

May 4, 2021

Mr. Todd Williams, P.E. Williams and Weiss Consulting, LLC 5255 Ronald Reagan Boulevard, Ste 220 Johnstown, CO 80534

RE: Timnath-Connell Substitute Water Supply Plan (WDID 0302526, Plan ID 3615) Timnath-Connell Pit, DRMS Permit No. M-1999-050 (WDID 0303018) Section 3, T6N, R68W, 6<sup>th</sup> P.M. Water Division 1, Water District 3, Larimer County

Approval Period: April 1, 2021 through March 31, 2022 Contact Information for Mr. Williams: 303-653-3940; <u>tlwwater@msn.com</u>

Dear Mr. Williams:

We have reviewed your letter received March 24, 2021 requesting renewal of the above referenced substitute water supply plan ("SWSP") in accordance with section 37-90-137(11), C.R.S., for a sand and gravel pit on behalf of Connell Resources ("Applicant"). The required fee of \$257.00 for the renewal of this substitute water supply plan has been submitted (receipt number 10010641). The original substitute water supply plan for this site was approved on July 22, 1999, and was most recently approved on March 26, 2020 for operations through March 31, 2021.

## **SWSP** Operation

The Timnath-Connell Pit is located in Section 3, Township 6 North, Range 68 West of the 6<sup>th</sup> P.M., south of the town of Timnath and west of the Cache la Poudre River. Mining operations at the Timnath-Connell Pit during this plan period will consist of recycling asphalt and concrete material, dust control, and reclamation activities. The reclamation activity proposed to occur at the Timnath-Connell Pit during this plan period is limited to the backfilling of previously mined areas. No additional mining of sand and gravel is proposed to occur at this site during this plan period, and no product is proposed to be washed at the site during this plan period. Depletions at the site during this plan period will be limited to evaporation from exposed groundwater surface areas and water used for dust control purposes. Replacement of depletions at the site will be made via delivery of Box Elder Ditch Company shares to an on-site recharge pond or fully consumable water leased from the Fort Collins-Loveland Water District. Operations at the site calls for a lined reservoir for the area west of the Box Elder Ditch and backfilling of the mined area to the east of the Box Elder Ditch. An 8.10-acre recharge pond and a 2.74-acre unlined pond will remain onsite after reclamation.



## Depletions

There are 6.03 acres of exposed groundwater remaining at the site and an 8.10-acre recharge pond. The 6.03 acres of groundwater currently exposed at the site consist of a total of 0.15 acres of dewatering trenches, a 0.53-acre dewatering sump, a 2.61-acre pond used to provide water for dust control purposes, and a 2.74-acre pond (see Map 1). Evaporative depletions were calculated using a gross annual evaporation of 39 inches, with a credit of 8.16 inches for effective precipitation [based on an average annual precipitation for the Northern Colorado Water Conservancy District's Loveland (2006-2015) and East Fort Collins (1994-2015) weather stations]. Net evaporative depletions are calculated as 20.82 acre-feet per year for the 8.10-acre recharge pond and 15.50 acre-feet per year for the remaining 6.03 acres of exposed groundwater (see attached Tables 1 and 2). The evaporative loss from the recharge pond is deducted from the deliveries to the recharge pond in the given month prior to determining the net positive accretion or depletion from recharge into the pond and is thus not included in the total net depletions covered in this SWSP.

It is anticipated that 0.80 acre-feet of water will be used for on-site dust control during this plan period, based on an estimate of 5 truckloads of 4,000 gallons of water per month. Water used for dust control purposes is assumed to be 100% consumed.

The Timnath-Connell Pit will not be mined for sand and gravel during this approval period, and no product will be washed at the site, therefore there will be no water lost in any mined product.

The total annual consumptive use from evaporation (excluding the recharge pond) and operational uses at the site is 16.30 acre-feet (see attached Table 4). The Alluvial Water Accounting System (AWAS) stream depletion model, developed by the Integrated Decision Support Group, was used to determine the lagged depletions from the Timnath-Connell Pit to the Cache La Poudre River from past and projected evaporation and operational losses at the site. The following parameters were used in the model:

- Distance from the centroid of the 6.03 acres to the river (X) = 2,218 ft
- Alluvial aquifer width (W) = 5,300 ft
- Specific yield (S) = 0.2
- Transmissivity (T) = 50,000 (gpd/ft)

Lagged stream depletions are estimated to total 16.36 acre-feet during this plan period, as shown on the attached Table 4.

The Applicant has continuously dewatered the Timnath-Connell Pit since 1999. Water pumped for dewatering is discharged into the adjacent recharge pond. This diversion into the pond is not a part of the metered Box Elder Ditch Shares that are also discharged into the recharge pond. The dewatering depletions are lagged to the river using the same parameters as the other lagged depletions from the Timnath-Connell Pit as described above. The dewatering accretions from the recharge pond are lagged to the river using the same parameters as the site depletions with the exception of using a distance (X) from the centroid of the recharge pond to the river of 3,500 ft. This dewatering operation creates lagged accretions that mimic the lagged depletions. Thus at the cessation of dewatering the only depletion that would impact the river is that which is attributable to the "first fill" of the pit. The Applicant intends to line the pit when mining activity is complete thereby eliminating the depletion caused by the "first fill". Should dewatering operations cease prior to the pit obtaining a liner approval from the Division Engineer, the Applicant must address the lagged depletions due to the "first fill."

## **Replacements**

The operator proposes to provide replacement water for this pit using a combination of recharge of Box Elder Ditch Company shares and fully consumable water leased from the Fort Collins-Loveland Water District.

## Recharge of Box Elder Ditch Company Shares

Connell Resources, Inc. owns a total of 4.0 shares out of 64 outstanding shares in the Box Elder Ditch Company ("BEDC") (WDID 0300926), representing 6.25% of the share ownership. The Applicant's 4.0 shares were historically used to irrigate 165 acres on the property known as the John Weitzel Farm, which includes the site of the Timnath-Connell Pit. The primary source of replacement water for this SWSP will be from recharge of 2.5 of these BEDC shares. The shares will be diverted into a recharge pit (WDID 0302003) located on the Timnath-Connell site. The recharge pit was constructed in an area of the mining site that was previously excavated for sand and gravel mining. The remaining 1.5 BEDC shares not delivered to recharge will continue to be used to irrigate the portion of the John Weitzel Farm still in agricultural production.

