COLORADO
Division of Water Resources
Department of Natural Resources

August 27, 2024

Ms. Lauren Tiedemann Loob, P.E.
Bishop-Brogden Associates, Inc.
333 West Hampden Ave, Ste 1050
Englewood, CO 80110

Re: Martin Marietta's Cache la Poudre Combined Substitute Water Supply Plan (WDID 0302583)
Parsons Mine, DRMS Permit No. M-2009-082 (WDID 0303045, Plan ID 5822)
Windsor East Mine, DRMS Permit No. M-2022-042 (WDID 0303046, Plan ID 9403)
Sections 25 and 36, T6N, R67W, 6th P.M., and Sections 30 and 31, T6N, R66W, 6th P.M.
Water Division 1, Water District 3, Weld County

Approval Period: June 1, 2024 through May 31, 2025
Contact information for Ms. Loob: 303-806-8952; ltiedemann@bbawater.com

Dear Ms. Loob:

We have reviewed your letter dated April 5, 2024 requesting approval of a substitute water supply plan ("SWSP") on behalf of Martin Marietta ("Applicant" or "MM") in accordance with section 37-90-137(11), C.R.S., to cover depletions caused by gravel pit operations at two sites along the Cache la Poudre River known as the Parsons Mine and the Windsor East Mine. The required filing fee of $514 ($257 + $257) has been received (receipt nos. 10035069 and 10035080).

SWSP Operations

This combined SWSP covers depletions at two gravel pit sites shown identified below:

Combined Replacement Plan Sites

Site Name	DRMS Permit No.	WDID	Well Permit No.	Exposed Surface Area
Parsons Mine	M-2009-082	0303045	80245-F	38.23 acres
Windsor East Mine	M-2022-042	0303046	88281-F	1.44acres

The Parsons Mine is located along the Cache la Poudre River in Sections 25 and 36, Township 6 North, Range 67 West of the 6th P.M., and Sections 30 and 31, Township 6 North, Range 66 West of the 6th P.M., as shown on the attached Figure 1. Mining operations will occur in several phases. All phases of the mine will be continuously dewatered for the entire plan period, with the exemption of the silt ponds.

MM has entered into an agreement with GWIP, LLC to mine the Windsor East Mine (DRMS Permit No. M-2022-042) located directly west of the Parsons Mine in Sections 35 and 36, Township 6

North, Range 67 West of the 6th P.M. as shown on Figure 1. MM anticipates that mining will be completed in Windsor East Cell A and the cell will be lined in 2025.

The depletions that are projected to result from the mining operations over the period of this SWSP include evaporation from exposed groundwater, water removed with the mined product, clay liner construction, and water used for dust suppression. The proposed replacement sources are a combination of 12 Whitney Ditch shares owned by MM, excess reusable effluent leased from the City of Greeley, water stored in MM's 35th Avenue Reservoir, and/or MM's 2 Rural Ditch shares

Depletions

The exposed groundwater surface area at the Parsons Mine consists of 0.52 acres exposed in a 2,800 foot long by 8 foot wide dewatering trench around Phase 1A, 1.13 acre silt pond in the Phase 1B area, a 7.00 acre silt pond in the Phase 1C mining area, 0.69 acres exposed in a 3,800 foot long by 8 foot wide dewatering trench around Phase 4, 14.39 acres of unlined pond surface area in the Phase 4 mining area, and 14.5 acres of unlined pond surface area in the Phase 5 mining area, for a total of 38.23 acres of groundwater surface area exposed during this plan period.

The exposed groundwater surface area at the Windsor Mine consists of 1.44 acres exposed in a 7,900 foot long by 8 foot wide dewatering trench. The total exposed area at the two sites will be 39.67 acres during this plan period.

Net evaporative depletions were calculated using a gross annual evaporation of 3.51 feet (42.12 inches) from the exposed water surface, with a credit of 0.84 feet (10.09 inches) for effective precipitation, based on average annual precipitation of 1.19 feet (14.31 inches) for the Greeley UNC weather station for the period of 1967-2023. Computation of evaporation under this plan may be reduced during the ice-covered period. You have anticipated the ice-covered period to occur during the months of December and January based on below-freezing average monthly temperatures for the Greeley UNC weather station. The ice-covered periods may be used to reduce the amount of evaporative losses that need to be replaced; however, for the purposes of this SWSP, the Applicant shall replace the net evaporation depletions from the exposed groundwater surface area that may occur during the anticipated ice-covered period (December through January) for any time that the exposed groundwater surface is not completely covered by ice. Computation of the net evaporation during any time that the exposed groundwater surface is not completely covered by ice shall be determined as the pro-rata amount of the monthly gross evaporation rate distribution amount identified in the State Engineer's *General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits,* subtracting the pro-rata amount of the effective precipitation for that period. The net depletion of groundwater due to evaporation is projected to total 106.13 acre-feet during this plan period, as shown on the attached Table 1 (assuming no ice cover).

Operational losses associated with mining activities will include water removed with the mined product and water used for dust control. MM estimates that they will mine a total of 464,400 tons of material during this plan period. Of this total estimated amount of mined material, 69,800 tons of aggregate is anticipated to be crushed (not washed) and 394,600 tons is anticipated to be washed. All of the material will be mined below the groundwater table, but in a dewatered state. The water retained by the crushed aggregate is considered to be 2% of the mined material by weight, and the water retained by the washed material is considered to be 4% of the mined material by weight. This results in a total groundwater loss of 12.64 acre-feet.

The Applicant has estimated that a total of 18.26 acre-feet of water will be required for dust control purposes at the sites during this plan period. MM plans to pump all dust suppression water from the Phase 1C mining area of the Parsons Mine. MM also has an agreement with the North Weld County Water District which allows MM to pump municipal water from a nearby hydrant to use for dust suppression purposes if necessary. However, for the purposes of this SWSP, you have assumed that all water for dust suppression purposes will be groundwater pumped from the Phase 1C mining area. Water used for dust control purposes is assumed to be 100% consumed.

The Applicant estimates that 14.73 acre-feet of water will be required to construct a clay liner in Windsor East Cell A. The Applicant intends to pump clay liner construction water from the Phase 1 and Phase A mining areas during July-August 2024 and April-May 2025 for this purpose. The water will be metered and is assumed to be 100% consumed.

The total consumptive use at the sites during the period of this SWSP is 151.76 acre-feet. A monthly breakdown of evaporative and operational consumptive use is given in the attached Table 1.

The Alluvial Water Accounting System (AWAS) program developed by the Integrated Decision Support (IDS) Group at Colorado State University was used to lag depletions from evaporation and operational losses at the mine sites to the Cache la Poudre River. The model requires the following parameters: distance (X) from the centroid of the exposed groundwater surface area to the river, aquifer width (W), transmissivity (T), and specific yield (S). The Parsons Mine was split into five different areas, designated Areas A, B, C, D, and E, and the Windsor East Mine was designated Area F as shown on the attached Figure 1, in order to more accurately determine the lagged depletions from the sites. The aquifer parameters used for each area are listed in the table below:

Aquifer Parameters – Depletion Areas

Area	X (ft)	W (ft)	T (gpd/ft)	S
A	2,176	9,823	85,000	0.15
B	208	9,946	85,000	0.15
C	297	10,816	85,000	0.15
D	2,636	10,810	85,000	0.15
E	550	2,945	85,000	0.15
F	1,300	13,350	85,000	0.15

As shown in the attached Figure 1, Phases 1A and 1B are located within Area A, Phase 1C and Phase 2 are located within Area D, Phase 4 is located within Area C, Phase 5 is located within Area E, and the Windsor East Mine is located within Area F.

The total lagged depletions for the Parsons Mine and Windsor East Mine sites were determined to be 148.62 acre-feet for this plan period. This amount includes lagged depletions resulting from past consumptive use that are projected to impact the river during this plan period. A monthly breakdown of total lagged depletions is shown in the attached Table 1.

Dewatering

With the exception of the silt ponds, all phases of the Parsons Mine will be continuously dewatered for the entire plan period. As long as the mine sites are continuously dewatered, the water returned to the stream system should be adequate to offset the depletions attributable to

dewatering operations. MM is not planning to use any dewatering credits for replacement of depletions at either the Parsons Mine or Windsor East Mine or at any other site under this SWSP. Totalizing flow meters must be installed at each dewatering discharge location and meter readings must be reported on the submitted accounting. The meter readings will be used in calculating the post-pumping depletions that must be replaced if dewatering ceases at these sites during mining operations and/or upon the conclusion of mining operations at these sites.

Replacements

The operator proposes to provide replacement water for these sites using consumptive use credits from 12 shares of Whitney Ditch owned by MM and either delivered directly to the river for immediate credit or delivered to a recharge pond (Parsons Mine Recharge Area, WDID 0302067) for lagged recharge accretion credits. In addition, MM also proposes to use excess fully consumable water leased from the City of Greeley available after use for replacement purposes in MM's SWSP for the 35th Avenue Pit, and/or water stored under free river conditions in MM's 35th Avenue Reservoir. Additionally, MM proposes to use credits from the Rural Ditch (WDID 0600551).

