COLORADO
Division of Water Resources
Department of Natural Resources

October 27, 2022

Jared Dains, P.E.
Applegate Group, Inc.
1490 West 121st Avenue, Suite 100
Denver, CO 80234

Re: East 8th Street Substitute Water Supply Plan (WDID 0302562, Plan ID 4701)
East 8th Street Pit, DRMS Permit No. M-2000-082 (WDID 0303016)
S½ Section 4, T5N, R65W, 6th P.M.
Water Division 1, Water Districts 2 & 3, Weld County

Approval Period: November 1, 2022 through March 31, 2023, as requested
Contact information for Mr. Dains: 303-452-6611; jareddains@applegategroup.com
Accounting contact: Abdullah Javed; 303-452-6611; ajaved@applegategroup.com

Dear Mr. Dains:

We have received your letter dated October 10, 2022, requesting renewal of the above referenced substitute water supply plan ("SWSP") in accordance with section 37-90-137(11), C.R.S., to cover depletions caused by the East 8th Street Pit sand and gravel mining operation. The current permittee for the East 8th Street Pit (M-2000-082) is Superior Oilfield Services Co., LTD and the current operator is Laser Oilfield Service LLC ("Laser" or "Applicant"). This pit was previously included in the Aggregate Industries Combined SWSP (WDID 0202565) but has been covered under a separate SWSP since November 1, 2012. The required fee of $257 for the renewal of this SWSP has been submitted (receipt no. 10024869).

SWSP Operation

The East 8th Street Pit (WDID 0303016) is located just east of the City of Greeley in the south half of Section 4, Township 5 North, Range 65 West of the 6th P.M., as shown on the attached Figure 1. Both the east cell and the west cell of the pit have been fully mined out and reclamation is ongoing. Dewatering of the west cell ceased in July 2016 and was allowed to refill over the following three months (August through October 2016). Dewatering of the west cell restarted in November 2016, and continued through January 2017. During February and March of 2017, the water table was below the level of the pit therefore no pumping was required for dewatering and the pit did not refill with water. The west cell was dewatered again during April 2017, and was filled during free river conditions in May and June, eliminating the need to account for an "intermittent fill" of the pit in 2017. Mining and dewatering operations switched to the east cell beginning in August 2017. Dewatering of the east cell ceased in August 2018, but the cell has not refilled with water due to low groundwater levels in the area combined with the shallow depth of excavation. No mining is proposed to occur during this plan period. Depletions at the East 8th Street Pit during this plan period will be limited to evaporation from exposed groundwater surface areas, ongoing lagged depletions

associated with past operational and evaporative consumptive use at the site, and lagged depletions due to the cessation of dewatering at the site. The City of Greeley is the owner of the land on which the East 8th Street Pit is located. Greeley will provide replacement water from their waste water treatment plant pursuant to the mining lease agreement between the Applicant and Greeley. Additional replacement water will be provided pursuant to a lease agreement between the Applicant and the City of Loveland. The final reclamation plan for the pit is to create a lined storage reservoir for the City of Greeley. The requested period of approval for this SWSP renewal is November 1, 2022 through March 31, 2023.

Depletions

The total exposed groundwater surface area at this site is expected to be approximately 8.8 acres during this plan period, consisting solely of groundwater exposed in the west cell. The east cell was mined and reclaimed to a shallower depth and is not exposing groundwater as evidenced by photographs taken by the Applicant on September 24, 2021. Net evaporative loss was determined to be 2.93 feet per exposed acre, as approved in previous SWSPs. This value was calculated using a gross annual evaporation of 45 inches from the exposed water surface, with a credit of 9.9 inches for effective precipitation, based on average annual precipitation of 14.14 inches for the Greeley UNC weather station. The value of 14.14 inches of average annual precipitation appears to be based on a period of record of 1967-1998, but is less than the average annual precipitation for both the full period of record (1967-2021) and for the most recent ten years (2012-2021) and therefore is acceptable for the purposes of this SWSP. Net evaporative losses at the East 8th Street Pit are therefore estimated to total 4.60 acre-feet for the 8.8 acres of groundwater exposed at the site for the period of November 1, 2022 through March 31, 2023.

No material is proposed to be mined and no groundwater is proposed to be used for dust control purposes at the site during this plan period.

After cessation of dewatering the west cell in July 2016, the west cell filled to a depth of approximately 4 feet with a surface area of 7 acres, for a total fill volume of 28 acre-feet. You have assumed that the refilling occurred evenly over the three-month period of August, and September, and October 2016. All lagged depletions associated with the temporary refilling of the west cell have been replaced as of August 31, 2022.

The IDS Alluvial Water Accounting System (AWAS) analytical stream depletion model, which uses the Glover method, was used to calculate the lagged depletions to the Cache la Poudre River. The following parameters were used in the model: transmissivity (T) = 120,000 gallons per day per foot, specific yield (SY) = 0.2, the distance from the river to the edge of the alluvium = 11,000 feet, and the distance from the centroid of the exposed groundwater surface areas to the river = 600 feet. Lagged depletions resulting from past consumptive use at the site that are projected to impact the river during this plan period (November 1, 2022 through March 31, 2023) were determined to equal 5.91 acre-feet.

Dewatering of the east cell ceased in August of 2018. As long as the pit was continuously dewatered, the water returned to the stream system was sufficient to offset the depletions attributable to the dewatering operations. However, once dewatering at the site ceased, delayed depletions from past dewatering continued to impact the river. Previous SWSPs were approved on

the assumption that dewatering was ongoing at the east cell, therefore these lagged dewatering depletions did not get accounted for or replaced at the time they impacted the river. Based on the submitted accounting and AWAS parameters identified above, there were a total of 41 acre-feet of lagged depletions from past dewatering operations that impacted the stream between August 2018 and October 31, 2020 that were not replaced under previous substitute water supply plans. Of that amount, approximately 14 acre-feet impacted the stream during periods of no call and did not require replacement. The remaining 27 acre-feet of lagged dewatering depletions impacted the stream during periods of call and were replaced to the river during the 2020-2021 plan period. There are a total of 1.07 acre-feet of lagged depletions from past dewatering operations that will impact the stream during this plan period which will be replaced during the month they are calculated to impact the river.

The total amount of depletions that must be replaced under this SWSP for the period of November 1, 2022 through March 31, 2023 therefore equals 6.99 acre-feet, as shown in the attached Table 1. Columns A through F of Table 1 show the monthly breakdown of evaporative losses and lagged depletions. Depletions from the East 8th Street Pit are assumed to impact the Cache la Poudre River directly adjacent to the pit in the S½ of the S1/2 of Section 4, Township 5 North, Range 65 West of the 6th P.M., approximately 4.5 miles upstream of the confluence of the Cache la Poudre River with the South Platte River.

Replacements

Replacement water for the period of November 1, 2022 through March 31, 2023 will be provided using a combination of water available from the City of Greeley and water leased from the City of Loveland.