The pro-rata diversions available at the farm headgate for the 4.0 shares used on the John Weitzel property were estimated to total 373.62 acre-feet per year, based on the average headgate diversions for the Box Elder Ditch for the years 1950 to 2018, assuming a 10% ditch loss. The amount of water available for crop consumption was estimated to be 205.49 acre-feet, based on 55% field efficiency for flood irrigation. The potential crop consumptive use was calculated as 170.02 acre-feet per year, using the SPCU Model. Historic consumptive use for the 4.0 shares was determined as the lesser of the water available for crop consumption or potential crop consumptive use if a full water supply was available on a monthly basis, and was calculated as 169.09 acre-feet per year. Total return flow obligations from the use of the 4.0 shares were calculated as 204.54 acre-feet per year by subtracting the historical consumptive use from the pro-rata amount of diversions available at the farm headgate. One-third of the return flows (68.18 acre-feet) were assumed to occur as subsurface return flows. Subsurface return flows were lagged to the river using the AWAS stream depletion model with the following parameters:

- Distance from the centroid of the irrigated property to the river (X) = 3,300 ft
- Alluvial aquifer width (W) = 5,000 ft
- Specific yield (S) = 0.2
- Transmissivity (T) = 50,000 (gpd/ft)

The monthly net accretion/depletion for the 4.0 BEDC shares were calculated as the monthly diversions available at the farm headgate, minus the surface return flow obligation and lagged subsurface return flow obligation for that month. The monthly net accretion/depletion for the 2.5 BEDC shares to be delivered to recharge were calculated by pro-rating the monthly net accretion/depletion for the 4.0 BEDC shares.

The expected volume of water available for diversion into the recharge pond for the subject 2.5 shares is 233.51 acre-feet per year. This figure represents the pro-rata average headgate diversion less a 10% ditch loss. The pro-rata historical consumptive use credit for the 2.5 shares is estimated to total 105.67 acre-feet for this plan period and the pro-rata return flow obligation for the 2.5 shares is estimated to be 127.83 acre-feet. As indicated above, the evaporation losses from the recharge pond are estimated to total 20.82 acre-feet per year, resulting in a net amount of 212.69 acre-feet of water delivered to recharge.

The lagged accretions from the Timnath-Connell recharge pond were estimated by the Applicant's consultant using the AWAS stream depletion model with the following parameters:

- Distance from the recharge pond centroid to the river (X) = 3,500 ft
- Alluvial aquifer width (W) = 5,300 ft
- Specific yield (S) = 0.2
- Transmissivity (T) = 50,000 (gpd/ft)

The lagged accretions to the Cache la Poudre River are projected to total 226.85 acre-feet during this plan period. This amount includes deliveries to recharge from previous years. Pursuant to previously submitted accounting, 286.54 acre-feet were diverted into the recharge site during the 2012 irrigation season, 257.27 acre-feet were diverted into the recharge site during the 2013 irrigation season, 502.69 acre-feet were diverted into the recharge site during the 2014 irrigation season, 406.81 were diverted into the recharge site during the 2015 irrigation season, 240.10 were diverted into the recharge site during the 2016 irrigation season, 317.95 acre-feet were diverted into the recharge site during the 2017 irrigation season, 229.69 acre-feet were diverted into the recharge site during the 2018 irrigation season, 252.31 acre-feet were diverted into the recharge site during the 2019 irrigation season, and 258.41 acre-feet were diverted into the recharge site during the 2020 irrigation season. Additionally, in 2014 and 2015 long periods of no call on the Cache la Poudre River allowed for a considerable amount of free river water to be delivered into the recharge pond beyond the historic yield of the 2.5 Box Elder shares. The summer and winter return flow obligations from the use of the 2.5 Box Elder Ditch shares will be maintained under this substitute water supply plan. A monthly breakdown of the stream depletions and accretions are shown in the attached Table 8. As shown in column (H), the net recharge accretion credits from the Box Elder Ditch shares are sufficient to cover both the return flow obligations from the use of the shares and the depletions from operations at the Timnath-Connell Pit except during the months of May and July 2021, during which there is a projected net depletion of 0.47 acre-feet.

## Fort Collins-Loveland Water District

Recharge accretions from the BEDC shares will not be sufficient to satisfy the replacement obligations during the months of May and July 2021, therefore the Applicant has entered into an agreement with the Fort Collins-Loveland Water District ("FCLWD") for the lease of 2.0 acre-feet of fully consumable water that will be used to make replacements during these months. More water was leased than the projected net depletions to the Poudre River in the event that projected accretions from Box Elder Ditch deliveries into the recharge pond are lower than projected. The replacement sources included in the lease are direct release of reusable supplies stored in the Overland Trail Reservoirs (WDID 0303312) and discharge of reusable municipal return flows from the South Fort Collins Sanitation District Waste Water Treatment Plant (aka "Tridistricts WWTP 1", WDID 0302323) which delivers water to the Poudre River from the Fossil Creek Reservoir and Fossil Creek Outlet Timnath-Connell SWSP Plan ID 3615

Canal. The outlet of the Overland Trail Reservoirs is approximately 15 miles upstream of the Timnath-Connell Pit, therefore a 3.75% (0.25% per mile) transit loss will be assessed on all deliveries from this source, unless otherwise determined by the Water Commissioner for District 3. The Fossil Creek Outlet Canal is downstream of the Timnath-Connell Pit, therefore no transit loss will be applied if water is delivered from the Fossil Creek Outlet Canal. The Water Commissioner has confirmed that there are no intervening diversions on the Cache la Poudre River between the Timnath-Connell Pit and the Fossil Creek Outlet Canal.

The use of reusable municipal return flows from the South Fort Collins Sanitation District Waste Water Treatment Plant is pursuant to the Fort Collins-Loveland Water District Substitute Water Supply Plan approval issued on February 22, 2021 (WDID 0302566, Plan ID 6222). Under the February 22 approval, use of the subject municipal return flows is limited to use as a replacement source in the Tri-District's Lamb Lakes Substitute Water Supply Plan (WDID 0302556, Plan ID 6135) and replacement of return flow obligations associated with changed ditch shares, and does not include the replacement of depletions associated with the Timnath-Connell Pit. Therefore, the FCLD's municipal return flows may not be used as a replacement source in this SWSP unless the FLCWD obtains a new or amended SWSP approval that includes use as a replacement source in the Timnath-Connell Pit SWSP as an allowed use of the subject municipal return flows, or a decree is entered in pending case no. 2019CW3019 allowing for such use. It is anticipated that releases from the Overland Trail Reservoirs will be sufficient to cover the necessary replacement obligations.

