) (4) | (cfs) (5) | (cfs) (6) | (cfs) (7) | (cfs) (8) |
| 11/1/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/2/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/3/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/4/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/5/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/6/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/7/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/8/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/9/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/10/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/11/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |
| 11/12/2020 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 | | 0.03 |

Lagged Depletions can now be prorated into a daily value to determine the daily depletion to the river from the Aug Plan.

h. (Replacements)

| Example Aug Plan | | | | | | | | |
|------------------|-----------------------------|-------------------------|--------------|-----------------|-----------------|--------------|-----------------|-------------------|
| Replacements | | | | | | | | |
| Water Year | | | | | | | | |
| 2021 | | | | | | | | |
| DATE | Previous Year's Total | Example Aug Station | | | Pond Release | | | Total |
| | 131 | Total Through Structure | Transit Loss | Credit at Reach | Release For Aug | Transit Loss | Credit at Reach | Total Aug Credits |
| | Diversion of Changed Shares | 0102345 | | | 0103456 | | | |
| | (cfs) | (cfs) | (cfs) | (cfs) | (cfs) | (cfs) | (cfs) | (cfs) |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 3/31/2021 | | | | | 0.00 | 0.00 | 0.000 | 0.000 |
| 4/1/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/2/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/3/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/4/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/5/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/6/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |
| 4/7/2021 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.000 | 0.097 |

Input information should be shaded differently than the calculated (cells with formulas) cells. Please provide a legend with the color/shading scheme.

i. (Summary) - daily

| Example Aug Plan Summary Water Year 2021 | | | | | | | | | | | |
|---|----------------------------|--------------------------------------|-----------------------------------|---------------------------------------|----------------------|-----------------------|-----------------------------|------------------------------|-------------------------------|--------------------------|-----------------------------|
| DATE | Call (admin no.) (1) | Is Plan In Priority? (y/n) (2) | Depletions & Obligations | | | | Replacements | | | Balance (cfs) (10) | Net Effect (cfs) (11) |
| | | | Lagged Depletions (cfs) (3) | OOP Lagged Depletions (cfs) (4) | RFOs (cfs) (5) | Total (cfs) (6) | Aug Station (cfs) (7) | Pond Release (cfs) (8) | Total Credits (cfs) (9) | | |
| | | | 11/15/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | | |
| 11/16/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 |
| 11/17/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 |
| 11/18/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 |
| 11/19/2020 | 99999.00000 | y | 0.03 | 0.00 | 0.03 | 0.03 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 |
| 11/20/2020 | 99999.00000 | y | 0.03 | 0.00 | 0.03 | 0.03 | 0.00 | 0.06 | 0.06 | 0.00 | 0.06 |
| 11/21/2020 | 99999.00000 | y | 0.03 | 0.00 | 0.03 | 0.03 | 0.00 | 0.06 | 0.05 | -0.01 | 0.05 |
| 11/22/2020 | 21698.00000 | n | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.05 | 0.05 | -0.01 | -0.01 |

The Balance column is the balance of Replacements and actual Depletions/Obligations regardless of whether the plan is in or out of priority. It is calculated by subtracting Depletions and Obligations from Replacements.

j. (Summary) - a monthly summary table may be added at the bottom of the Summary tab below the daily summary

| Monthly Summary | | | | | | | | | | | |
|-----------------|--|-------------------------------------|-------------------------------------|---|------------------------|-------------------------|-------------------------------|-------------------------------|-------------------------|----------------------------|-------------------------------|
| Month | Number of days Plan is in Priority (# of days) (1) | % of Days In Priority (%) (2) | Lagged Depletions (ac-ft) (3) | OOP Lagged Depletions (ac-ft) (4) | RFOs (ac-ft) (5) | Total (ac-ft) (6) | Aug Station (ac-ft) (7) | Res Release (ac-ft) (8) | Total (ac-ft) (9) | Balance (ac-ft) (10) | Net Effect (ac-ft) (11) |
| Nov-20 | 0.00 | 0% | 1.77 | 1.77 | 1.81 | 3.58 | 0.00 | 4.26 | 4.26 | 0.68 | 0.68 |
| Dec-20 | 0.00 | 0% | 1.32 | 1.32 | 1.41 | 2.73 | 0.00 | 4.32 | 4.32 | 1.59 | 1.59 |
| Jan-21 | 30.00 | 97% | 1.25 | 0.04 | 1.15 | 1.19 | 0.00 | 0.77 | 0.77 | -1.63 | 0.69 |
| Feb-21 | 28.00 | 100% | 1.17 | 0.00 | 0.89 | 0.89 | 0.00 | 0.00 | 0.00 | -2.06 | 0.00 |
| Mar-21 | 31.00 | 100% | 1.17 | 0.00 | 0.88 | 0.88 | 0.00 | 0.00 | 0.00 | -2.05 | 0.00 |
| Apr-21 | 9.00 | 30% | 1.25 | 0.04 | 0.84 | 0.88 | 3.83 | 0.00 | 3.83 | 1.75 | 2.38 |
| May-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jun-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aug-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sep-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oct-21 | 0.00 | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Net Effect is the Balance or Net Impact value with the priority of the plan included. Plans considered in priority may not be required to replace depletions. This column represents whether the Aug plan shows injury to the river or has sufficiently replaced its uses.