The decreed source for the water rights under the Whitney Ditch (WDID 0300930) is the Cache la Poudre River, and the decreed point of diversion for the Whitney Ditch is on the north side of the Cache la Poudre River in the NW¼ of the SE¼ of Section 19, T6N, R67W, 6th P.M., Weld County. For this SWSP, MM has chosen to rely on the historical consumptive use analysis of the Whitney Ditch conducted for water court case no. 2008CW65. Case no. 2008CW65 relied on a ditch-wide analysis of the 320 total shares in the Whitney Ditch. Based on a study period of 1950 through 1995, the Court found that the average annual gross river diversion was 10,600.2 acre-feet per year, or 33.13 acre-feet per share. Total average annual farm headgate deliveries were found to be 9,010.2 acre-feet per year, or 28.16 acre-feet per share, based on a transit loss of 15% under the Whitney Ditch system. The ditch-wide analysis determined that the overall average consumptive use was 4,400.9 acre-feet per year or 13.75 acre-feet per share, assuming a farm efficiency of 60%. In case no. 2002CW331, 8 shares historically used on 74 acres were previously found to have a river headgate diversion of 33.42 acre-feet per share and a consumptive use of 16.32 acre-feet per share (130.5 acre-feet total). After removing the consumptive use decreed for the 8 shares in case no. 2002CW331, the historical consumptive use for the remaining 312 shares was determined to be 4,270.4 acre-feet, or 13.69 acre-feet per share. For MM's 12 Whitney Ditch shares dedicated to this SWSP, the total average annual consumptive use would therefore equal to 164.25 acre-feet per year and 337.88 acre-feet of total deliveries. The monthly and annual volumetric limit of the farm headgate deliveries are shown in the attached Table 3, column 4. The decree entered in case no. 2008CW65 limited diversions to the historical diversion period of April 1 through October 31, therefore this SWSP does not authorize any diversions in March. The annual volumetric limit reflects deliveries historically made in March. The ditch-wide analysis utilized a return flow split of 50% surface and 50% subsurface return flows. The return flows during the irrigation season will be calculated based upon a percentage of the actual monthly deliveries and non-irrigation season return flows will be calculated based upon the total deliveries from the previous irrigation season as decreed in case no. 2008CW65. Eight (8) of the 12 shares are located within Zone 2-A of the 2008CW65 decree, and the remaining 4 shares are located within Zone 2-B of the 2008CW65 decree. Zone 2-A is described in the decree as the irrigated area located below the Jones Ditch but above Canal No. 3 and within approximately 2,000 feet of the Cache la Poudre River. Zone 2-B is described in the decree as the irrigated area located below the Jones Ditch but above Canal No. 3 and greater

than approximately 2,000 feet from the Cache la Poudre River. The decreed monthly return flow percentages for Zones 2-A and 2-B are shown in the attached Table 2, column 5.

The Whitney Ditch water rights will continue to be diverted in priority at the Whitney Ditch headgate during the historical irrigation season of April 1 through October 31. During the period of this SWSP, MM plans to deliver approximately 133.38 acre-feet of Whitney Ditch water to recharge ponds and approximately 173.01 acre-feet of the farm headgate deliveries directly back to the river. To date, two interconnected recharge ponds have been constructed in the NW¼ of the SW¼ of Section 30, Township 6 North, Range 66 West of the 6th P.M. The ponds have a single inflow structure and individual staff gages. The maximum surface area of the pond(s) is 2.14 acres. The pond(s) will receive water from the Whitney Ditch using MM's existing headgates and infrastructure located as shown in Figure 3.

The IDS AWAS stream depletion model was used to determine the lagged accretions from the recharge area. The AWAS lagging parameters applied to the recharge pond(s) are shown in the table below.

Aquifer Parameters – Recharge Pond(s)

X (ft)	W (ft)	T (gpd/ft)	S
3,116	10,205	85,000	0.15

Continuous flow recorders and staff gages are required to accurately track daily inflow to the recharge pond(s). Augmentation credits are based on the amount of water determined to have been infiltrated into the ground based on the change in gage height, less any evaporative losses and plant consumption. The infiltrated water is then lagged to the stream using the AWAS program and aquifer parameters given above. The measuring and recording device used to deliver water to the recharge pond(s) has been approved by the water commissioner, and a staff gage has been installed in the pond(s) as required by the Division One Recharge Protocol. A stage-capacity table was provided with the 2018-2019 SWSP request. Gross evaporative losses from the recharge pond(s) will be subtracted from the volume of water delivered to the pond(s) every day there is visible water in the pond(s). For the purpose of this SWSP, you have estimated annual gross evaporation using the maximum surface area of 2.14 acres. Delivery of the projected 133.99 acre-feet to recharge during this plan period will result in 6.08 acre-feet of evaporative losses, leaving 127.90 acre-feet of accretions to be lagged to the river. Past and projected recharge deliveries will result in a total of 132.62 acre-feet of recharge accruing to the river during this plan period. After accounting for 68.42 acre-feet of return flow obligations, the net recharge accretion projected to accrue to the river during this plan period is 64.20 acre-feet.

Approximately 169.72 acre-feet of the Whitney Ditch water will be delivered directly to the Cache la Poudre River, as shown on the attached Table 3, column 7. MM's Whitney Ditch deliveries directly to the river will be made through MM's augmentation structure (Whitney Ditch Martin Marietta Return, WDID 0302923), as shown on the attached Figure 3. The deliveries will be measured at MM's augmentation structure and delivered back to Cache la Poudre River at the point shown in Figure 2. The return flow obligations associated with Whitney Ditch water direct deliveries were determined to total 89.31 acre-feet calculated based on the return flow percentages for Zones 2-A and 2-B decreed in case no. 2008CW65, shown on Table 2, column 5, leaving 80.41 acre-feet of water available for replacement.

During the period of this SWSP, MM will dry up a total of 130.8 acres attributed to MM's 12 Whitney Ditch shares, as shown on the attached Figure 3. The Applicant has stated that groundwater monitoring in the period of July 2019-May 2021 indicates that the depth to groundwater for all 10 monitoring wells at the site was greater than 7.11 feet. The Applicant also provides groundwater monitoring data to the DRMS as part of their annual reporting. If based on additional information the state engineer determines that the depth to groundwater is shallower than 2.5 feet, and the maximum rooting depth of vegetation on the dry-up parcels is not demonstrated to be shallower than the depth to groundwater, the state engineer may reduce the consumptive use credits attributable to the dry-up acreage as provided for in paragraphs 9(h)(ii) and (iii) of the decree entered in case no. 2008CW65.

Under this SWSP, MM requests the ability to use any excess fully consumable water leased from the City of Greeley ("Greeley") not required for replacement purposes in MM's SWSP for the 35th Avenue Pit (WDID 0302546, Plan ID 2945) for replacement purposes under this SWSP. MM's predecessor, Lafarge West, Inc., traded its 550 Boyd and Freeman Ditch shares for 125 acre-feet of augmentation water from Greeley. MM acquired this lease from Lafarge as part of their acquisition of the Greeley 35th Ave Pit. The lease allows MM to use this water to cover depletions at Greeley 35th Ave Pit and surrounding land. A copy of the lease has been provided to this office. To the extent that excess fully consumable water is available, the leased replacement water may also be used to replace depletions at the Parsons Mine and/or Windsor East Mine. Fully consumable replacement water provided by Greeley will be returned to the river at one of the following locations:

a) Greeley Water Pollution Control Facility Outfall (WDID 0302312) located on the Cache la Poudre River;

b) JBS Swift Industrial WWTP Outfall (WDID 0102342) on Lone Tree Creek;

c) confluence of the 35th Avenue Drainage Ditch and Cache la Poudre River;

d) any augmentation station/release structure(s) to be constructed in the vicinity of such confluence and associated with Greeley's operation of reservoirs known as Flatiron Reservoir Nos. 1-5 (a.k.a. Poudre Ponds/Greeley West Pit/Greeley 25th Ave Pit);

e) an augmentation station/release structure located under the Boyd and Freeman Ditch and approved by the water commissioner and division engineer for such purpose;

f) release structures from Greeley Canal No. 3 as described in Greeley's decree in case no. 99CW232, or;

g) any other release and measurement point that Greeley and MM agree upon.

The Applicant also requests the ability to use water stored in the Greeley 35th Ave Reservoir (WDID 0303844) under free river conditions as a replacement source under this SWSP. The Greeley 35th Ave Reservoir is located approximately 7.5 miles downstream of the Parsons Mine and Windsor East Mine, in the western half of the Greeley 35th Ave Pit. MM stored water in the Greeley 35th Ave Reservoir under free river conditions in 2018, 2019, 2020, 2021, 2022, and 2023 with the approval of the water commissioner. Water will be pumped directly from the reservoir to the Cache la Poudre River at the westernmost border of the Greeley 35th Ave Pit. Water pumped from the Greeley 35th Ave Reservoir will not be used for replacement purposes under this SWSP without prior approval from the District 3 water commissioner.

MM owns two shares in the Rural Ditch that were historically used on the Heaton property for irrigation. The Heaton property is the current site of Heaton Reservoir (WDID 0504089). These shares were previously included in case no. 2001CW194 to be changed from irrigation to augmentation and other uses associated with Lafarge's (MM's predecessor) sand and gravel operations, but the case was later dropped. An engineering report was completed for Case no. 2001CW194 and presents the historical consumptive use analysis for these two shares. Previous SWSPs for the Duckworth Pit (WDID 0603005, ID 4767) have been approved using the historical consumptive use ("HCU") analysis completed for Case No. 2001CW194, which was then revised in 2015 to reduce the maximum irrigation efficiency from 65% to 60% and to include climate station data for the 1911-1947 period.