## Long Term Augmentation

The final reclamation plan for this site includes both a lined reservoir and unlined ponds for the portion of the site west of the Box Elder Ditch, while all of the disturbed areas to the east of the Box Elder Ditch will be backfilled. The successful completion of a lined reservoir will eliminate long-term depletions that would require an augmentation plan for the western portion of the site. After completion and approval of the reservoir liner this area must continue to be covered by a valid SWSP until the lagged depletions from mining operations are no longer impacting the river.

A 2.74-acre unlined pond and the 8.10-acre recharge pond are proposed to remain on the site after final reclamation. The creation of permanent unlined ponds will result in long-term evaporation of groundwater which requires a long-term augmentation plan. The Applicant is required to obtain a water court approved augmentation plan to cover the long term-depletions associated with such groundwater ponds.

In accordance with the letter dated April 30, 2010 (see 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 required that you provide information to DRMS to demonstrate you can replace long term injurious stream depletions that result from mining related exposure of groundwater. In accordance with approach nos. 1 and 3 identified in that letter, the applicant holds a bond through DRMS in the amount of \$532,504.72. A site inspection on August 31, 2012 by DRMS confirmed the bond is sufficient to complete the reclamation plan. In addition, Connell has confirmed that they understand that an augmentation

plan must be filed three years prior to completion of mining at the site to address long-term depletions from the evaporation of groundwater from the unlined ponds. **Conditions of Approval** 

I hereby approve this substitute water supply plan, in accordance with section 37-90-137(11), C.R.S., subject to the following conditions:

- 1. This plan shall be valid for the period of April 1, 2021 through March 31, 2022 unless otherwise revoked or superseded by a decree. If a court-decreed augmentation plan will not be obtained by the plan's expiration date, a renewal request must be submitted to this office with the statutory fee (currently \$257) no later than **February 1, 2022.** If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP, in which case a \$1,593 filing fee will apply.
- 2. Well permit 53419-F has been obtained for the current use and exposed pond surface area of the gravel pit in accordance with sections 37-90-137(2) and (11), C.R.S.
- 3. The total surface area of the groundwater exposed at the Timnath-Connell Pit (not including the recharge pond) must not exceed 6.03 acres, resulting in 15.50 acre-feet per year of evaporative loss.
- 4. The total amount of groundwater used for operational purposes at the Timnath-Connell Pit during this plan period shall not exceed 0.8 acre-feet used for dust control purposes. No product shall be mined at the site during this plan period.
- 5. Total consumption at the Timnath-Connell Pit shall not exceed the aforementioned amounts unless an amendment is made to this plan.
- 6. Approval of this plan is for the purposes as stated herein. Any additional uses of this water must first be approved by this office. Any future additional historical consumptive use credit given (e.g., agricultural water transfer) for this site must consider all previous credits given.
- 7. All pumping for dust control purposes shall be measured in a manner acceptable to the division engineer.
- 8. The water attributable to the 2.5 shares of the Box Elder Ditch Company must continue to be diverted in priority at the ditch and then measured into the Timnath-Connell recharge site. Adequate measuring devices acceptable to the water commissioner must be installed.
- 9. The Division of Water Resources will not acknowledge any recharge activity conducted without the knowledge of the water commissioner. The flow into the recharge site must be metered and equipped with a continuous flow recorder unless the water commissioner, in conjunction with the division engineer, determines adequate records may be kept without such equipment.
- 10. Water may be delivered to recharge only if the net impact of this plan is not negative. Water must first be delivered or exchanged to offset negative impacts of this plan before it may be diverted for recharge.
- 11. The replacement water which is the subject of this plan cannot be sold or leased to any other entity. As a condition of subsequent renewals of this substitute water supply plan, the replacement water must be appurtenant to this site until a plan for augmentation and/or

liner approval is obtained for the entire site. All replacement water must be concurrent with depletions in quantity, timing, and locations.

- 12. 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 approval of the water commissioner. The release of replacement water may be aggregated to maximize beneficial use. The water commissioner and/or the division engineer shall determine the rate and timing of an aggregated release. The Applicant is required to coordinate the delivery location of replacement water with the water commissioner to ensure the out-of-priority depletions are adequately replaced to prevent injury to other water rights.
- 13. <u>The Applicant may not use the FCLWD's municipal return flows as a replacement source in this SWSP unless the FCLWD obtains a new or amended SWSP, or a decree is entered in case no. 2019CW3019, allowing for such use. In addition, prior to the use of the Fossil Creek Outlet Canal water, the Applicant is required to notify the water commissioner and obtain the water commissioner's approval at least 48 hours prior to use, or less if allowed by the water commissioner. The applicant is required to obtain the water commissioner's approval on a daily basis or other interval as required by the water commissioner. These replacement supplies may only be used at times when there is a continuous live stream between a downstream replacement location and the point of depletion and there is no call for water within that reach.</u>
- 14. The division engineer, or his designated representative, will administer all such water transported in the South Platte River or its tributaries under this SWSP, including water for replacement of depletions, past intervening headgates to ensure that such water is not intercepted or otherwise diminished in quantity by diversion, use or other interference by intervening water rights and to assure that such water remains available and suitable for Applicant's uses under this SWSP, except when any intervening headgate is diverting the entire flow of ("sweeping") the river. In the event that delivery past headgates which sweep the river requires the installation of a bypass structure or the use of an existing bypass structure by agreement with a third-party, Applicant is responsible for either installing a new bypass structure with a continuous recording measuring device(s) as approved by the water commissioner or securing an agreement with a third-party to use an existing bypass structure and providing such information and agreement to the division engineer.
- 15. 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.
- 16. Adequate accounting of depletions and replacements must be provided to the division engineer in Greeley (<u>DNR\_Div1Accounting@state.co.us</u>) and the water commissioner (<u>Mark.Simpson@state.co.us</u>) on a monthly basis, or more frequent if required by the water commissioner. All amounts shall be in acre-feet.
- 17. The name, address, and phone number of the contact person who will be responsible for the operation and accounting of this plan must be provided on the accounting forms submitted to the division engineer and the water commissioner.
- 18. The Applicant shall follow the Augmentation Plan Accounting and the Dry-Up of Irrigated Land for the operation of this SWSP. The applicant shall follow the latest version of the recharge protocol found on <a href="https://dwr.colorado.gov/services/water-administration">https://dwr.colorado.gov/services/water-administration</a> under "Guidance Documents Formal Directives".