The Applicant has leased a total of 6.5 acre-feet of water from the City of Loveland for the period of November 2022 through March 2023. A copy of the lease agreement, dated October 7, 2022, showing the monthly replacement schedule is attached. Replacement water will be delivered during the months of November 2022, January 2023, February 2023, and March 2023. The replacement water will be delivered to the Big Thompson River at the outfall of the Loveland Wastewater Treatment Plant (WDID 0402300), located in the NE¼ of the SW¼ of Section 19, Township 5 North, Range 68 West of the 6th P.M., to the confluence of the Big Thompson River with the South Platte River and down the South Platte River to its confluence with the Cache la Poudre River, where it can then be exchanged up to the East 8th Street Pit. The Applicant's delivery schedule incorporates a transit loss of 8.75% based on the assumed non-irrigation season (Nov-Mar) transit loss rate of 0.25% per mile for a distance of 35 miles from the Loveland Wastewater Treatment Plant outfall to the confluence of the South Platte River and the Cache la Poudre River. If a different transit loss is determined by the division engineer or water commissioner, the Applicant must modify their accounting and replacements as necessary to be consistent with the determined transit loss. During the period of November through March when this source is proposed to be used for replacements, it is anticipated that the call on the river will be downstream of the Cache la Poudre/South Platte River confluence. It is the Applicant's responsibility to track the daily call and make arrangements as necessary to ensure the required replacement water is bypassed or otherwise delivered to the confluence of the Cache la Poudre and South Platte Rivers. The District 3 Water commissioner has confirmed there is no call in the winter for the stretch of the Cache la Poudre between the East 8th Street Pit and the confluence with the South Platte River. Therefore, as long as a diversion structure

is not sweeping the South Platte River, the City of Loveland lease is able to provide replacement water on behalf of the East 8th Street Pit.

Pursuant to a mining lease agreement between Laser and the City of Greeley ("Greeley"), Greeley will provide additional augmentation water for the East 8th Street Pit. A copy of the mining lease has previously been provided to this office. A letter from Greeley dated September 29, 2022 confirming the replacement schedule was provided with this SWSP request and is attached. Greeley will provide 1.4 acre-feet of fully consumable water that has been changed for augmentation use during the month of December 2022. Greeley anticipates delivering the replacement water to the Cache la Poudre River at Greeley's wastewater treatment plant (WDID 0302312) located approximately 0.5 miles upstream of the East 8th Street Pit. The Applicant's delivery schedule incorporates a transit loss of 0.13% based on an assumed rate of 0.25% per mile. Any releases by Greeley at a location other than its wastewater treatment plant must be coordinated with the water commissioner to ensure the proper transit losses are applied and that no intervening water rights are injured. In addition, if a different transit loss is determined by the division engineer or water commissioner, the Applicant must modify their accounting and replacements as necessary to be consistent with the determined transit loss.

The monthly schedule of proposed replacement deliveries from each source, transit losses, and overall water balance is shown in columns G through K of the attached Table 1.

Long Term Augmentation

In accordance with the letter dated April 30, 2010 from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS requires that you provide information to DRMS to demonstrate you can replace long-term injurious stream depletions that result from mining-related exposure of groundwater. In accordance with approach number 1, Superior Oilfield Services Co., LTD, has submitted a financial warranty in the amount of $61,870 for the East 8th Street operation, which the Mined Land Reclamation Board has determined equals the remaining costs of reclamation. The East 8th Street Pit is proposed to be reclaimed as two open water lakes or reservoirs. It is noted that pursuant to a mining lease agreement with the City of Greeley (landowner), Greeley has the long-term augmentation responsibility at this site.

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 SWSP shall be valid for the period of November 1, 2022 through March 31, 2023, as requested, unless otherwise revoked or superseded by decree. If either lagged or projected depletions will extend beyond the plan's expiration date, a renewal request must be submitted to this office with the statutory fee (currently $257) prior to the expiration date but **no later than February 1, 2023**. 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 filing fee of $1,593 will be required.

2. The Applicant must replace all lagged depletions resulting from operation under this SWSP, including those lagged depletions that occur to the stream after the expiration date of this SWSP.
3. Well permit no. 82986-F was obtained for the current use and exposed pond surface area of the East 8th Street Pit in accordance with sections 37-90-137(2) and (11), C.R.S., in conjunction with this SWSP.
4. The total surface area of the groundwater exposed at the East 8th Street Pit site during this plan period must not exceed 8.8 acres, which results in a net evaporative loss of 4.90 acre-feet.
5. Total consumption at the East 8th Street Pit must not exceed this amount unless an amendment is made to this plan.
6. Approval of this plan is limited to replacement of evaporative losses from exposed groundwater surface areas and lagged depletions from past mining and dewatering operations. This office must first approve any additional uses of groundwater at the site.
7. The replacement water that 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 is obtained.
8. 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. Notice must be provided and approval made by the water commissioner at least 48 hours prior to the release of replacement water, or as required by the water commissioner.
9. 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 River or its tributaries. Applicant shall not receive credit for replacement of depletions to the South Platte River 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 River below such diversion structure.
10. 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.
11. 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.
12. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.
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.

14. In addition, it is the Applicant's responsibility to verify that the entities making replacements are identifying this use on their accounting submitted to our office. For the period of this plan, those entities are the City of Loveland and the City of Greeley (WDID 0303330 - GLIC Accounting).
15. 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.
16. The approval of this SWSP does not relieve the Applicant and/or landowner of the requirement to obtain a Water Court decree approving a permanent plan for augmentation or mitigation to ensure the permanent replacement of all depletions, including long-term evaporation losses and lagged depletions after gravel mining operations have ceased. If reclamation of the mine site will produce a permanent water surface exposing groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 1 Water Court at least three (3) years prior to the completion of mining to include, but not be limited to, long-term evaporation losses and lagged depletions.
17. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.
18. Post-pumping dewatering depletions (including any depletions associated with the refilling of the pit) must be replaced in time, place and amount.
19. To assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, that would lead to the abandonment of the East 8th Street Pit, a bond in the amount of $61,870 has been obtained through the DRMS for completion of reclamation at the site.
20. 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 or will occur as a result of the operation of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all excavation of product from below the water table, and all other use of water at the pit, must cease immediately.
21. In accordance with amendments to section 25-8-202(7), C.R.S. and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the state engineer shall determine if this substitute supply is of a quality to meet requirements of use to which the senior appropriation receiving the substitute supply has normally been put. As such, water quality data or

analyses may be requested at any time to determine if the requirement of use of the senior appropriator is met.

22. The decision of the state engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any water court case or any other legal action that may be initiated concerning the SWSP. This decision shall not bind the state engineer to act in a similar manner in any other applications involving other SWSPs or in any proposed renewal of this SWSP, and shall not imply concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

Should there be any further comments or questions, please contact Michael Hein, Lead Assistant Division Engineer, in Greeley at 970-352-8712 or Sarah Brucker in Denver at 303-866-3581 ext. 8249.

Sincerely,

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

Attachments: Figure 1
Table 1
City of Loveland Lease (October 7, 2022)
City of Greeley Letter (September 29, 2022)
April 30, 2010 DRMS letter
Augmentation Plan Accounting Protocol
Delivering Water Using the Natural Stream Protocol

Cc: Michael Hein, Assistant Division Engineer, Michael.Hein@state.co.us
1809 56th Avenue, Greeley, Colorado 80634