The Applicant provided information on the assumptions used in the HCU analysis, as described below:

The Applicant owns 2 shares of 50 shares of the Rural Ditch, or four percent. The Rural Ditch water right was decreed in CA1336 for the following appropriations:

Appropriation Date	Flow Rate (cfs)
May 10, 1862	22.75
March 10, 1863	175.54*

*115.29 cfs of the 175.54 cfs was abandoned by decree in case no. 84CW412

The Applicant's shares equate to an ownership interest of 0.91 cfs in the senior priority and 2.41 cfs in the junior priority. The Heaton property is located in the N1/2 of the NE1/4 of Section 9, Township 2 North, Range 68 West of the 6th P.M. According to the engineering report, the HCU analysis was performed using the modified Blaney-Criddle method with TR-21 crop coefficients. The HCU analysis was conducted for the period 1911-1998. The Longmont 2ESE climate station was used in the analysis. The Applicant noted that irrigation continued through 1999, when the mining operation took the land out of agricultural production. The two Rural Ditch shares continued to be used at the Heaton property Batch Plant (Del Camino Batch Plan) under approved SWSPs from approximately 2003 through 2008 and in this SWSP thereafter.

According to the engineering report the average annual ditch diversions attributable to MMM's two shares is 204.2 acre-feet per year. An assumed 20% ditch loss assessed on the diversions provides an average annual farm headgate delivery of 163.4 acre-feet per year. Aerial photography taken in 1953, 1975, 1980 and 1998 were reviewed to confirm the historic use on the property. Based on the review of the above aerial photography the following irrigated acreages were used in the HCU analysis: 68.9 acres from 1911 to 1961, 52 acres from 1962 to 1969 and 47 acres from 1970 to 1998. Based on a conversation with Mr. Adams the ditch company president, the crop distribution was assumed to be 50 percent silage corn and 50 percent alfalfa and the ditch diversions were used to flood irrigate the property.

Based on the information provided by the Applicant's water consultant on April 10, 2015, the irrigation type for the Heaton parcel was a mix of graded border irrigation and furrow irrigation for

alfalfa and corn. Rosie and Anthony Heaton, who have lived on the Heaton Farm since 1950, stated that alfalfa was grown on the farm half of the years they lived there and that corn was grown the other half of the years.

Based on the 1911 through 1998 farm headgate deliveries, the annual on-site depletions attributable to the two Rural Ditch shares were calculated to average approximately 82.2 acre-feet per year. The historic return flow obligations must be maintained and are equal to 81.1 acre-feet, which comprises 35 percent surface runoff and 65 percent deep percolation. The timing of the deep percolation return flow was determined based on the Glover Analysis with the following aquifer parameters: Transmissivity= 35,000 gpd/day/ft, the distance from the centroid of the Heaton property to the Boulder Creek=1,200 feet and the storage coefficient =0.1. The transmissivity and the storage coefficient were obtained from a nearby groundwater pump test as published in the Groundwater Circular No. 11 data. The HCU results are summarized in table below:

Table 1: HCU results

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Farm Headgate Delivery	0.0	0.0	0.0	0.9	18.8	38.9	51.1	32.9	16.0	4.6	0.1	0.0	163.4
On Farm Depletion of Surface Water	0.0	0.0	0.0	0.5	9.2	19.5	25.2	17.5	8.3	2.0	0.0	0.0	82.2
Surface Return Flows	0.0	0.0	0.0	0.1	2.6	5.5	7.2	4.6	2.2	0.6	0.0	0.0	22.9
Ground Water Return flows	0.0	0.0	0.0	0.3	7.0	14.0	18.7	10.8	5.5	1.9	0.1	0.0	58.2
Lagged Ground Water Return Flows	1.7	2.6	2.0	1.8	2.8	6.7	10.6	10.9	8.3	5.4	3.3	2.2	58.2
Average Net Depletion	-1.7	-2.6	-2.0	-1.0	13.4	26.8	33.3	17.4	5.5	-1.5	-3.2	-2.2	82.2
Return Flow Factor (%)	1.0	1.6	1.2	1.2	28.7	31.4	34.8	47.1	65.6	3.7	2.0	1.3	NA

For purposes of this SWSP all farm headgate deliveries associated with the 2 shares changed herein, either delivered directly to storage at the sites specified, or to the augmentation station, will be considered the total deliveries ("total delivery"). For the months of May through September the return flows will be calculated by multiplying the daily total delivery of the 2 shares for all uses by the applicable monthly return flows factor in Table 1 above. For the months of October through May,

the total delivery of the 2 shares for all uses for the prior year will be multiplied by the applicable monthly return flow factor, then divided by the number of days in the month, to determine the daily return flow requirement.

Under this SWSP, MM proposes to bypass Rural Ditch return flows and consumptive use credits at an existing augmentation structure near the Rural Ditch headgate. MM will take the pro-rata river headgate delivery of the two Rural Ditch shares at the Rural Ditch headgate and bypass the required return flows and MM's consumptive use credits through the augmentation structure. This would allow for the quantification of Rural Ditch credits or return flow requirements delivered directly back to the river instead of being delivered to Heaton Reservoir and then pumped out of the reservoir. **Prior to bypassing Rural Ditch water the Applicant must obtain approval from the water commissioner to use the augmentation station. In addition, such augmentation station must comply with the attached Division 1 Augmentation Station Criteria protocol.**

Until the Rural Ditch augmentation structure and/or the Smith & Emmons Ditch waste way are built, MMM plans to take the full farm headgate deliveries into Heaton Reservoir and pump all return flow obligations and replacements to the river out of the reservoir using the currently installed pumping equipment. Therefore, Rural Ditch shares delivered to Heaton Reservoir during the 2022 through 2024 irrigation seasons will result in return flow obligations during this SWSP. The deliveries shall not exceed the average monthly farm headgate deliveries shown in Table 1 above.

Heaton Reservoir was filled to its maximum capacity under free-river conditions during spring 2015. Currently the reservoir contains 680 acre-feet of storage. The Heaton Reservoir has a conditional storage right in Case No. 2001CW193 with a use, among others, of augmentation and replacement for consumptive uses at the Duckworth Pit. The Rural Ditch shares will be diverted from Boulder Creek at the Rural Ditch headgate, carried to Idaho Creek, and diverted again off the Rural Ditch lateral where it will be measured and diverted into the reservoir. The water will then be pumped from the reservoir to the river for augmentation purposes for the Duckworth Pit. All terms and conditions of the 2001CW193 decree remain in place including the Rural Ditch Bypass requirements in paragraph 14 of the decree, which require that MM not divert water through the Rural Ditch to the Heaton Reservoir if flow at the "Boulder Creek at Mouth" gage is less than the amount of water to be delivered to Boulder's lessees below the Rural Ditch headgate, plus 3.4 cfs.

The applicant must have a carriage agreement with the Rural Ditch Company for this operation. This SWSP does not authorize alternate points of diversions for the Rural Ditch Shares, including infiltration galleries or 'headgate' wells.

The Applicant is required to coordinate with the appropriate water commissioner the delivery location of replacement water to ensure out-of-priority depletions are adequately replaced to prevent injury to other water rights. **Excess fully consumable water leased from Greeley cannot be used for replacement of depletions from the Parsons Mine or Windsor East Mine without <u>prior</u> approval from the water commissioner.** Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the water commissioner or division engineer.

Use of Excess Credits

The Applicant has requested the ability to use excess replacement credit associated with their subject 12 Whitney Ditch shares in their other gravel pit SWSPs approved pursuant to section 37-90-137(11), C.R.S., to the extent such excess replacement credit exists. The Applicant must provide written notice to the division engineer and water commissioner at least 30 days in advance of the desired commencement of use of the excess replacement credits, which must include the specific plan in which the credits will be used, the provision in the plan that allows an unnamed source to be added for credit, the annual and monthly amount of excess replacement credit available, the location at which the water will be delivered to the stream, and a copy of a lease agreement between the Applicant and the purchaser of the excess replacement credits if the additional plan is not owned by the Applicant. **The Applicant cannot claim credit for the use of the excess replacement credits in any other plan until they have received written approval from the division engineer or water commissioner.**

Long Term Augmentation

In accordance with the letter dated April 30, 2010 (copy attached) from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from the DRMS requires that you provide information to the DRMS to demonstrate you can replace long term injurious stream depletions that result from mining related exposure of groundwater. The DRMS letter identifies four approaches to satisfy this requirement.

The original reclamation plan for the Parsons Mine was developed in 2009 by MM's predecessor, Lafarge West, Inc. The 2009 reclamation plan shows a mixture of the pits being reclaimed to open water ponds or wetlands, with approximately 60 acres of the site covered with water once reclamation is complete. Based on information previously received by this office, MM plans to revise the final reclamation plan and it is expected that a large majority, if not all, of the mined areas will either be backfilled or lined in order to minimize any long-term exposed groundwater at the site.

On June 11, 2018, the DRMS approved Technical Revision No. 1 for the Parsons Mine which removed the permit stipulation to have the financial warranty only cover the cost of reclaiming one year's worth of disturbance and exposure of groundwater, and complied with the long-term augmentation requirement by submitting a financial warranty to cover the cost of installing a slurry wall around all 10 lakes at the site. In accordance with the approach in Technical Revision No. 1, an increased bond has been obtained for $4,168,714.00 through the DRMS.