April 30, 2010

Permittee Address

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

The Division of Reclamation Mining and Safety is responsible for ensuring that Sand and Gravel mining operators comply with the requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Act) and the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials (Rules). Among these requirements are provisions for the protection of water resources. The Act requires that reclamation plans must ensure minimization of disturbances to the prevailing hydrologic balance, including disturbances to the quantity of water in the area affected by mining and in the surrounding areas. § 34-32.5-116(4)(h). Rule 3.1.6(1)(a) requires compliance with Colorado water laws and regulations governing injury to existing water rights both during and after mining. Permits must specify how the permittee will comply with applicable Colorado water laws and regulations governing injury to existing water right rights. Rule 6.3.3(j); Rule 6.4.5(2)(c). After an extensive review, the Division determined that several operators may not have appropriate permit conditions to address certain reclamation liabilities arising from impacts to water resources.

In September 2009 the Division of Water Resources (DWR) updated its Guidelines for Sand and Gravel Pits. These guidelines provide guidance on achieving compliance with state law regarding replacement of depletions from sand and gravel mining, thus the guidelines provide a benchmark for the protection of hydrologic balance required under the Act and Rules. As noted in the Guidelines, sand and gravel operations which expose groundwater without complying with state law create a reclamation liability by impacting available groundwater.

State law requires that any person exposing ground water must obtain a well permit from the SEO pursuant to § 37-90-137(11). Because exposed groundwater results in out-of-priority water depletions, operations which expose ground water must also eventually obtain a water-court approved augmentation plan. Currently, several operators do not have either an augmentation plan or bonding to provide an alternative method to mitigate injurious stream depletions that result from mining-related exposure of ground water. The Division has a statutory duty to ensure that lands affected by mining are reclaimed in a manner that complies with state law and to ensure that operators have sufficient bonding to achieve reclamation. In order to assist operators in achieving compliance with these requirements, the Division proposes that, by April 30, 2011, operators should contact the Division and agree upon a plan for achieving compliance.

The Division has identified four approaches for operators:

1. File a financial warranty that will ensure backfilling of the pit to cover the exposed ground water to a depth of two feet above the static ground water level or,
2. Obtain a court approved augmentation plan prior to exposing ground water or,
3. File a financial warranty to cover the cost of installing a clay liner or slurry wall that meets the Division of Water Resources requirements for preventing ground water exposure or,
4. Obtain approval from the Division of Water Resources that acknowledges compliance with the SEO's requirements pursuant to § 37-90-137(11).

The Division will work with operators on an individual basis as they move to implement one of these plans. It is likely that options 1 and 3 will require the submittal of a technical revision or an amendment to the existing permit depending on the nature of the current mining and reclamation plan and the proposed changes. Increased financial warranties, as a result of these modifications, may be posted in a phased manner not to exceed three years. Amendments or revisions currently under review will be required to be approved by April 30, 2011 and may use the phased financial warranty approach described above. New applications going forward or presently under review by the Division will be required to meet the requirements of one of the options 1-4 at the time of application approval. Failure of affected operators to initiate contact with the Division and gain compliance as described above could result in an enforcement action being issued by the Division.

If you have any questions, please contact Tony Waldron at 303-866-3567, extension 8150.

cc: Permit Id Site Name