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

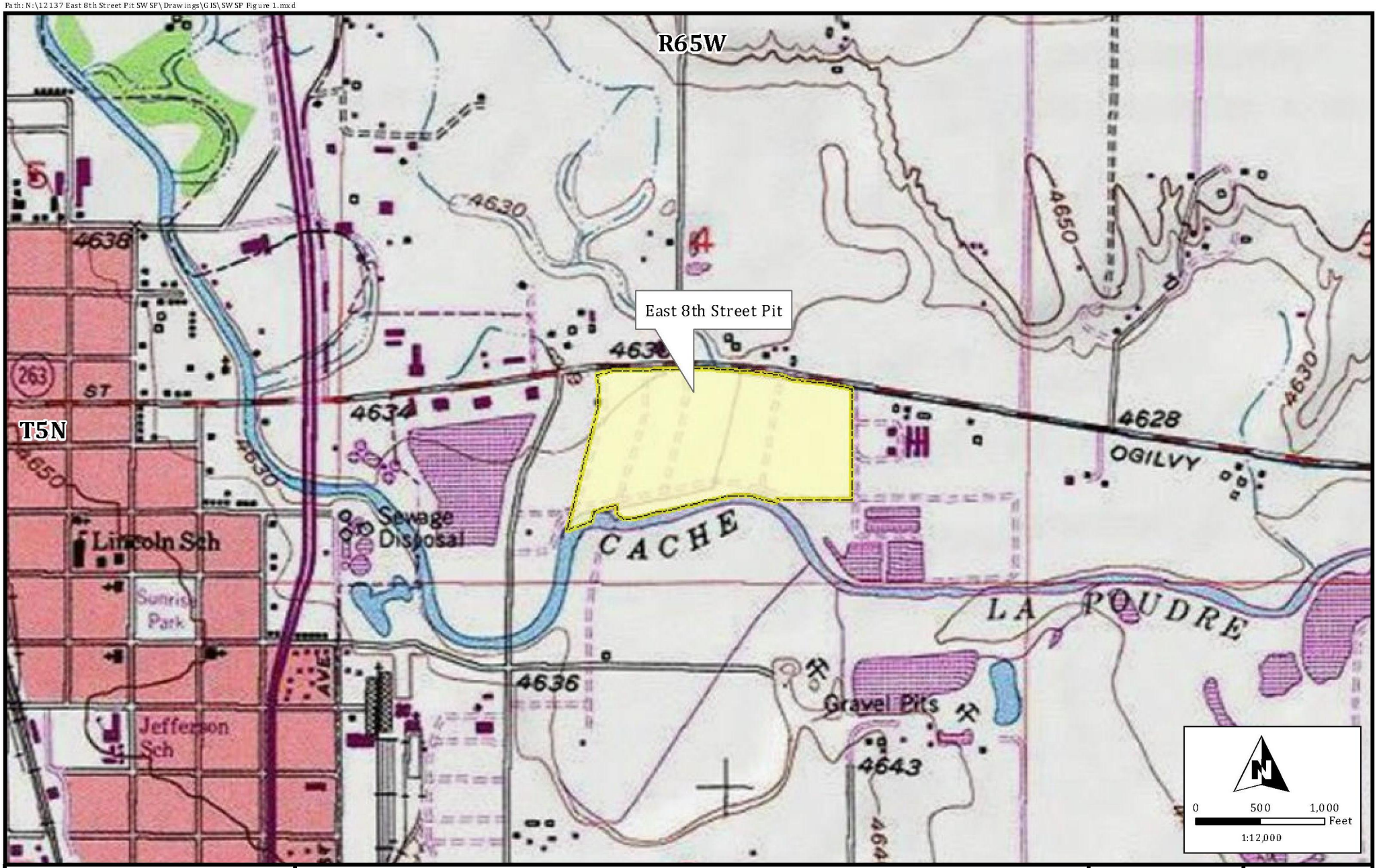
Dawn Ewing, Accounting Coordinator, Dawn.Ewing@state.co.us

Mark Simpson, Water Commissioner, District 3, Mark.Simpson@state.co.us

Jean Lever, Water Commissioner, District 4, Jean.Lever@state.co.us

Eric C. Scott, Division of Reclamation Mining and Safety, Eric.Scott@state.co.us

Date Saved: 11/7/2012 7:51:18 PM
Path: N:\12137 East 8th Street Pit SWSP\Drawings\GIS\SWSP Figure 1.mxd



Applegate Group, Inc.
Water Resource Advisors for the West
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e-mail: info@applegategroup.com

EAST 8TH STREET PIT (M-00-082)

Vicinity Map

Date: 7 Nov 2012

Job #: 12-137

Drawn By: JMD

Figure: 1

Of: 1

Table 1

WY 2023 Water Balance

East 8th Street Pit Substitute Water Supply Plan

Date Revised: 10/10/2022

AG Job #: 12-137

All values in ac-ft unless noted

	Depletions						Replacements				
Month	Monthly Net Evap (ft) (A)	Exposed Water Surface Area (acres) (B)	Evaporative Losses (C)	Lagged Depletions (D)	Post-Pumping Depletions (E)	Total Augmentation Requirement (F)	Greeley Lease Volume (G)	Greeley Lease Credit (H)	Loveland Lease Volume (I)	Loveland Lease Credit (J)	Water Balance (K)
Nov-22	0.10	8.8	0.90	1.42	0.24	1.65	0.0	0.00	1.9	1.73	0.08
Dec-22	0.09	8.8	0.76	1.11	0.22	1.33	1.4	1.40	0.0	0.00	0.07
Jan-23	0.08	8.8	0.74	1.00	0.21	1.22	0.0	0.00	1.4	1.28	0.06
Feb-23	0.11	8.8	0.97	1.10	0.20	1.30	0.0	0.00	1.5	1.37	0.06
Mar-23	0.14	8.8	1.23	1.29	0.19	1.48	0.0	0.00	1.7	1.55	0.07
Apr-23	0.23	-	-	-	-	-	-	-	-	-	-
May-23	0.30	-	-	-	-	-	-	-	-	-	-
Jun-23	0.44	-	-	-	-	-	-	-	-	-	-
Jul-23	0.48	-	-	-	-	-	-	-	-	-	-
Aug-23	0.44	-	-	-	-	-	-	-	-	-	-
Sep-23	0.31	-	-	-	-	-	-	-	-	-	-
Oct-23	0.20	-	-	-	-	-	-	-	-	-	-
Total	2.93		4.60	5.91	1.07	6.99	1.4	1.40	6.5	5.93	0.34

Notes:

(A) Monthly Evaporation rates from previous AI CoSSP approvals
(B) Estimated exposed groundwater acreage
(C) Monthly Evap rate (Col A) multiplied by current monthly exposed surface area (Col B)
(D) Lagged depletions include past consumptive use at the East 8th Street Pit
(E) Estimated post-dewatering depletions from past pumping
(F) Total Augmentation Requirement is Col D + Col E
(G) Lease from the City of Greeley
(H) Credit from the City of Greeley lease after transit loss is assessed
(I) Lease from the City of Loveland
(J) Credit from the City of Loveland lease after transit loss is assessed
(K) Water Balance = (H) + (J) - (F)

Unit Transit Loss =	0.25%	per mile
Greeley Lease Transit Distance =	0.5	miles
Greeley Lease Total Transit Loss =	0.13%	
Loveland Lease Transit Distance =	35	miles
Loveland Lease Total Transit Loss =	8.75%	

City of Loveland

Department of Water and Power
Service Center • 200 N. Wilson Avenue • Loveland, CO 80537
(970) 962-3000 • (970) 962-3400 Fax • (970) 962-2620 TDD
www.cityofloveland.org

WATER LEASE

The City of Loveland, Colorado hereby agrees to lease to Laser Oilfield Service, LLC. ("Renter") the following water for the winter season of November through March, ending March 31, 2023.

Description: An amount of water not to exceed 6.5 acre-feet (AF) of water to act as a temporary augmentation source to replace groundwater depletions associated with the gravel pit mining operations at the East 8th Street Pit (M-2000-082, WDID 0303016), located near the east side of Greeley, Colorado, off the Cache la Poudre River (see Figure 1).