The reclamation plan for the Windsor East Mine shows that the site will be reclaimed to create two lined water storage ponds. The DRMS has required a financial warranty of $2,300,000.00 for this site. Mining operations may not commence until the applicant has posted the required financial and performance warranties.

In certain areas of the South Platte River Basin, staff of the Division of Water Resources has observed groundwater problems that appear to be related to the lining of gravel pits located near streams, and in particular, these problems occur when multiple liners are located adjacent to each other. The Division of Water Resources requests that MM consider the siting and design of lined gravel pits to ensure that they will not individually, or cumulatively, result in impacts to the timing and

quantity of groundwater flow from upgradient locations back to the stream system. In addition to impacts to property, such as flooding upgradient and reduced water levels downgradient of the liner, there are decrees of the court that specify the timing, quantity and amount of water depleted from the streams by wells and accreted to the stream through recharge operations. The installation of a gravel pit liner should not result in changes to the timing, location, and amount of such groundwater flow.

Conditions of Approval

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

1. This SWSP shall be valid for the period of June 1, 2024 through May 31, 2025 unless otherwise revoked or superseded by decree. If a court decreed plan for augmentation is not obtained for the proposed uses by the SWSP expiration date, a renewal request must be submitted to this office with the statutory fee of $257 per site no later than April 1, 2025. If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP in which case the $1,593 filing fee per site will apply.
2. Well permit no. 80245-F was obtained for the current use and exposed pond surface area of the Parsons Mine in accordance with sections 37-90-137(2) and (11), C.R.S.
3. Well permit no. 88281-F was obtained for the proposed use and anticipated maximum pond surface area of the Windsor East Mine in accordance with 37-90-137(2) and (11), C.R.S.
4. The total surface area of the groundwater exposed at the Parsons Mine site must not exceed 38.23 acres and the total surface area exposed at the Windsor East Mine site must not exceed 1.44 acres, which results in an annual net evaporative loss of 106.13 acre-feet. Should the total surface area exposed exceed those amounts, the Applicant is required to immediately file an amendment with this office.
5. The total amount of groundwater to be appropriated from both of the sites shall not exceed 148.62 acre-feet during the plan period.
6. Total consumption at the Parsons Mine and Windsor East Mine must not exceed these aforementioned amounts unless an amendment is made to this plan.
7. Approval of this SWSP is for the purposes as stated herein. This office must first approve any additional uses for the water. Any future historical consumptive use credit given (e.g., agricultural water transfer) for this site must consider all previous credits given.
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. 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.
9. The Applicant must replace all out-of-priority depletions and return flow obligations resulting from operation under this SWSP, including those lagged depletions and return flow obligations that occur to the stream after the expiration date of this SWSP.

10. Diversions of the Whitney Ditch shares changed in this SWSP are limited to the period of April 1 through October 31.
11. The water attributable to the 12 shares of the Whitney Ditch that will be used for direct replacements must continue to be diverted in-priority at the ditch then measured back to the Cache la Poudre River in the vicinity of the Parsons Mine and Windsor East Mine. Adequate measuring devices acceptable to the water Commissioner must be installed.
12. All diversions shall be measured in a manner acceptable to the division engineer. The Applicant shall install and maintain such measuring devices as required by the division engineer for operation of this SWSP.
13. Computation of evaporation under this plan may be reduced during the ice-covered period. You have anticipated the ice-covered period to occur during the months of December and January. However, for the purpose of this SWSP, the Applicant shall replace the net evaporation depletions from the exposed groundwater surface area of the gravel pits that may occur during the anticipated ice-covered period (December and January) for any time that the exposed water surfaces are not completely covered by ice.
14. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity unless prior approval is obtained from the state or division engineer. As a condition of subsequent renewals of this SWSP, the replacement water must be appurtenant to these sites until a plan for augmentation is obtained.
15. The Applicant shall provide daily accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be uploaded to the CDSS Online Reporting Tool within 30 days of the end of the month for which the accounting applies (https://dwr.state.co.us/Tools/reporting). Instructions for using the tool are available on the Division of Water Resources website on the "Services" → "Data & Information" page under the heading of Online Data Submittal. Accounting and reporting procedures are subject to approval and modification by the division engineer. Accounting forms need to identify the WDID number for each structure operating under this SWSP. Additional information regarding accounting requirements can be found in the attached Augmentation Plan Accounting Protocol. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.

    In the event that excess fully consumable water from the City of Greeley is used as a replacement water source under this SWSP, the Applicant shall verify that the entity making replacements (City of Greeley) has included the Applicant on their accounting and submitted their accounting to the division office and the water commissioner.

16. **Prior to the use of Greeley effluent or Greeley 35th Ave Reservoir 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.

17. The Applicant shall follow the accounting and recharge protocols as referenced in the attached documents for the operation of this SWSP.

18. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.

19. In order to prevent injury to other water rights, the division engineer and water commissioner must be able to administer Applicant's 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 Cache la Poudre River or its tributaries. Applicant shall not receive credit for replacement of depletions to the Cache la Poudre 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 Cache la Poudre River below such diversion structure.

20. 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.

21. The parcels previously irrigated by the 12 shares of the Whitney Ditch are currently being mined and the final reclamation is anticipated to include a lined reservoir. The lined storage cells will be isolated from groundwater, therefore the parcels are considered to be dried up. The Applicant provided a dry-up affidavit in August 2022.

22. The historical consumptive use attributed to the changed surface water right(s) under this SWSP shall not include groundwater contributions. As a result, the historical consumptive use ("HCU") credit calculated for the subject water right to be changed by this SWSP must be reduced by any ongoing sub-irrigation from groundwater, as provided for in the ditch-wide analysis decreed in case no. 2008CW65 that the Applicant has chosen to rely upon for this SWSP. Information provided to this office indicates that groundwater levels below what is now the Parsons Mine are more than 7.11 feet below the ground surface. If, based on additional information, the state engineer determines that the depth to groundwater is shallower than the 2.5 feet, the state engineer shall require the Applicant to demonstrate that the maximum rooting depths of the vegetation on the dry-up parcels is shallower than the average monthly depth to groundwater, or the amount of the calculated HCU that may be claimed in this SWSP will be reduced accordingly.

23. Dewatering at these sites will produce delayed depletions to the stream system. As long as the sites are continuously dewatered, the water returned to the stream system should be adequate to offset the depletions, thus dewatering is required to continue during the term of this plan. Once dewatering at the sites cease, the delayed depletions must be addressed, including depletions resulting from the gradual refilling of the pit(s). At least three years prior to completion of dewatering, a plan must be submitted that specifies how the post pumping dewatering depletions will be replaced, in time, place and amount.

24. If dewatering of the sites is discontinued, the pits would fill creating additional depletions to the stream system due to increased evaporation. To assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, that would lead to the

abandonment of the pits, the Applicant has obtained a bond in the amount of $4,168,714 for the Parsons Mine and is required to post a financial warranty of $2,300,000 for Windsor East Mine through the DRMS, which includes the cost of constructing a slurry wall or backfilling the ponds.

25. 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(s) will produce a permanent water surface exposing groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 1 Water Court at least three (3) years prior to the completion of mining to include, but not be limited to, long-term evaporation losses and lagged depletions. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.
26. The Applicant should consider the effects of groundwater mounding and the need for interceptor drains due to construction of the liners around the pits.
27. The state engineer may revoke this SWSP or add additional restrictions to its operation if at any time the state engineer determines that injury to other vested water rights has occurred or will occur as a result of the operation of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all use of water under this SWSP must cease immediately.
28. In accordance with amendments to section 25-8-202(7), C.R.S. and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the state engineer shall determine if the substitute 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.
29. 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.

If you have any questions concerning this approval, please contact Kate Fuller in Denver at (303) 866-3581 or Michael Hein in Greeley at (970) 352-8712.

Sincerely,

for Joanna Williams, P.E.
Chief of Water Supply

Attachments: Figures 1-3
Tables 1-3
Augmentation Plan Accounting Protocol
Letter from DRMS dated April 30, 2010