- 19. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.
- 20. The amount and location of the dry-up of the irrigated acreage associated with the subject 2.5 shares of the Box Elder Ditch Company has been previously documented and approved by the division engineer and water commissioner (see attached Map 2).
- 21. Reclamation of the mine site will produce a permanent water surface exposing groundwater to evaporation, therefore an application for a plan for augmentation must be filed with the Division 1 Water Court at least three years prior to the completion of mining to include, but not be limited to, long-term evaporation losses. Granting of this plan does not imply approval by this office of any such court application(s). For the portion of the site proposed to be lined, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.
- 22. The Timnath-Connell Pit has been continuously dewatered. Dewatering operations at this site create lagged accretions that mimic its lagged depletions due to the recharge of dewatering water. The Applicant intends to line the mined portion of the site when mining activity is complete, and none of the currently dewatered areas will be within the unlined lakes after reclamation. Therefore the site should not experience water loss associated with a "first fill" that occurs when unlined gravel pits are allowed to fill with groundwater. The Applicant proposes that in accordance with the current dewatering plan, once dewatering at the site ceases, there will not be any post-pumping depletions that must be addressed.
- 23. If dewatering of the Timnath-Connell Pit is discontinued prior to the completion of a liner, the pit would fill, creating additional depletions to the stream system and resulting in increased evaporation. Additionally, should an augmentation plan not be obtained for the unlined ponds, long term depletions to the stream system would result. To assure that additional or long term depletions to the river do not occur, a bond for \$532,504 for the lining or backfilling of the Timnath-Connell Pit was obtained in 2017 through DRMS.
- 24. 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.
- 25. 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 which the senior appropriators receiving the substitute supply has normally been put. As such, water quality data or analysis may be requested at any time to determine if the requirement of use of the senior appropriator is met.
- 26. The decision of the state engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any pending water court case or any other legal action that may be initiated concerning this plan. This decision shall not bind the state engineer to act in a similar manner in any other applications involving other plans, or in any proposed renewal of this plan, and shall not imply

concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

Should you have any questions or comments, please contact Michael Hein, Lead Assistant Division Engineer, in Greeley at 970-352-8712 or Javier Vargas-Johnson in Denver at 303-866-3581.

Sincerely,

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

Attachments: Maps 1 and 2 Tables 1, 2, 4, and 8 April 30, 2010 DRMS letter Accounting and Dry-Up Protocols

Cc: Michael Hein, Lead Assistant Division Engineer, Michael.Hein@state.co.us

Louis Flink, Tabulation/Diversion Records Coordinator, Louis.Flink@state.co.us

Mark Simpson, Water Commissioner, Water District 3, <u>Mark.Simpson@state.co.us</u>

Amy Eschberger, Division of Reclamation, Mining and Safety, Amy.Eschberger@state.co.us

Brock Bowles, Division of Reclamation, Mining and Safety, Brock.Bowles@state.co.us



Map 2



#### Table 1

Timnath-Connell Pit Connell Resources

#### Evaporative Loss - Timnath-Connell Recharge Pond

| Total Exposted Water Surface Area <sup>1</sup> = 8.1 acres |           |       |      |      |      |        |           |         |          |          |         |          |       |        |
|--|-----------|-------|------|------|------|--------|-----------|---------|----------|----------|---------|----------|-------|--------|
|  |           |       |      |      |      | 2021   |           |         |          |          |         | 2022     |       |        |
|  |           | April | May  | June | July | August | September | October | November | December | January | February | March | Totals |
| Distribution of Annual Evaporation <sup>2</sup>            |           | 0.09  | 0.12 | 0.15 | 0.15 | 0.14   | 0.10      | 0.07    | 0.04     | 0.03     | 0.03    | 0.035    | 0.055 | 1.00   |
| Pond Evaporation <sup>3</sup>                              | inches    | 3.51  | 4.68 | 5.66 | 5.85 | 5.27   | 3.90      | 2.73    | 1.56     | 1.17     | 1.17    | 1.37     | 2.15  | 39.00  |
| Effective Precipitation <sup>4</sup>                       | inches    | 1.12  | 1.73 | 0.90 | 0.91 | 0.67   | 0.92      | 0.69    | 0.28     | 0.17     | 0.16    | 0.21     | 0.39  | 8.16   |
| Net Pond Evap  | af/acre   | 0.20  | 0.25 | 0.40 | 0.41 | 0.38   | 0.25      | 0.17    | 0.11     | 0.08     | 0.08    | 0.10     | 0.15  | 2.57   |
| Net Evaporation  | acre-feet | 1.61  | 1.99 | 3.21 | 3.34 | 3.10   | 2.01      | 1.38    | 0.86     | 0.67     | 0.68    | 0.78     | 1.18  | 20.82  |

Notes:

<sup>1</sup> See Map 1 for the delineation of the de-watering pond exposed water surface area.

<sup>2</sup>Distribution of Annual Evaporation per DWR Guidelines for gravel pits at elevations below 6,500 feet.

<sup>3</sup>Annual evaporation rate are taken from NOAA Technical Report NWS 33.

<sup>4</sup>Effective Precipitation = 0.7 \* Avg. Precip.. Avg. Monthly Precip. = averaging monthly data from the Northern Colorado Water Conservancy District's Loveland (2006 - 2015) and East Ft. Collins (1994 - 2015) weather stations.

#### Table 2

Timnath-Connell Pit Connell Resources

#### Evaporative Losses within Mining Area

| Total Exposted Water Surface Area <sup>1</sup> = 6.03 acres |           |       |      |      |      |        |           |         |          |          |         |          |       |        |
|---|-----------|-------|------|------|------|--------|-----------|---------|----------|----------|---------|----------|-------|--------|
|   |           |       | 2021 |      |      |        |           |         |          |          |         | 2022     |       |        |
|   | [         | April | May  | June | July | August | September | October | November | December | January | February | March | Totals |
| Distribution of Annual Evaporation <sup>2</sup>             | ſ         | 0.09  | 0.12 | 0.15 | 0.15 | 0.14   | 0.10      | 0.07    | 0.04     | 0.03     | 0.03    | 0.035    | 0.055 | 1.00   |
| Pond Evaporation <sup>3</sup>                               | inches    | 3.51  | 4.68 | 5.66 | 5.85 | 5.27   | 3.90      | 2.73    | 1.56     | 1.17     | 1.17    | 1.37     | 2.15  | 39.00  |
| Effective Precipitation <sup>4</sup>                        | inches    | 1.12  | 1.73 | 0.90 | 0.91 | 0.67   | 0.92      | 0.69    | 0.28     | 0.17     | 0.16    | 0.21     | 0.39  | 8.16   |
| Net Pond Evap   | af/acre   | 0.20  | 0.25 | 0.40 | 0.41 | 0.38   | 0.25      | 0.17    | 0.11     | 0.08     | 0.08    | 0.10     | 0.15  | 2.57   |
| Net Evaporation   | acre-feet | 1.20  | 1.48 | 2.39 | 2.48 | 2.31   | 1.50      | 1.02    | 0.64     | 0.50     | 0.51    | 0.58     | 0.88  | 15.50  |

Notes:

<sup>1</sup> See Map 1 for the delineation of the de-watering pond exposed water surface area.