In exchange for use of the water as set forth herein, Renter shall pay the City $[redacted] which includes administrative costs. Said payment has been calculated as follows:

Lease fee for 6.5 AF at $[redacted] AF: $[redacted]

5% Administrative Fee: $[redacted]

Total Cost of Leased Water (*rounded to nearest dollar amount*): $[redacted]

Monthly Augmentation Credit/Release Schedule:

Month-Year	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Total
Lease Amount [ac-ft]	1.9	0.0	1.4	1.5	1.7	6.5

This lease may be executed by electronic signature in accordance with C.R.S 24-71.3-101 *et seq*. In the event the City has an urgent need for water, as determined in the sole discretion of the City, or if the City desires to sell or transfer the shares to a third party, the City may unilaterally terminate this Water Lease without cause. The City will endeavor to give Lessee thirty (30) days notice of such termination, but shall not be required to do so. The Lessee shall not rent, sublet, or otherwise convey to any person or entity the right to use the leased water. The City grants no interest in the leased water to the Lessee other than as explicitly set forth in this one page annual lease agreement. Lessee shall make no claims to any rights, title, or interest in the leased water other than as explicitly set forth in this Water Lease. Delivery of water by the City under this Water Lease shall be on an "as is" basis only, and the City neither expressly nor impliedly warrants or guarantees the quality of the water or the quantity of water that will be yielded from the shares leased to Lessee.

Signed by the City and effective this 7 day of October, 2022.

This lease may be executed by electronic signature in accordance with C.R.S 24-71.3-101 *et seq*.

Renter: Laser Oilfield Service, Inc.
c/o Richard Miller
2986 W 20th Street, Unit 12
Greeley, CO 80631
(970) 352-4444

By: Richard J. Miller

Title: Vice Pres.

City of Loveland, Colorado
Department of Water & Power
200 N Wilson Ave.
Loveland, CO 80537
(970) 962-2620

By: Ryan Van Pelt

Ryan Van Pelt, Engineer II
Loveland Water & Power

City of Greeley Colorado
Great. From the Ground Up.

September 29, 2022

Laser Oilfield Services Co.
c/o John McFarland
2986 W 29th St. Unit 12
Greeley, CO 80631

RE: Augmentation Water Lease for **Laser Oilfield Services Co.**

Dear Mr. McFarland,

We are in receipt of Laser Oilfield Services Co. (Laser) augmentation water requirement schedule for December 2022. To meet Laser's augmentation demands, Greeley will make available to Laser, wholly consumable water that has been changed for augmentation use at one of the following locations: 1) in the Cache la Poudre River at (a) the outlet of Greeley's Water Pollution Control Facility; (b) the outlet of the Flatiron Reservoir Nos. 1-5 (aka Poudre Ponds at Greeley); (c) Release Structures for Greeley Canal No. 3 including, but not limited to: (i) the 23rd Avenue Spillway; (ii) the 16th Street Release Structure; and (ii) The F Street Release Structure; and (vi) the 35th Avenue Drainage Ditch; provided, however, that at any time the Ogilvy Ditch is calling Greeley will only deliver water upstream of the Ogilvy Ditch headgate; or (2) the Big Thompson River at delivery stations or release structures under the Greeley Loveland Irrigation Company's irrigation canal system, or any other company's canal associated therewith; provided, however, that Greeley will not deliver Leased Water to the Big Thompson River at any time the Lower Latham Ditch is calling; or (3) at such other point or points on which the Parties mutually agree in writing.

The request totals **1.4** acre-feet for replacements will be made per the schedule provided by Applegate Group.

Laser's Augmentation Requirement (acre-feet)		
	Dec- 22	Total
Monthly (AF)	1.4	**1.4**

The current rate for augmentation water is [redacted] acre-foot, for a total of $[redacted] Please see the attached invoice. The payment is due by **October 31, 2022.**

Please be aware that it is Laser's responsibility to receive the necessary approval to use the rented augmentation supplies provided by Greeley. Any transmission losses charged by State water officials will be the sole responsibility of Laser.

If you have any questions, please do not hesitate to call me at (970) 381-8886.

Sincerely,

Megan Kramer

Megan Kramer
Water Resources Administrator I, Greeley Water & Sewer Department

Cc: Jared Dains PE Applegate Group, Inc.
Leah Hubbard, Water Resources Operations Manager

STATE OF COLORADO

M- 2000-082

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

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

April 30, 2010

Aggregate Industries - WCR, Inc.
1707 Cole Blvd., Ste. 100
Golden, CO 80401

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:

M1977141	Lyons Quarry
M2004051	Wattenberg Lakes
M2004031	Hazeltine Mine
M2004044	Tucson South Resource
M2003069	Timberline Resource
M2001016	Fredstrom Resource
M1989120	Platte Valley Operation
M1984164	Neighbors Pit
M1997014	Deer Creek Quarry
M1999021	Stegner Farms
M1999034	Cooley Reservoir & Fulton Wildlife Area
M1999098	Riverview Resources
M1990007	Camenish/Larson Pit
M2000087	Milliken Resource
M2000082	E 8th Street Operation
M1994027	Longmont Operation
M1977436	Brighton Mine
M1973021	Morrison Quarry
M1989029	Longmont Distel Operations
M1991140	Tucson Resource Mine
M1992069	83rd Joint Venture
M1994093	Dahlia North Resources Pit

COLORADO
Division of Water Resources
Department of Natural Resources

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

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. Reading[3] [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 reset[4] , 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, and ensure it follows the format shown in the "Diversion Record Spreadsheet User Guide" 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.

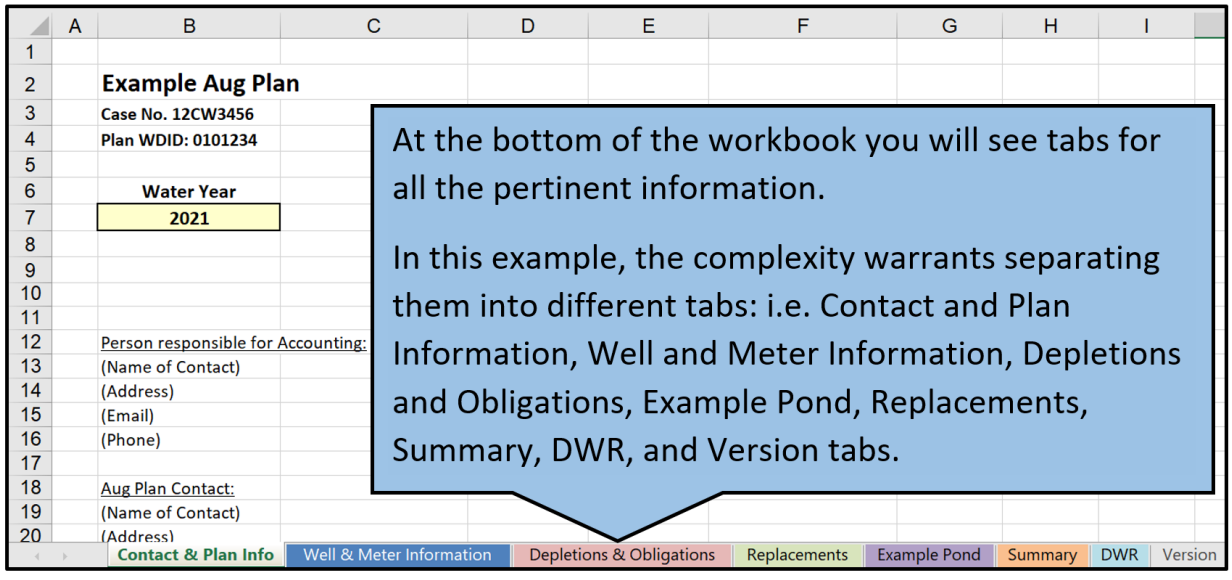
h. When there are multiple stream reaches involved, organize accounting from upstream to downstream.

i. Footnotes should be utilized, as necessary, to describe the basis for formulas, calculations imposed on the raw input data, and column descriptions.