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

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

Shera Sumerford, Water Commissioner, District 5, Shera.Sumerford@state.co.us

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

Accounting Coordinator, dnr_div1accounting@state.co.us

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

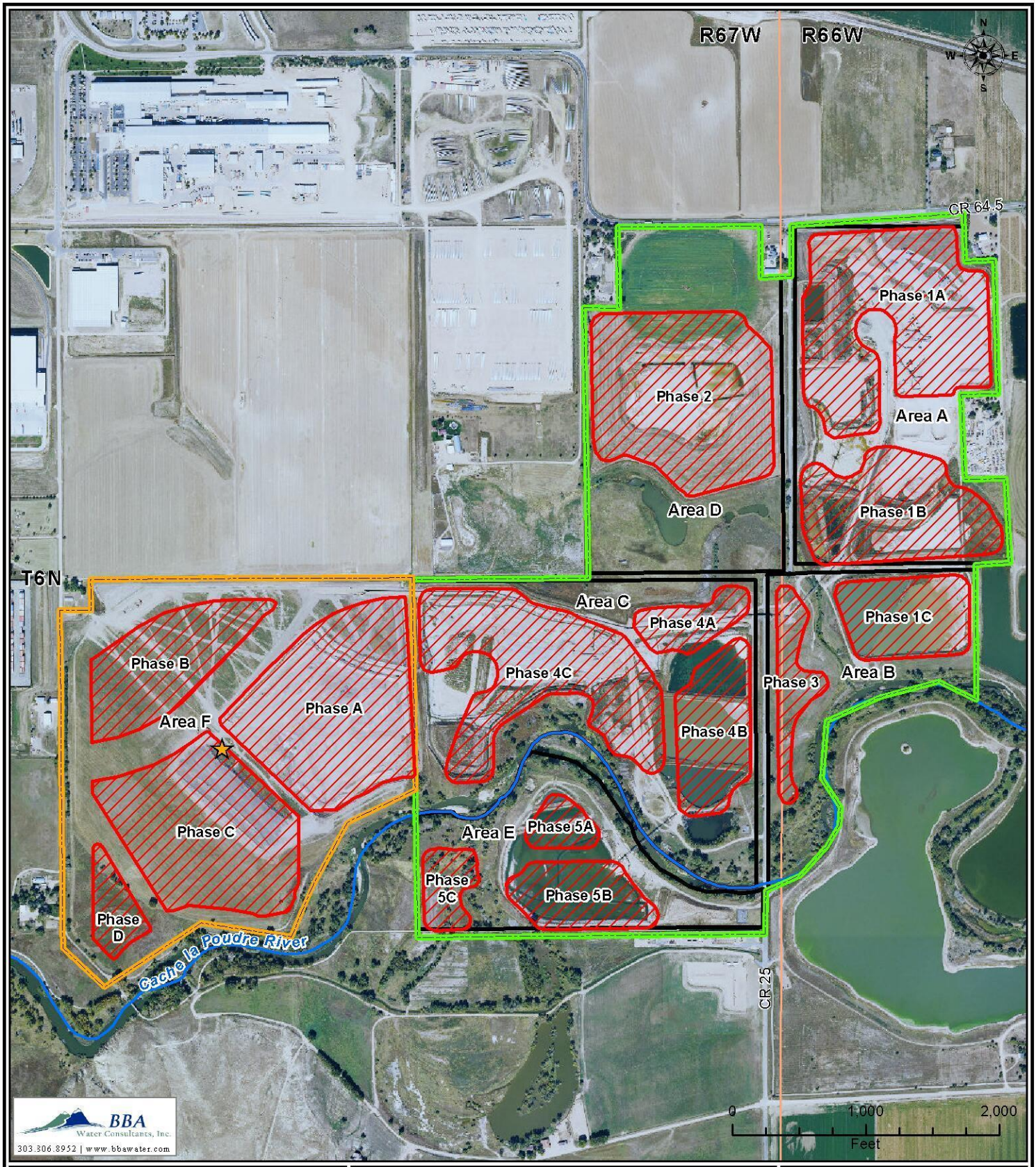


Figure 1
Martin Marietta Parsons and Windsor East Mines Mining Phases

Date: 3/21/2024 | Job No. 1204.09

Legend

- Planned Mining Phases
- Lagging Areas
- Great Western Mine DRMS Permit M-2022-042
- Parsons Mine DRMS Permit M-2009-082

Aerial Photo Date: 9/25/2023 NAIP USDA
Data Source: CDSS, CDWR, USGS, BLM

Colorado

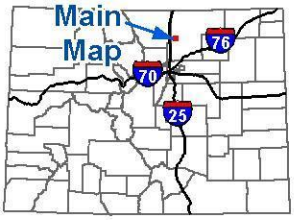


Figure 2
Martin Marietta Parsons and Windsor East Mines General Location Map

Date: 3/21/2024 | Job No. 1204.09

Legend

- Headgate
- Augmentation Point of Delivery
- Augmentation Structure (Approx.)
- Parsons Mine Lagging Areas
- DRMS Permit Boundary
- Recharge Ponds

Aerial Photo Date: 9/25/2023, USDA, NAIP
Data Source: CDSS, CDWR, USGS, BLM

Colorado

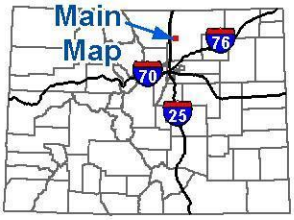


Figure 3
Martin Marietta
Parsons Mine
Whitney Ditch
Dry-Up Area

Date: 3/21/2024 | Job No. 1204.09

Legend

- MM Whitney Ditch Shares Dry-up Area
- Parsons Mine Lagging Areas
- DRMS Permit Boundary

Aerial Photo Date: 9/25/2023 USDA, NAIP
Data Source: CDSS, CDWR, USGS, BLM

Colorado

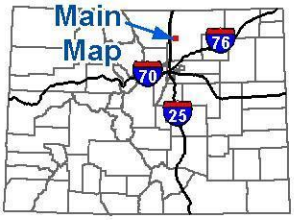


Table 1
Martin Marietta
2024-2025 Parsons and Windsor East Mines Combined SWSP Accounting
Total Operational Depletions

	Evaporation Depletions						Production Depletions							
							Aggregate Production (tons)							
Month	Total Exposed Area (ac) [1]	Gross Evaporation (feet) [2]	Average Total Precipitation (feet) [3]	Effective Precipitation (feet) [4]	Net Evaporation (feet) [5]	Total Net Evaporation Volume (ac-ft) [6]	Crushed (Not Washed) [7]	Washed [7]	Aggregate Production Consumption (ac-ft) [8]	Dust Suppression (ac-ft) [9a]	Clay Liner Construction (ac-ft) [9b]	Total Production Consumption (ac-ft) [10]	Total Site Depletions (ac-ft) [11]	Total Lagged Depletions (ac-ft) [12]
Jun-24	39.67	0.51	0.15	0.11	0.40	15.93	6,800	38,400	1.23	2.30	0.00	3.53	19.46	17.56
Jul-24	39.67	0.53	0.13	0.09	0.44	17.38	7,800	44,200	1.42	2.30	3.68	7.40	24.78	22.11
Aug-24	39.67	0.47	0.11	0.08	0.40	15.77	6,800	38,300	1.23	2.30	3.68	7.21	22.98	22.15
Sep-24	39.67	0.35	0.09	0.06	0.29	11.39	8,100	46,100	1.48	2.30	0.00	3.78	15.17	16.80
Oct-24	39.67	0.25	0.08	0.06	0.19	7.40	4,800	27,200	0.87	2.30	0.00	3.17	10.58	12.42
Nov-24	39.67	0.14	0.06	0.04	0.10	3.91	4,100	23,000	0.74	1.53	0.00	2.27	6.18	7.96
Dec-24	39.67	0.11	0.04	0.03	0.08	3.01	3,900	22,100	0.71	0.61	0.00	1.32	4.33	5.41
Jan-25	39.67	0.11	0.04	0.03	0.08	3.10	4,400	24,700	0.79	0.54	0.00	1.33	4.43	4.87
Feb-25	39.67	0.12	0.04	0.03	0.10	3.88	3,500	19,800	0.63	0.54	0.00	1.17	5.05	5.21
Mar-25	39.67	0.19	0.09	0.06	0.13	5.25	6,400	36,100	1.16	1.07	0.00	2.23	7.48	6.90
Apr-25	39.67	0.32	0.14	0.10	0.22	8.53	5,200	29,600	0.95	1.23	3.68	5.86	14.39	12.13
May-25	39.67	0.42	0.22	0.15	0.27	10.58	8,000	45,100	1.44	1.23	3.68	6.35	16.94	15.10
2024-2025 Total	-	3.51	1.19	0.83	2.68	106.13	69,800	394,600	12.64	18.26	14.73	45.63	151.76	148.62

Notes:

[1] The total area of exposed ground water at the site consist of the dewatering trenches and silt pond.

[2] Total gross evaporation (3.51 feet) is based upon NOAA Technical Report NWS 33 and distributed according to SEO Senate Bill 89-120 criteria.

November: 4.0%	February: 3.5%	May: 12.0%	August: 13.50%
December: 3.0%	March: 5.5%	June: 14.5%	September: 10.0%
January: 3.0%	April: 9.0%	July: 15.0%	October: 7.0%

[3] Based upon the average precipitation at the Greeley UNC, CO (ID#3553) NOAA weather station for the time period 1967-2023.

[4] Assumed 70% effective precipitation. Equal to [4] x 70%.

[5] Equal to [2] - [4]. There is no evaporation December and January due to below-freezing average monthly temperatures.

[6] Equal to [1] x [5].

[7] Aggregate production from mining is based upon information from MM.

[8] Aggregate production from mining is based upon information from MM. Water retained in product equals 4% of total weight of washed aggregate produced and 2% of total weight of crushed aggregate produced as defined by Senate Bill 89-120.

[9a] Dust suppression values provided by MM.

[9b] Clay liner construction values provided by MM.

[10] Equal to [8] + [9].

[11] Equal to depletions associated with each lagging area. All dust suppression water [9] will be pumped from Area B. Other depletions for all areas include evaporation [6] and mining production [8] depending on which area mining occurs in for a given month.