<sup>2</sup>Distribution of Annual Evaporation per DWR Guidelines for gravel pits at elevations below 6,500 feet.

<sup>3</sup>Annual evaporation rate are taken from NOAA Technical Report NWS 33.

<sup>4</sup>Effecitive Precipitation = 0.7 \* Avg. Precip.. Avg. Monthly Precip. = averaging monthly data from the Northern Colorado Water Conservancy District's Loveland (2006 - 2015) and East Ft. Collins (1994 - 2015) weather stations.

Table No. 8 Connel Resources, Inc. Timnath-Connell Pit SWSP

Water Balance for CRI's SWSP

Prepared by: Williams and Weiss Consulting, LLC Date Revised: 2/15/2021

|                  |                 |               |               |               |               | 1              |                 |              |                     |                           |
|------------------|-----------------|---------------|---------------|---------------|---------------|----------------|-----------------|--------------|---------------------|---------------------------|
|                  |                 |               |               |               |               |                |                 | Monthly      |                     |                           |
|                  | Farm Headgate   |               |               |               |               |                |                 | Excess or    |                     |                           |
|                  | Diversions into | Evaporative   |               | Lagged Timing | Summer Return |                | Timnath-Connell | Deficit      |                     |                           |
|                  | CRI Recharge    | Loss From     | Net           | of Net        | Flow          | Winter Return  | Lagged          | Realized at  | Monthly Supplies    |                           |
|                  | Pond            | Recharge Pond | Recharge      | Recharge      | Component     | Flow Component | Depletions      | River        | Leased from Ft.     | Total Monthly Excess or   |
|                  | (acre-feet)     | (acre-feet)   | (acre-feet)   | (acre-feet)   | (acre-feet)   | (acre-feet)    | (acre-feet)     | (acre-feet)  | Collins (acre-feet) | Deficit Realized at River |
| Month            | (A)             | (B)           | (c)           | (0)           | (E)           | (F)            | (G)             | (н)          | 0                   | (acre -feet) (J)          |
| Year-1 Total     | 317.95          | 20.82         | 297.13        | 281.06        | 69.57         | 53.06          | 16.13           | 142.30       | 0.00                | 142.30                    |
| Apr-18           | 0.00            | 1.61          | -1.61         | 18.37         |               | 6.65           | 1.09            | 10.63        | 0.00                | 10.63                     |
| May-18           | 53.18           | 1.99          | 51.19         | 17.16         | 12.38         |                | 1.16            | 3.62         | 0.00                | 3.62                      |
| lun-18           | 48.75           | 3.21          | 45.55         | 18.01         | 12.87         |                | 1.28            | 3.86         | 0.00                | 3.86                      |
| Jul-18           | 49.75           | 3.34          | 46.41         | 20.45         | 16.65         |                | 1.48            | 2.32         | 0.00                | 2.32                      |
| Aug-18           | 36.05           | 3.10          | 32.95         | 24.47         | 15.13         |                | 1.64            | 7.70         | 0.00                | 7.70                      |
| Sep-18           | 34.77           | 2.01          | 32.76         | 27.13         | 12.90         |                | 1.69            | 12.54        | 0.00                | 12.54                     |
| Oct-18           | 33.42           | 1 38          | 32.04         | 26.82         | 22.00         | 11.12          | 1.60            | 14.10        | 0.00                | 14.10                     |
| Nov-18           | 0.00            | 0.86          | -0.86         | 24.72         |               | 8.85           | 1.00            | 14.40        | 0.00                | 14.40                     |
| Dec-18           | 0.00            | 0.67          | -0.67         | 22.08         |               | 7.85           | 1 35            | 12.88        | 0.00                | 12.88                     |
| lan-19           | 0.00            | 0.68          | -0.68         | 19.69         |               | 7.11           | 1.22            | 11.36        | 0.00                | 11.36                     |
| Feb-19           | 0.00            | 0.78          | -0.78         | 17 71         |               | 6.43           | 1 14            | 10.14        | 0.00                | 10.14                     |
| Mar-19           | 0.00            | 1,18          | -1 18         | 16.02         |               | 5.95           | 1,10            | 8,97         | 0.00                | 8.97                      |
| Year-2 Total     | 255.92          | 20.82         | 235.10        | 252.63        | 69.93         | 53.95          | 16.22           | 112.52       | 0.00                | 112.52                    |
| Apr-19           | 0.00            | 1.61          | -1.61         | 15.83         | 05.05         | 6.73           | 1,13            | 7.97         | 0.00                | 7.97                      |
| May-19           | 0.00            | 1.01          | -1.99         | 14.89         | 12.47         | 0.75           | 1.13            | 1.19         | 0.00                | 1 19                      |
| lup-19           | 47.50           | 3.21          | 1.55          | 15.94         | 12.47         |                | 1.25            | 1.15         | 0.00                | 1.13                      |
| Jul-19           | 43.20           | 3.21          | 39.86         | 19.54         | 16.73         |                | 1.50            | 0.30         | 0.00                | 0.30                      |
| Aug-19           | 50.68           | 3.10          | 47.58         | 22.77         | 15.15         |                | 1.55            | 5.9/         | 0.00                | 5.94                      |
| Sop.19           | 93.36           | 2.01          | 91.35         | 25.56         | 13.13         |                | 1.08            | 10.76        | 0.00                | 10.76                     |
| 0ct 10           | 1757            | 1 20          | 16.10         | 25.30         | 13.07         | 11.20          | 1.75            | 10.70        | 0.00                | 10.70                     |