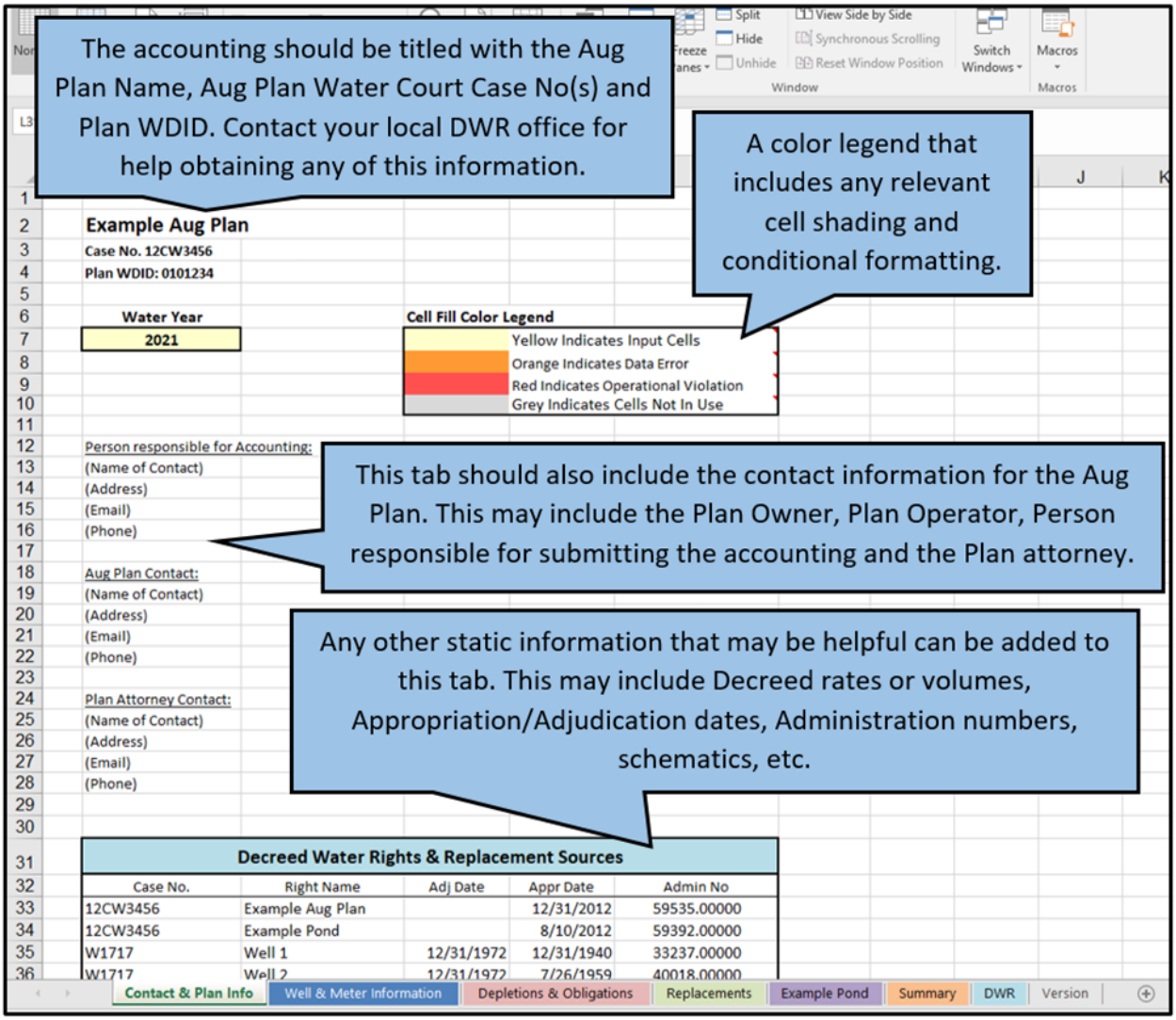
6. Example, Screenshots, and Spreadsheet Templates

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.

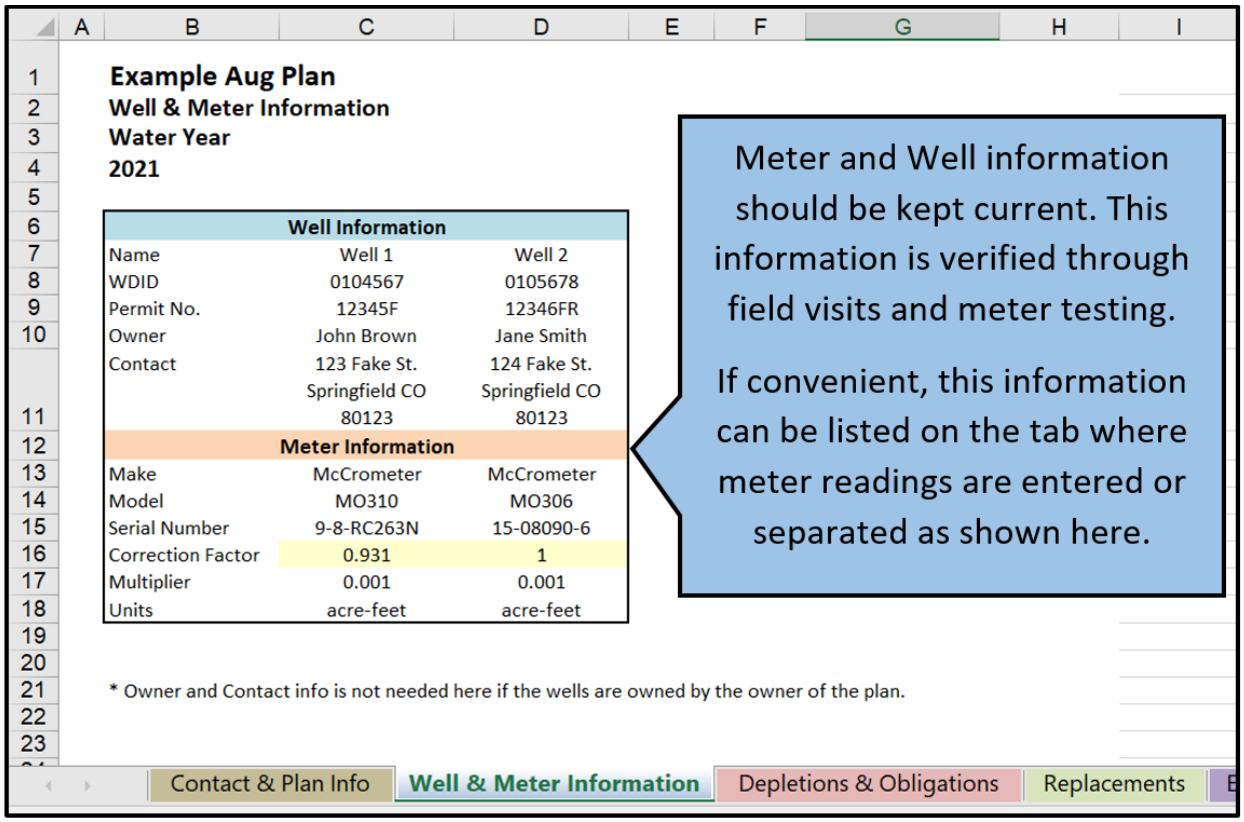
a. (List of relevant tabs)



b. (Contact & Plan Information)



c. (Well & Meter Information)