[12] Equal to values from [11] lagged based upon specific lagging parameters designated to each lagging area. Lagging calculations were based on the following lagging area parameters:

Area A - Distance from stream = 2,176 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 9,823 ft
Area B - Distance from stream = 208 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 9,946 ft
Area C - Distance from stream = 297 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 10,816 ft
Area D - Distance from stream = 2,636 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 10,810 ft
Area E - Distance from stream = 550 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 2,950 ft
Area F - Distance from stream = 1,300 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 13,350 ft

Table 2
Martin Marietta
2024-2025 Parsons and Windsor East Mines Combined SWSP Accounting
Recharge Pond Operations
(all values in ac-ft)

Month	Whitney Ditch FHG Deliveries to Recharge Pond	Estimated Recharge Ponds Evaporation	Net Recharge	Total Lagged Recharge Credit Accretion	Return Flow Factor(%)		Return Flow Obligations	Net Recharge Accretion
					Zone 2-A	Zone 2-B		
	[1]	[2]	[3]	[4]	[5]		[6]	[7]
Jun-24	23.06	1.09	21.97	8.74	43.76%	39.87%	9.79	-1.06
Jul-24	35.00	1.13	33.87	12.38	41.18%	34.64%	13.65	-1.27
Aug-24	35.00	1.01	33.99	16.26	45.53%	37.25%	14.97	1.29
Sep-24	25.70	0.75	24.95	18.93	55.44%	48.08%	13.62	5.31
Oct-24	3.05	0.53	2.53	17.89	47.79% | 1.65%	47.79% | 2.01%	3.85	14.04
Nov-24	0.00	0.00	0.00	13.66	0.86%	1.85%	1.61	12.05
Dec-24	0.00	0.00	0.00	10.34	0.59%	1.59%	1.25	9.09
Jan-25	0.00	0.00	0.00	8.47	0.45%	1.37%	1.02	7.44
Feb-25	0.00	0.00	0.00	7.27	0.37%	1.19%	0.87	6.41
Mar-25	0.00	0.00	0.00	6.58	0.28%	1.03%	0.72	5.86
Apr-25	1.99	0.68	1.32	6.03	65.84%	89.36%	1.47	4.56
May-25	10.18	0.90	9.28	6.07	54.62%	55.84%	5.60	0.47
2024-2025 Total	133.99	6.08	127.90	132.62	-	-	68.42	64.20

Notes:
[1] Total average farm headgate deliveries of Whitney Ditch water delivered to the recharge pond.
[2] Evaporation calculated based on total maximum recharge pond surface area of 2.14 acres when diversions are being made and monthly evaporation rates shown in Column 2 of Table 1.
[3] Equals [1] - [2].
[4] Lagging calculations were based on the following parameters:
Distance from stream = 3,116 ft, Transmissivity = 85,000 gpd/ft, Specific Yield = 0.15, Aquifer Width = 10,205 ft
[5] Return flow factors are based on Case No. 08CW65 decree for Zone 2-A and 2-B.

[6] April-September = [1] x [5], October = [1] x [5] + (2024 Deliveries x [5]), November-March = (2024 Deliveries x [5]). Pro-rata deliveries associated with each return flow zone are calculated based upon (8/12) x [1] to Zone 2-A and (4/12) x [1] to Zone 2-B.

[7] Equals [4] - [6].

Table 3
Martin Marietta
2024-2025 Parsons and Windsor East Mines Combined SWSP Accounting
Water Balance
(all values in ac-ft)

Month	Total Lagged Operational Depletions	Percent of Month Call on the River (%)	Total Replacement Requirements	Whitney Ditch FHG Credit Available for Use	Whitney Ditch Water Delivered to Recharge	Net Recharge Accretion	Whitney Ditch Water Delivered to River	Return Flow Requirements for Deliveries to River	Net Accretion from Deliveries to River	Excess Greeley Lease Water from 35th Ave. Site	Deliveries from Storage in 35th Avenue Reservoir	Rural Ditch			Net Effect to the River
												Rural Ditch Credits	Transit Loss	Replaement from Rural Ditch Credits	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Jun-24	-17.56	100%	-17.56	55.42	23.06	-1.06	32.36	-13.74	18.62	0.00	0.00	0.00	0.00	0.00	0.00
Jul-24	-22.11	100%	-22.11	93.92	35.00	-1.27	38.32	-14.94	23.38	0.00	0.00	0.00	0.00	0.00	0.00
Aug-24	-22.15	100%	-22.15	84.87	35.00	1.29	36.43	-15.58	20.85	0.00	0.00	0.00	0.00	0.00	0.00
Sep-24	-16.80	100%	-16.80	49.02	25.70	5.31	23.32	-12.36	10.96	0.00	0.52	0.00	0.00	0.00	0.00
Oct-24	-12.42	100%	-12.42	3.05	3.05	14.04	0.00	-2.99	-2.99	0.00	1.36	0.00	0.00	0.00	0.00
Nov-24	-7.96	100%	-7.96		0.00	12.05	0.00	-2.01	-2.01	0.00	0.00	0.00	0.00	0.00	2.07
Dec-24	-5.41	100%	-5.41		0.00	9.09	0.00	-1.56	-1.56	0.00	0.00	0.00	0.00	0.00	2.13
Jan-25	-4.87	100%	-4.87		0.00	7.44	0.00	-1.28	-1.28	0.00	0.00	0.00	0.00	0.00	1.30
Feb-25	-5.21	100%	-5.21		0.00	6.41	0.00	-1.08	-1.08	0.00	0.00	0.00	0.00	0.00	0.11
Mar-25	-6.90	100%	-6.90	0.13	0.00	5.86	0.00	-0.90	-0.90	0.00	1.95	0.00	0.00	0.00	0.00
Apr-25	-12.13	100%	-12.13	8.76	1.99	4.56	6.77	-4.99	1.78	0.00	5.79	0.00	0.00	0.00	0.00
May-25	-15.10	100%	-15.10	42.70	10.18	0.47	32.52	-17.90	14.62	0.00	0.00	0.00	0.00	0.00	0.00
2024-2025 Total	-148.62	-	-148.62	337.88	133.99	64.20	169.72	-89.31	80.41	0.00	9.62	0.00	0.00	0.00	5.61

Notes:
[1] Total lagged depletions from mining operations, as calculated in Table 1.
[2] Equal to percent of the month in which a call is placed on the river.
[3] Equal to [1] x [2].
[4] Farm headgate deliveries available for use of specified 12 Whitney Ditch shares based upon ditch wide analysis decreed in Case No. 08CW65.
[5] Whitney Ditch farm headgate deliveries delivered to the recharge pond.
[6] Net recharge accretion calculated in Column [7] of Table 2.
[7] Whitney Ditch farm headgate deliveries delivered directly to the river through MM's augmentation structure.
[8] Return flow requirements are calculated using return flow factors decreed in 08CW65, and shown in Column [5] of Table 2.
[9] Equal to [7] + [8].
[10] Replacement supply using excess City of Greeley effluent lease credits currently used under MM's Greeley 35th Avenue SWSP (WDID 0302945).
[11] Total replacement supply deliveries from storage in MM's 35th Avenue Reservoir (WDID 0303844).
[12] Total Rural Ditch credits used for replacement.
[13] Transit loss associated with deliveries from [12]. Based upon 0.5% transit loss per mile.
[14] Equal to [12] - [13].
[15] Equal to [3] + [6] + [9] + [11] + [14].

AUGMENTATION PLAN ACCOUNTING PROTOCOL
May 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. The 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	greg.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

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

			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

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]

[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.

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]
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

[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.

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:

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:

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

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 other senior water rights on the stream system 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.

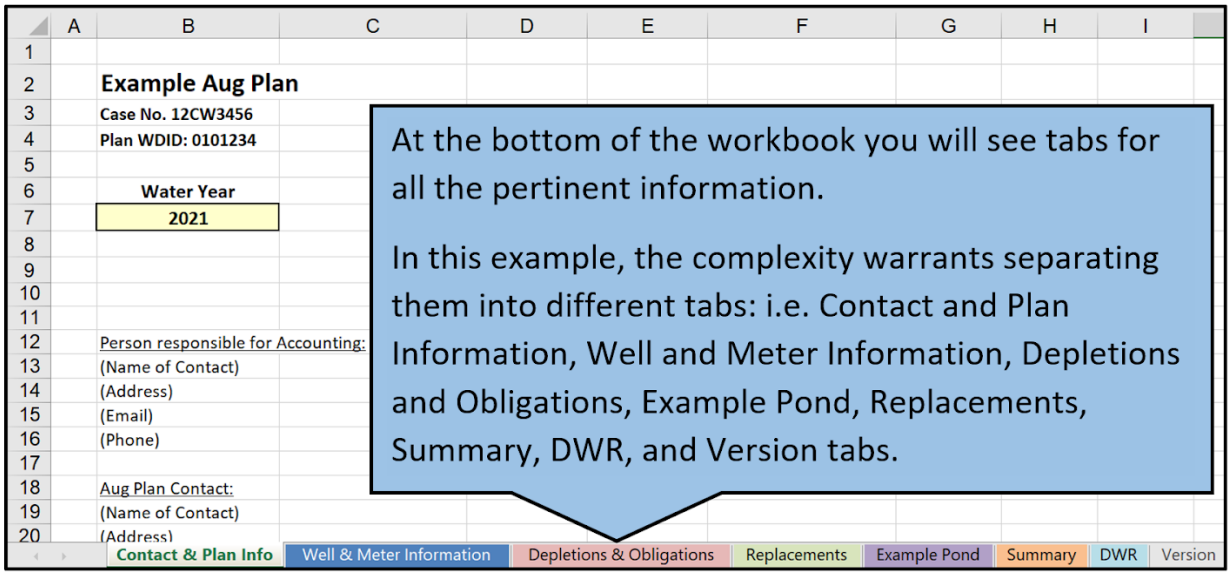
i. Footnotes should be utilized, as necessary, to describe the basis for formulas, calculations imposed on the raw input data, and column descriptions.