| Nov 19           | 17.57           | 1.38          | 0.15          | 23.40         |               | 9.02           | 1.03            | 12.40        | 0.00                | 12.48                     |
| Dec 10           | 0.00            | 0.80          | -0.80         | 20.02         |               | 7.01           | 1.45            | 11.67        | 0.00                | 11.67                     |
| Lap 20           | 0.00            | 0.07          | -0.67         | 19.62         |               | 7.51           | 1.34            | 10.25        | 0.00                | 10.35                     |
| Jan-20<br>Eab 20 | 0.00            | 0.08          | -0.08         | 16.03         |               | 6.49           | 1.22            | 0.11         | 0.00                | 0.11                      |
| Mar 20           | 0.00            | 1 10          | -0.78         | 15.73         |               | 6.00           | 1.14            | 9.11         | 0.00                | 9.11                      |
| Vacr 2 Total     | 252.21          | 1.10          | -1.10         | 13.12         | 70.20         | 6.00           | 1.11            | 02.25        | 0.00                | 8.01                      |
| Apr 20           | 5.02            | 20.82         | 231.45        | 15.52         | 70.36         | 7.02           | 1 1 2           | 7 26         | 0.00                | 7.26                      |
| Api-20           | 56.11           | 1.01          | 54.12         | 11.52         | 12 72         | 7.03           | 1.15            | 0.70         | 0.00                | 0.70                      |
| IVIAy-20         | 56.11           | 2.35          | 54.12         | 14.01         | 12.72         |                | 1.19            | 1.05         | 0.00                | 1.05                      |
| Jul 20           | 35.30           | 3.21          | 37.03         | 15.72         | 15.37         |                | 1.50            | 1.05         | 0.00                | 1.05                      |
| Jui-20           | 40.50           | 3.54          | 37.02         | 10.40         | 16.39         |                | 1.51            | 0.50<br>E 79 | 0.00                | 0.30<br>E 70              |
| Sep 20           | 10.02           | 3.10          | 33.32         | 22.01         | 13.17         |                | 1 71            | 10.70        | 0.00                | 3.70                      |
| Sep-20           | 49.40           | 2.01          | 47.39         | 25.41         | 15.45         | 11 50          | 1./1            | 10.27        | 0.00                | 10.27                     |
| Nov 20           | 0.00            | 1.30          | -0.95         | 23.29         |               | 11:22          | 1.01            | 12.09        | 0.00                | 12.09                     |
| Doc 20           | 0.00            | 0.80          | -0.80         | 23.37         |               | 0.90           | 1.48            | 11.63        | 0.00                | 11.63                     |
| Lop 21           | 0.00            | 0.67          | -0.67         | 10 5 6        |               | 7.91           | 1.33            | 10.10        | 0.00                | 10.10                     |
| Eab 21           | 0.00            | 0.00          | -0.00         | 16.50         |               | 6.40           | 1.21            | 10.13        | 0.00                | 10.13                     |
| Mar 01           | 0.00            | 1 10          | -0.76         | 15.07         |               | 5 00           | 1.13            | 7.00         | 0.00                | 7.00                      |
| Veer 4 Tetel     | 159 41          | 20.92         | 227 50        | 13.07         | 71.30         | 5.55           | 16.26           | 7.58         | 0.00                | 7.50                      |
| Apr 21           | 5 20            | 1.61          | 237.35        | 14.72         | /1.28         | 7.05           | 1 1 2           | 65.55        | 0.00                | 656                       |
| May-21           | 20.08           | 1.01          | 27.99         | 13.91         | 12 75         |                | 1 10            | -0.03        | 0.00                | -0.03                     |
| lup 21           | 42.01           | 2.33          | 27.35         | 15.51         | 12.75         |                | 1.15            | -0.03        | 0.00                | -0.03                     |
| Juli-21          | 43.01           | 3.21          | 65.00         | 17.07         | 16.01         |                | 1.30            | -0.44        | 0.00                | -0.44                     |
| Aug-21           | 50.01           | 3.34          | 47.36         | 22.11         | 15.36         |                | 1.50            | -0.44        | 0.00                | 5 10                      |
| Sep-21           | 24.47           | 2.10          | 22.76         | 22.11         | 13.50         |                | 1.05            | 9.74         | 0.00                | 9.10                      |
| 0ct 21           | 24.//<br>g.oo   | 1 20          | 22.70<br>8.67 | 24.90         | 13.32         | 11 75          | 1.70            | 5.74         | 0.00                | 5.74                      |
| Nov 21           | 3.33            | 1.30          | 0.02          | 24.31         |               | 0 11           | 1.01            | 12.40        | 0.00                | 12.35                     |
| Dec 21           | 0.00            | 0.00          | -0.00         | 23.07         |               | 9.00           | 1.47            | 11 17        | 0.00                | 11 17                     |
| Dec-21           | 0.00            | 0.07          | -0.67         | 10.39         |               | 0.09<br>7.00   | 1.33            | 11.17        | 0.00                | 11.1/                     |
| Fob 22           | 0.02            | 0.00          | -0.00         | 16.31         |               | 7.33           | 1.21            | 5.//         | 0.00                | 5.//                      |
| Mar 22           | 0.03            | 0.76          | -0.75         | 10.45         |               | 6.15           | 1.13            | 0.07         | 0.00                | 0.0/                      |
| Voor E Tetel     | 0.47            | 1.18          | -0./1         | 14.85         | 71 70         | EC 11          | 16.21           | 7.00         | 0.00                | 7.00                      |
| rear-5 rotal     | 233.51          | 20.82         | 212.70        | 226.85        | 1 /1./2       | 1 20.11        | 16.31           | 82.70        | 0.00                | 82.70                     |