Example Aug Plan
Well & Meter Information
Water Year
2021

Well Information		
Name	Well 1	Well 2
WDID	0104567	0105678
Permit No.	12345F	12346FR
Owner	John Brown	Jane Smith
Contact	123 Fake St. Springfield CO 80123	124 Fake St. Springfield CO 80123
Meter Information		
Make	McCrometer	McCrometer
Model	MO310	MO306
Serial Number	9-8-RC263N	15-08090-6
Correction Factor	0.931	1
Multiplier	0.001	0.001
Units	acre-feet	acre-feet

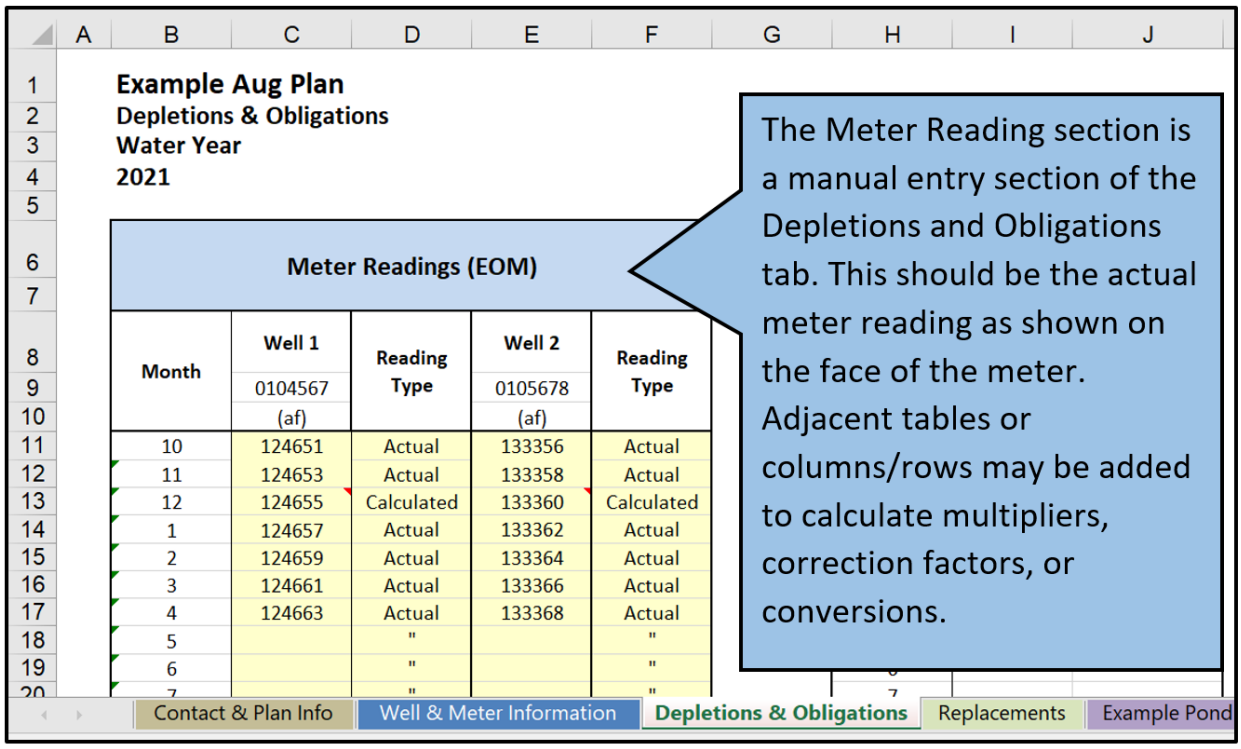
Meter and Well information should be kept current. This information is verified through field visits and meter testing.

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

* Owner and Contact info is not needed here if the wells are owned by the owner of the plan.

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 depetions.



Example Aug Plan
Depletions & Obligations
Water Year
2021

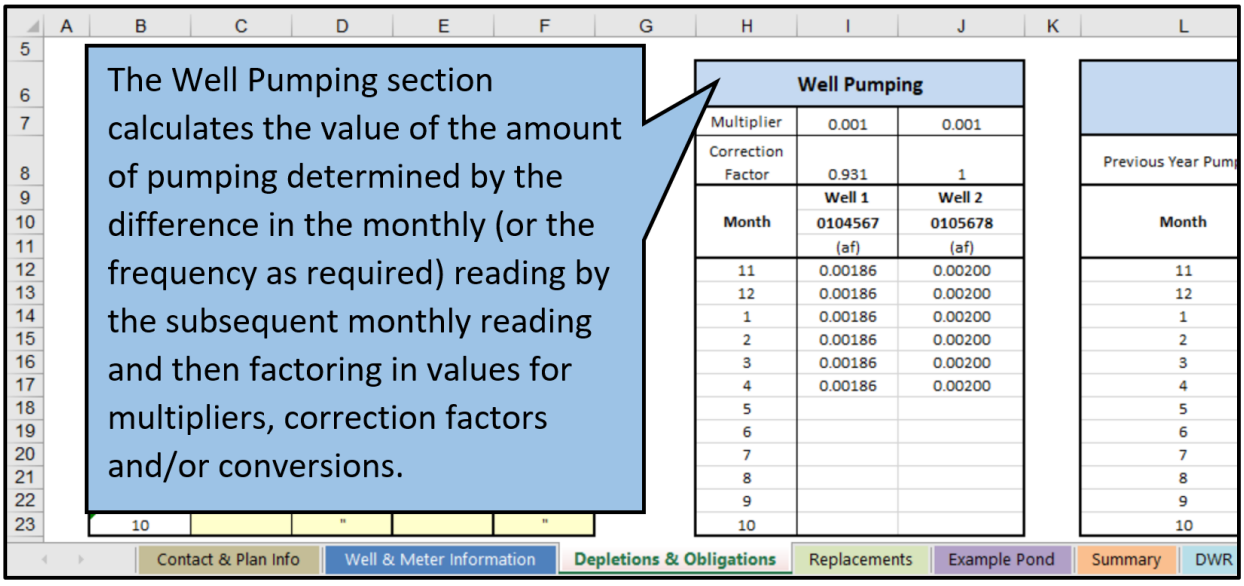
Meter Readings (EOM)

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		"		"

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.

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond

e. (Depletions & Obligations)



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.

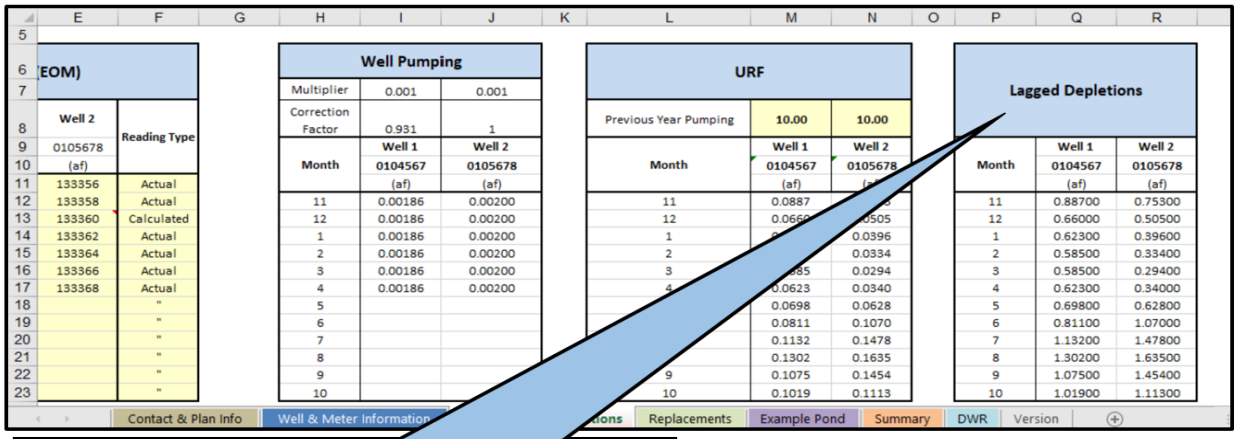
Well Pumping

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		

Previous Year Pump
Month
11
12
1
2
3
4
5
6
7
8
9
10

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR

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



(EOM)	
Well 2 0105678 (af)	Reading Type
133356	Actual
133358	Actual
133360	Calculated
133362	Actual
133364	Actual
133366	Actual
133368	Actual