6. Example, Screenshots, and Spreadsheet Templates

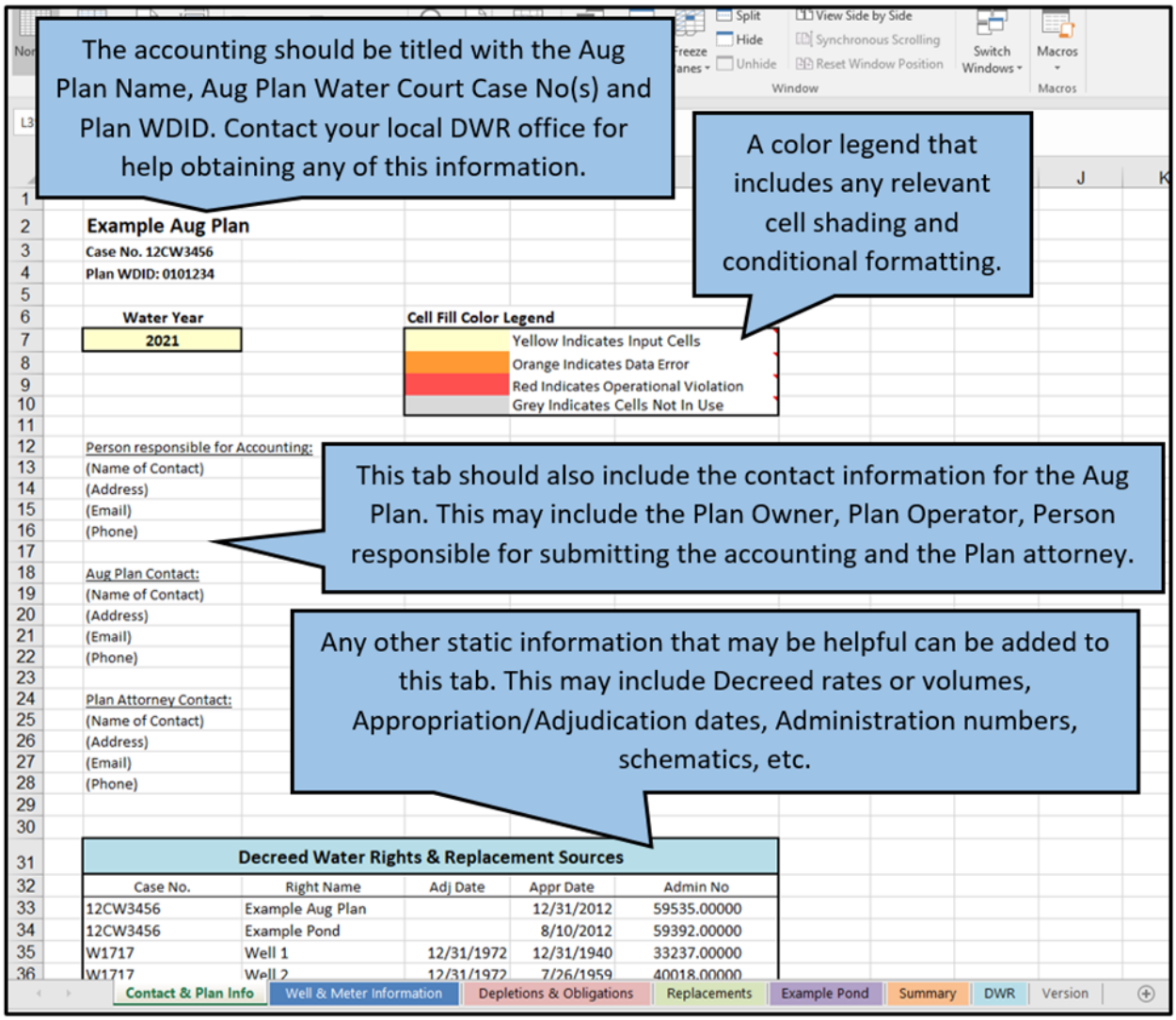
Water users may request spreadsheet templates from their local division office for use as examples of how accounting may be assembled, but are responsible for developing their own functional accounting customized for their own Plan requirements. Note that example and actual accounting may have slightly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

Example & Screenshots: Augmentation Plan for Two Wells

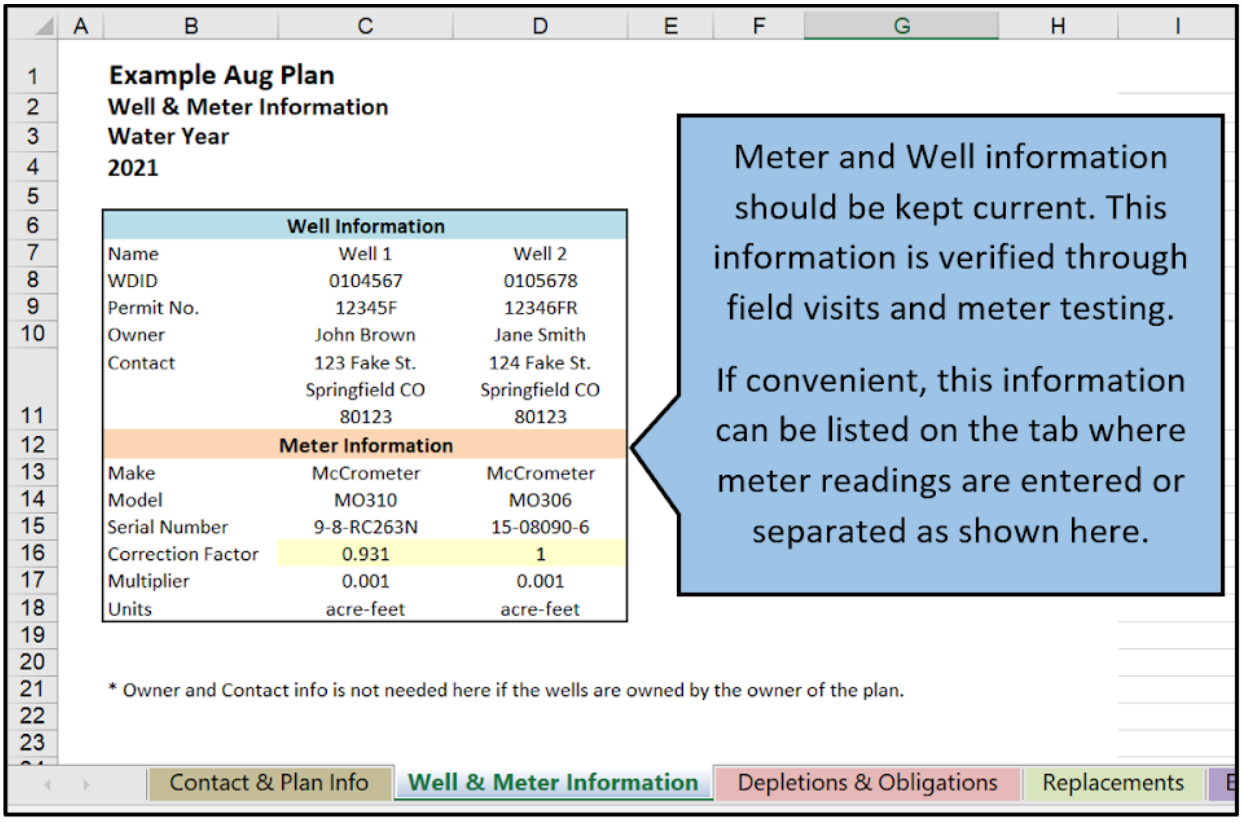
6.A (List of relevant tabs)



6.B (Contact & Plan Information)