(B) Evaporation from 8.1 acre recharge pond; assessed at gross evaporation rate [Column (B), Table No.1]

(C)=(A)-(B)

(D) Lagged timing of net recharge realized at the Poudre River during requested plan period from recharge model run

(E) Irrigation season return flow component; Years 1 - 5 based on 2.5 Box Elder Ditch shares

(F) Winter return flow component; Years 1 - 5 based on 2.5 Box Elder Ditch shares

(G) Total combined lagged mining depletions during the requested plan period

(H)=(D)-(E)-(F)-(G)

# STATE OF COLORADO

### **DIVISION OF RECLAMATION, MINING AND SAFETY**

Department of Natural Resources

1313 Sherman St., Room 215 Denver, Colorado 80203 Phone: (303) 866-3567 FAX: (303) 832-8106



April 30, 2010

Lafarge West, Inc. 10170 Church Ranch Way, Ste. 200 Westminister, CO 800210000

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

Bill Ritter, Jr. Governor

James B. Martin Executive Director

Loretta E. Piñeda Director

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 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.

| cc: | M2006064 | Shields at Fossil Cre | ek Mine        |                | M19830   | 31            | Stromq          | uist Pit             |  |  |
|-----|----------|-----------------------|----------------|----------------|----------|---------------|-----------------|----------------------|--|--|
|     | M1994002 | Andrews S & G #5 (I   | Burlington Pit | )              | M197407  | 72            | Chanta          | la Pit               |  |  |
|     | M2006018 | North Bank Resource   | es             |                | M19852:  | 18            | <b>Rich Pit</b> | :                    |  |  |
|     | M2006073 | Sundance Sand and     | Gravel Resou   | irce           | M198520  | 06            | Boone-          | Martin Pit           |  |  |
|     | M2009082 | Parsons Mine          |                |                | M199502  | Andrews #2    |                 |                      |  |  |
|     | M1977081 | Greeley West Pit      |                |                | M199014  | 14            | Boone-          | Fillmore Pit         |  |  |
|     | M2003091 | Duckworth Pit         |                |                | M199708  | 37            | Hartma          | in Pit               |  |  |
|     | M2000113 | Mamm Creek Sand       | & Gravel       |                | M200109  | Shaw Pit      |                 |                      |  |  |
|     | M2001090 | River Valley Resour   | ce             | M200200        | )9       | Beeman Pit #1 |                 |                      |  |  |
|     | M2000016 | Riverbend Operatio    | n .            |                | M198130  | )7            | Founta          | in Pit               |  |  |
|     | M1979134 | Powers Pit            |                |                | M197743  | 39            | Home (          | Office Mine          |  |  |
|     | M1977036 | Greeley 35th Ave Pi   | t              |                | M197919  | 91            | Three E         | Bells Pit            |  |  |
|     | M2000034 | Reichert Pit          |                |                | M198218  | 32            | Port of         | Entry Pit            |  |  |
|     | M2001051 | North Taft Hill Expa  | nsion Site     |                | M200208  | 31            | Overlar         | nd Ponds             |  |  |
|     | M1974015 | Lyons Pit             | .yons Pit      |                |          |               |                 | Pit                  |  |  |
|     | M1974004 | Specification Aggreg  | gates Quarry   |                | M1982034 |               |                 | Miller Pit           |  |  |
|     | M1987176 | Hamm Pit              |                |                | M199608  | 32            | Blair M         | esa Pit              |  |  |
|     | M1988042 | Cottonwood Pit        |                |                | M198013  | 36            | Chamb           | ers Pit              |  |  |
|     | M1990112 | State Pit             |                |                | M197709  | 98            | Sievers         | Pit                  |  |  |
|     | M1979002 | North Delta Pit       | M1983013       | Latham - Burk  | ett Pit  | M197          | 4070            | Nelson Pit           |  |  |
|     | M1979159 | Brose Pit             | M1979097       | East Rigden Pi | t        | M200          | 0002            | Tanabe Pit           |  |  |
|     | M1998014 | Gypsum Ranch Pit      | M1991035       | Bluestone Pit  |          | M199          | 4045            | <b>Bluestone Pit</b> |  |  |
|     | M1999088 | Kyger Pit             | M1986159       | Courtner Pit   |          | M198          | 86079           | M & G Pit            |  |  |
|     | M1998075 | Andrews #3 (Mock I    | Pit)           |                |          |               |                 |                      |  |  |
|     |          |                       |                |                |          |               |                 |                      |  |  |

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

## ADMINISTRATION PROTOCOL Dry-Up of Irrigated Land Division One – South Platte River

As required by either a decreed change of water rights or a substitute water supply plan, a source of irrigation water may be either permanently or temporarily removed from a parcel of land in order to make the historical consumptive use portion of that water supply available for other uses, typically augmentation. This protocol addresses the documentation required to administer the effective "dry-up". To the extent that one or more of the following directives are in direct contradiction with a decree of the court, the terms of the decree must be followed.

## Permanent Dry-up Covenant

- 1. Must be decreed by the court.
- 2. Must be filed with clerk and recorder's office for the county wherein the land is located.
- Must email a GIS shapefile to <u>Div1Accounting@state.co.us</u> that includes case number, WDID, and total acreage permanently dried-up, along with any accompanying metadata. The shapefile must be in NAD83 datum, UTM projection, Zone 13North.
- 4. Must address the issue of noxious weeds as required by §37-92-305(4.5)(a), C.R.S. and/or other county or local ordinances. (DWR is not authorized to administer the issue of noxious weeds; this statement is, therefore, simply informational).

## **Temporary Dry-up Agreement**

- 1. May be made for a term that is not less than one irrigation season.
- 2. Unless otherwise stated in the approved SWSP, a written notification, reporting land of intended dry-up, must be submitted prior to April 1 of each irrigation season to the division engineer, water commissioner and <u>Div1Accounting@state.co.us</u>. Along with the written notification, a GIS shapefile reflecting the land of intended dry-up must be submitted. The shapefile must be emailed to <u>Div1Accounting@state.co.us</u>. The shapefile shall include case number, WDID, and acreage of dry-up, along with any accompanying metadata. The shapefile must be in NAD83 datum, UTM projection, Zone 13North.
- 3. Unless otherwise stated in the approved SWSP, a written affidavit, affirming land actually dried up, must be submitted prior to October 31 of each irrigation season to the division engineer, water commissioner and <u>Div1Accounting@state.co.us</u>. Along with the written affidavit, a GIS shapefile, reflecting the dried up acreage proclaimed in the affidavit, must be submitted. If the submitted affidavit indicates that the intended and actual dry-up acreages are identical, then no GIS shapefile is required. The shapefile must be emailed to <u>Div1Accounting@state.co.us</u>. The shapefile shall include case number, WDID, and acreage of dry-up, along with any accompanying metadata. The shapefile must be in NAD83 datum, UTM projection, Zone 13North.
- 4. Once written notice has been made to the division engineer and/or water commissioner, the dry-up requirement is irrevocable during the current irrigation season regardless of whether or not the water associated with the historical consumptive use is actually used.

# ADMINISTRATION PROTOCOL Augmentation Plan Accounting Division One – South Platte River

This protocol establishes the accounting and reporting process required to enable the division engineer's office to confirm that depletions from all out-of-priority diversions are being replaced so as to prevent injury to vested water rights. The accounting must comport with established "cradle to grave" accounting standards, which allow an audit of the information to track exactly how the data is manipulated as it is translated from raw input data to the resultant impact on the river. While this protocol is subordinate to any decreed language addressing specific accounting requirements, it generally addresses the minimum requirements of such accounting.

The accounting must use the standard convention where a depletion is "negative" and an accretion or other replacement source is "positive". The sum of the impacts will then result in either a "negative" or "positive" impact on the stream.

Wells in plans that have a negative stream impact must provide additional replacement water, curtail pumping or both until the impact is no longer negative. Plans with a negative stream impact that fail to curtail pumping will be ordered to stop pumping until such time as the projected impact of the wells is no longer negative.