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		

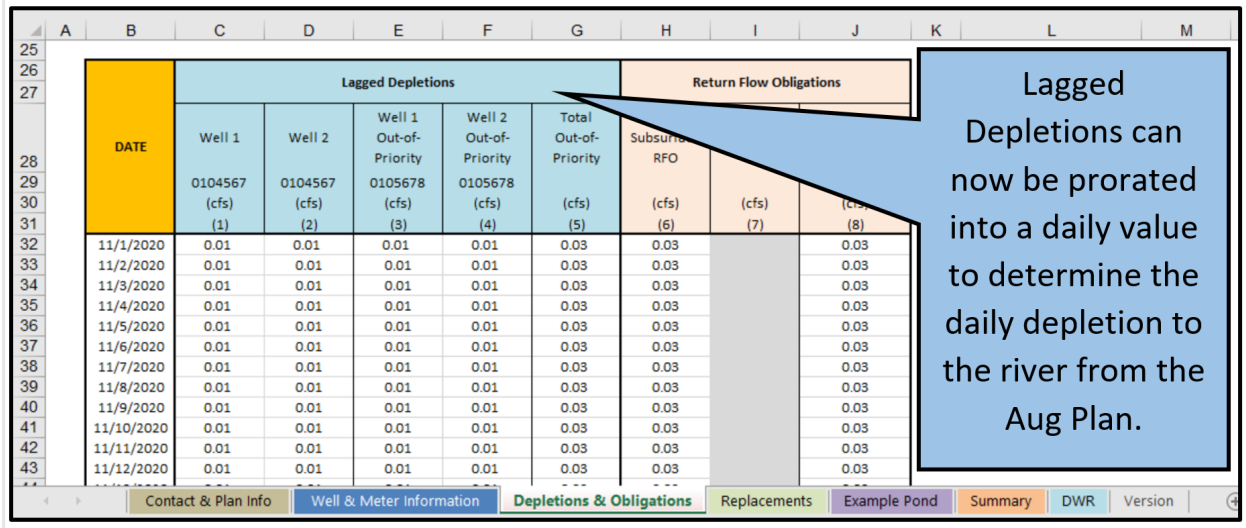
URF		
Previous Year Pumping	10.00	10.00
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.0887	
12	0.0660	0505
1		0.0396
2		0.0334
3	585	0.0294
4	0.0623	0.0340
	0.0698	0.0628
	0.0811	0.1070
	0.1132	0.1478
	0.1302	0.1635
9	0.1075	0.1454
10	0.1019	0.1113

Lagged Depletions		
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.88700	0.75300
12	0.66000	0.50500
1	0.62300	0.39600
2	0.58500	0.33400
3	0.58500	0.29400
4	0.62300	0.34000
5	0.69800	0.62800
6	0.81100	1.07000
7	1.13200	1.47800
8	1.30200	1.63500
9	1.07500	1.45400
10	1.01900	1.11300

Contact & Plan Info | Well & Meter Information | ...ions | Replacements | Example Pond | Summary | DWR | Version

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

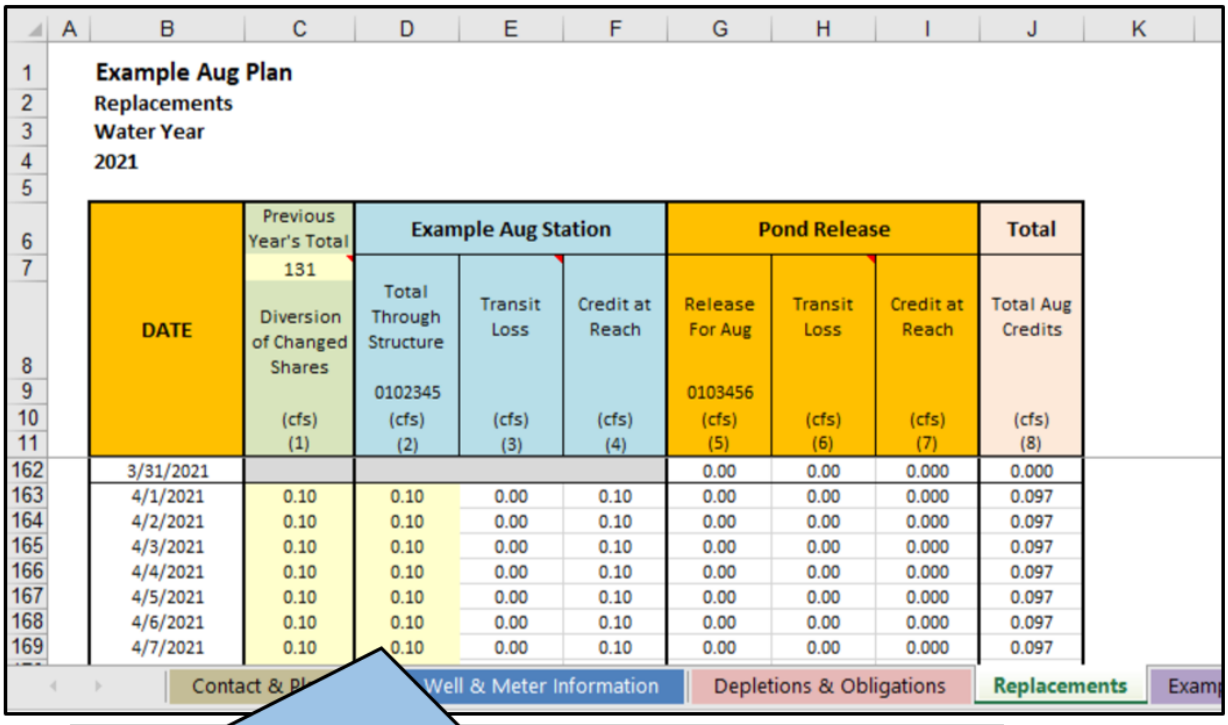


DATE	Lagged Depletions: Well 1 0104567 (cfs) (1)	Well 2 0104567 (cfs) (2)	Well 1 Out-of-Priority 0105678 (cfs) (3)	Well 2 Out-of-Priority 0105678 (cfs) (4)	Total Out-of-Priority (cfs) (5)	Return Flow Obligations: Subsurf... RFO (cfs) (6)	(cfs) (7)	(cfs) (8)
11/1/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
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

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR | Version

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

h. (Replacements)



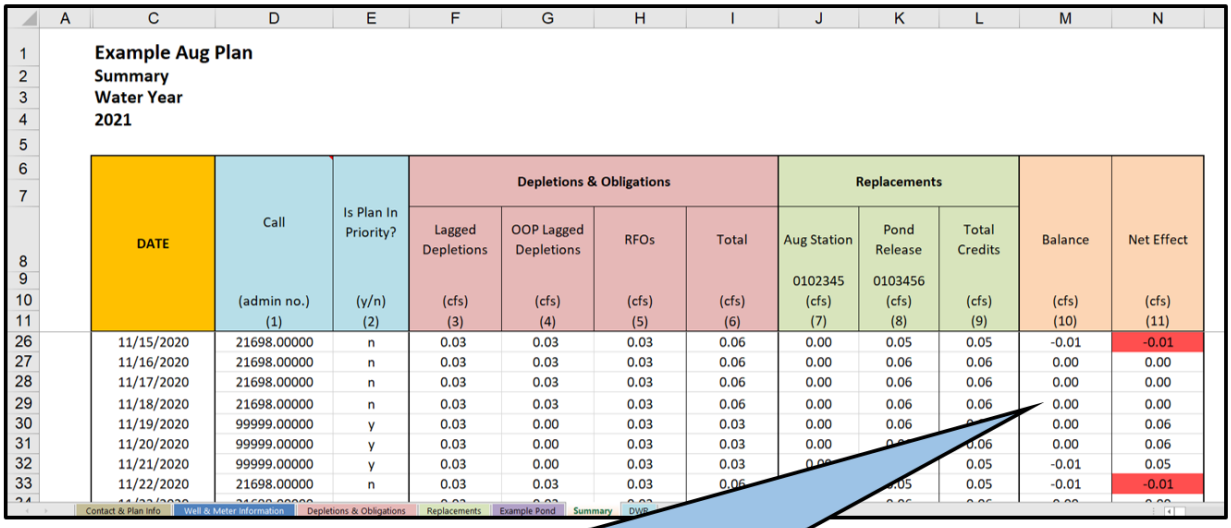
Example Aug Plan
Replacements
Water Year
2021

DATE	Previous Year's Total	Example Aug Station			Pond Release			Total
	131							
	Diversion of Changed Shares	Total Through Structure 0102345	Transit Loss	Credit at Reach	Release For Aug 0103456	Transit Loss	Credit at Reach	Total Aug Credits
	(cfs) (1)	(cfs) (2)	(cfs) (3)	(cfs) (4)	(cfs) (5)	(cfs) (6)	(cfs) (7)	(cfs) (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

Contact & Pl... | Well & Meter Information | Depletions & Obligations | Replacements | Exam...

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



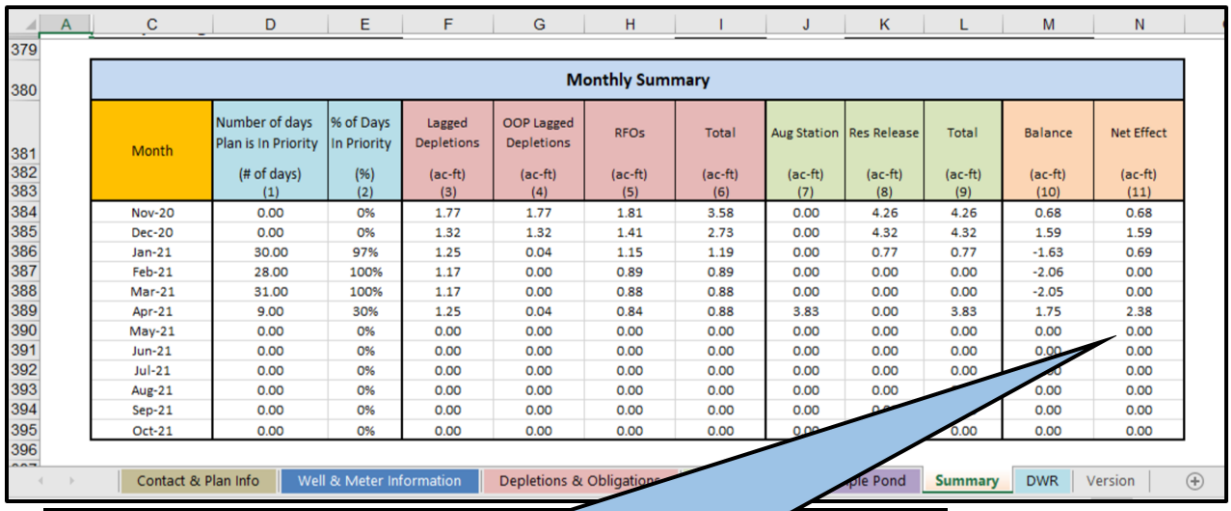
Example Aug Plan
Summary
Water Year
2021

DATE	Call (admin no.) (1)	Is Plan In Priority? (y/n) (2)	Depletions & Obligations: Lagged Depletions (cfs) (3)	Depletions & Obligations: OOP Lagged Depletions (cfs) (4)	Depletions & Obligations: RFOs (cfs) (5)	Depletions & Obligations: Total (cfs) (6)	Replacements: Aug Station 0102345 (cfs) (7)	Replacements: Pond Release 0103456 (cfs) (8)	Replacements: Total Credits (cfs) (9)	Balance (cfs) (10)	Net Effect (cfs) (11)
11/15/2020	21698.00000	n	0.03	0.03	0.03	0.06	0.00	0.05	0.05	-0.01	-0.01
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	[illegible]	0.00	0.06
11/20/2020	99999.00000	y	0.03	0.00	0.03	0.03	0.00	[illegible]	0.06	0.00	0.06
11/21/2020	99999.00000	y	0.03	0.00	0.03	0.03	[illegible]	[illegible]	0.05	-0.01	0.05
11/22/2020	21698.00000	n	0.03	0.03	0.03	0.06	[illegible]	[illegible]	0.05	-0.01	-0.01

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR

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	[illegible]	0.00
Aug-21	0.00	0%	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]	0.00	0.00
Sep-21	0.00	0%	0.00	0.00	0.00	0.00	0.00	[illegible]	[illegible]	0.00	0.00
Oct-21	0.00	0%	0.00	0.00	0.00	0.00	[illegible]	[illegible]	0.00	0.00	0.00

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | [illegible]ple Pond | Summary | DWR | Version

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.

ADMINISTRATION PROTOCOL
Delivering Water Using the Natural Stream
Division One–South Platte River

This document outlines the actions water users must take in order for the Division of Water Resources to deliver water by means of the natural stream. This protocol is subordinate to any contradicting decreed language addressing specific water rights.

Access

The language of section 37-84-113, C.R.S., *implicitly acknowledges that a natural stream may be used as a conduit.*[1]

Notification

The water user must notify the water commissioner **at least 48 hours and not more than 7 days prior to the release of water** being delivered via a natural stream system unless the water commissioner specifically approves a different notice requirement in advance of the release. Advance notice is necessary in order to provide the water commissioner the time required to confirm that the delivery can be made under the current stream conditions.

Measurement Structures

In accordance with §37-84-113, C.R.S., water users seeking to use the natural stream to deliver water

> *"shall construct suitable and proper measuring flumes or weirs, equipped with self-registering devices if required by the state engineer, for the proper and accurate determination of the amount and flow of water turned into, carried through, and diverted out of said natural stream."* (underline emphasis added)

In short, water users are responsible for the construction of all measurement structures required to administer their water. This may include measurement structures required, in the opinion of the water commissioner or division engineer, to deliver their water past intervening water rights that are drying or "sweeping" the river.

If the water commissioner is unable to corroborate that water was delivered past a structure that was sweeping the river, none of the water released will be available for diversion or replacement credit below the sweeping structure.

Transit Loss

The volume of water available for diversion or replacement credit is the volume released to the stream less transit loss. The transit loss will:

- comply with any specific court decree covering the delivery;
- be based on current conditions and shall be determined by the water commissioner or division engineer;
- be the same for all water users in the same reach of the river or stream at the time of the delivery.

[1] Trail's End Ranch, LLC v. CO DWR, 91 P.3d 1058 (Colo. 2004).