- Accounting must be submitted electronically to the water commissioner (call 970-352-8712 to obtain email address) and division engineer at Div1Accounting@state.co.us within 30 days of the end of the month for which the accounting is being submitted.
- 2. The accounting must provide the **contact information** including name and address for:
  - a. the owner(s) of each well
  - b. the person responsible for submitting the accounting
  - c. the plan administrator and/or the plan attorney.
- 3. All **input data** must be in one location, such as an "Input" worksheet, etc. The accounting must show all pumping. Input data includes the information listed below.
  - a. The required input data for each well is:
    - i. the <u>monthly meter reading</u> for wells that use a **presumptive depletion factor** (PDF) to determine the associated consumptive use (CU); <u>or</u>
    - ii. the <u>monthly CU in acre-feet</u> (AF) for wells that have a decree or approved SWSP that allows the wells to use a **water balance methodology** to determine the CU of the well. The analysis used to determine the CU must be included with the accounting.
    - Wells that are decreed as an alternate point of diversion (APOD) to a surface water right <u>must report pumping on a daily</u> <u>basis</u> if any of the diversion during the month is claimed as being "in priority". (See Administration Protocol – APOD Wells for more details.)

Administration Protocol - Augmentation Plan Accounting Revised March 19, 2009

- iv. The well meter serial readings for each meter shall be included if there is more than one meter on a well.
- b. Each **recharge site** must comply with the *Administration Protocol Recharge* and must report the:
  - i. <u>daily</u> volume in AF diverted into the site;
  - ii. monthly volume in AF released from the site;
  - iii. monthly net evaporative loss in AF;
  - iv. volume of water in AF remaining at the end of the month.
- c. The accounting must identify each source of **fully consumable replacement water** actually delivered to the location impacted by the depletions. To demonstrate the water was actually delivered to the required location will require the following information:
  - i. the originating source of the water, date released and volume of water released;
  - ii. transportation losses to point of diversion or use, if any, using stream loss factors approved by the water commissioner;
  - iii. the volume of water actually delivered on a daily basis past any surface water diversion that was sweeping the river as corroborated by the water commissioner.

(See Administration Protocol – Delivery of Water for more details on delivering water.)

- d. For each source of **replacement water that has been "changed"** for use as a source of augmentation, such as changed reservoir shares, ditch bypass credits or credits from dry-up, etc., the following input information must be reported:
  - i. the basis and volume of the return flow obligation;
  - ii. the location the changed water was historically used; this will be the location used to determine the timing of the return flow impact on the river.
- 4. The accounting must include a monthly **projection** of the plan's operation at least through March 31 of the next calendar year.
- 5. The accounting must include all input and output files associated with **modeling the delayed impact** of diversions. The output from the modeling must report to a summary table that shows, by month, the ongoing depletions associated with pumping, return flow obligations, etc. and accretions from recharge operations.
- 6. A **net impact** summary must show the out-of-priority depletions, accretions from each recharge site, volume of replacement water actually delivered to the location of the depletions and the resultant net impact on <u>a daily basis</u>. If necessary, the net impact must be done by river reach.

While **modeling** may use a **monthly step function** to determine the depletions from pumping and accretions from recharge, the monthly result must then be **divided by the number of days in the month** in order to **simulate a daily impact**, as water rights are administered on a daily and not monthly basis.

Replacement water must be provided such that the **daily net impact** (using the simulated daily numbers from the modeling) **is not negative**. If a well is out-of-priority for 15 days during a month, replacement must be made only for the 15 days the well is out-of-priority. The replacement must be made, however, on a daily basis as opposed to, for instance, making an aggregated release equal to the volume of the out-of-priority depletions. Likewise, the simulated daily accretion will only count toward replacing the depletion on the days the well is out-of-priority. The accretions that report to the river when the well is in priority cannot be used to replace the out-of-priority depletions.

The accretions that impact the river when the well is in priority are not considered "excess" unless the cumulative net impact of the well is not negative for the entire irrigation year to date. (The irrigation year for this purpose is April 1 thru the following March 31.) Until such time as the cumulative net impact is not negative, the accretions must simply be released to the river and cannot be leased to other plans or recaptured. Plans that show a positive cumulative net impact are still required to make replacements on a daily basis; the cumulative analysis only effects whether or not accretions reporting to the river when the well is in priority are considered "excess" and are, therefore, able to be recaptured.

- 7. The basis for determining that the depletions are **out-of-priority** must be clearly established and all steps in the calculation included in the accounting. The analysis may be done, unless otherwise limited by decree, for each well or groups of wells, provided the most junior water right associated with the group of wells is used as the reference water right for the group's out-of-priority status.
- 8. Accounting must include **actual information** for the irrigation year through the month for which the accounting is being submitted **AND projections** of the plan operation through March 31 of the next calendar year.
- 9. The following **naming convention** must be used for all files submitted pursuant to item 1:

## "Plan**WDID\_**YYMMDD"

where: PlanWDID is the WDID assigned by the division engineer's office YYMMDD corresponds to the date the accounting is submitted.

As an example, the assigned WDID for the former GASP plan was 0103333. If accounting using Excel® was submitted for that plan on May 15, 2004, the file name would be:

## "0103333\_040515.xls"

The name of the file must be in the subject line of the email.

10. All accounting must be reported using the **WDID** for the structure, at a minimum. Other information such as well name, permit number, etc. may also be included as desired. <u>All wells must be decreed by the water court, permitted by the state engineer or included in a decreed plan for augmentation</u>. Unregistered and undecreed wells cannot, in the opinion of the division engineer, be effectively administered because of the need to know the location, allowable diversion rate and use of the well - information that is only available from the decree or permitting process.

- 11. If a well is covered in multiple SWSP's or augmentation plans, the monthly meter readings must be the same in the accounting for each plan covering the subject well. The accounting for every plan covering the well shall state the proportionate pumping amount covered by each plan to assure all out-of-priority depletions are replaced.
- 12. The following additional accounting is required for sources of replacement water used for more than one plan. The water right owner of the replacement water is responsible for accounting for the total replacement amount and how much each plan is using of that total amount. The accounting for portions of the replacement water by other users must match the accounting of the water right owner. The amount of replacement water used by the water right owner and other users together shall not exceed the total replacement amount available.

(See Administration Protocol – Use Of Unnamed Sources For Replacement for additional requirements concerning required notice and approval of sources of replacement not specifically described in a SWSP or augmentation plan)