6.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

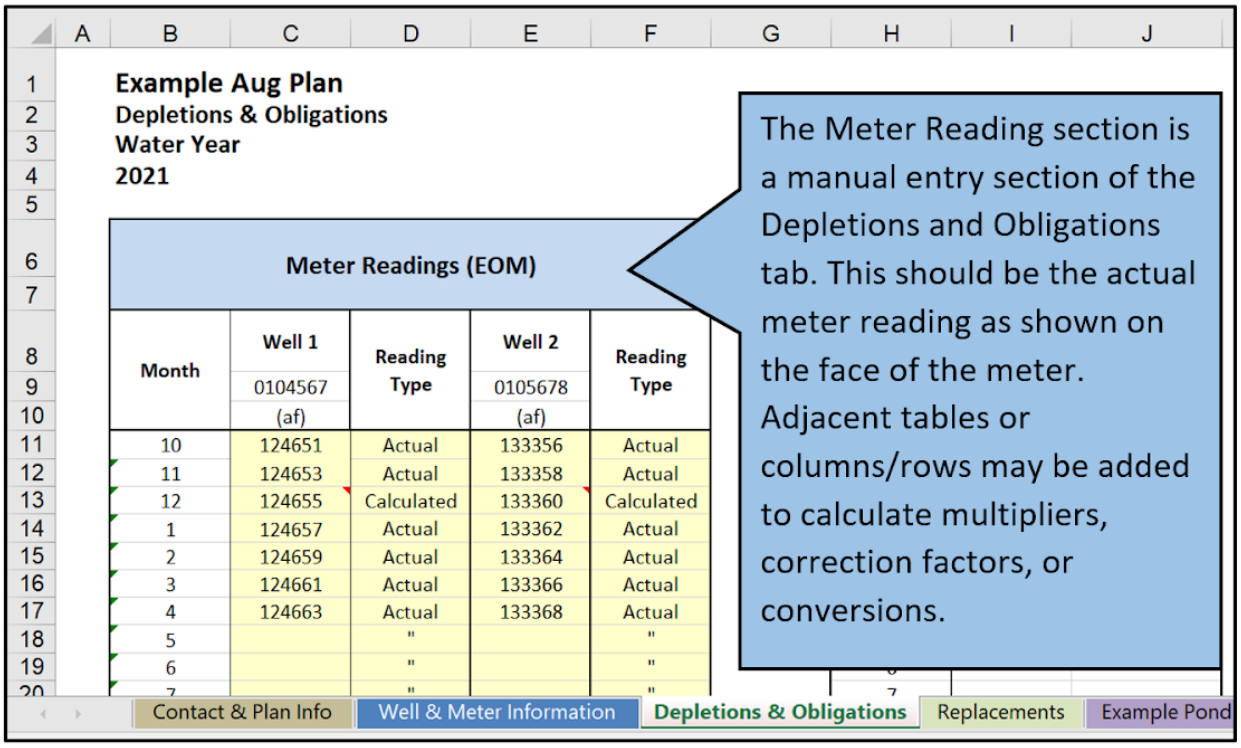
Meter and Well information should be kept current. This information is verified through field visits and meter testing.

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.

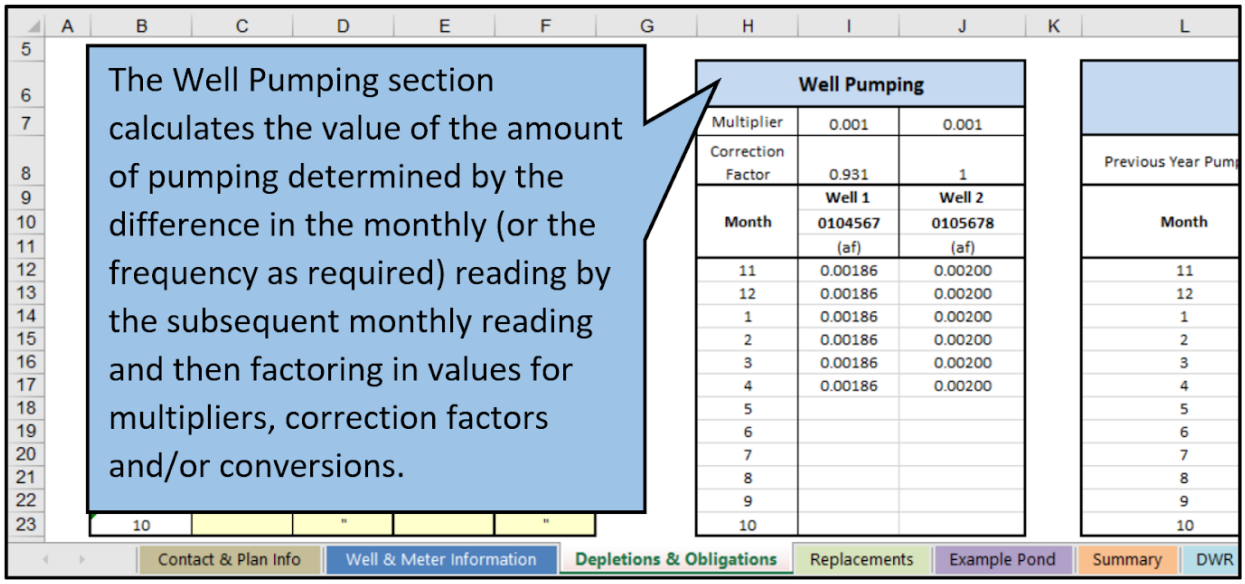
Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements

6.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.



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		"		"

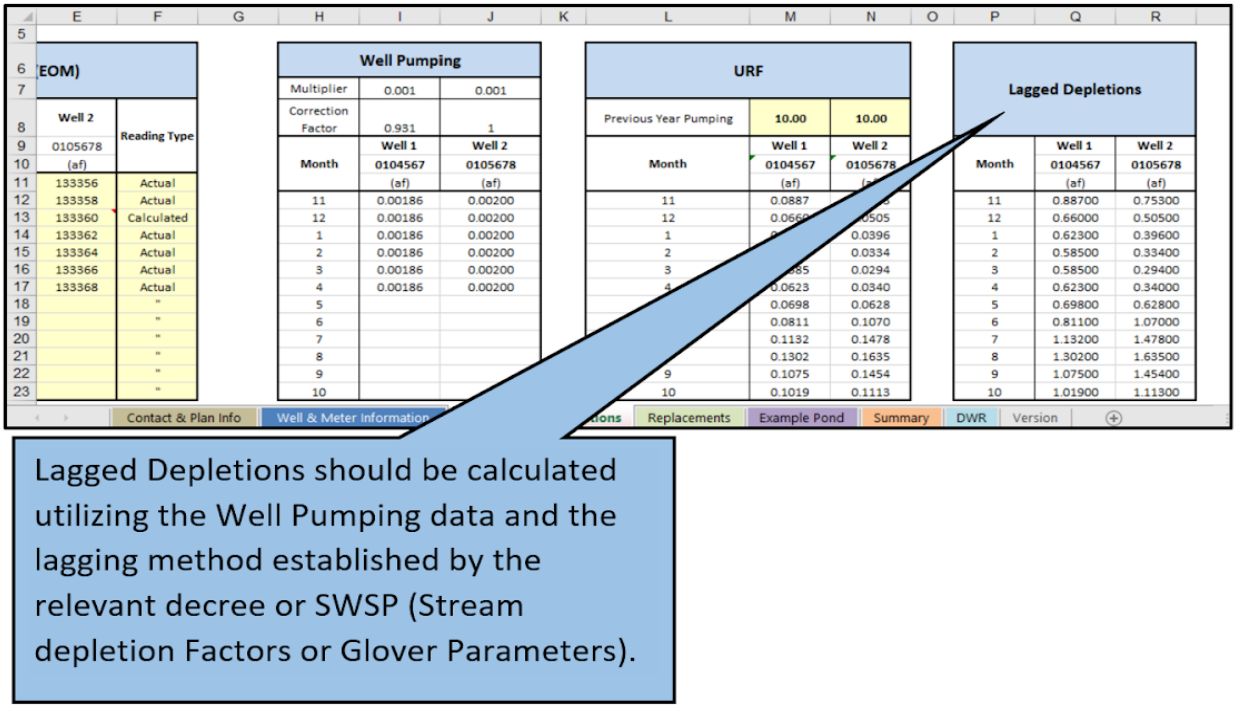
6.E (Depletions & Obligations)



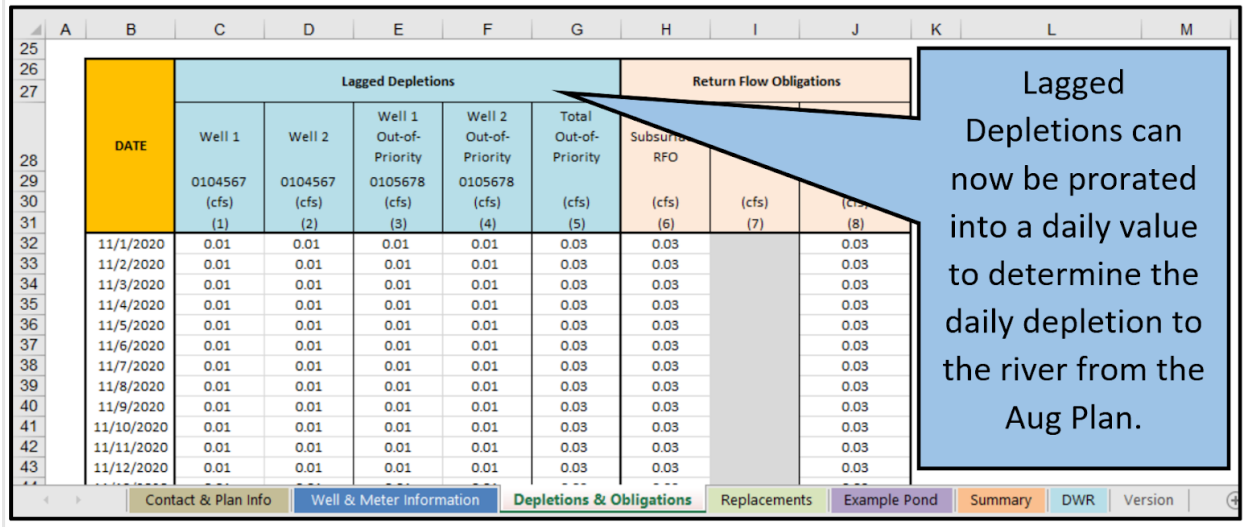
Well Pumping		
Multiplier	0.001	0.001
Correction Factor	0.931	1
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.00186	0.00200
12	0.00186	0.00200
1	0.00186	0.00200
2	0.00186	0.00200
3	0.00186	0.00200
4	0.00186	0.00200
5		
6		
7		
8		
9		
10		

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

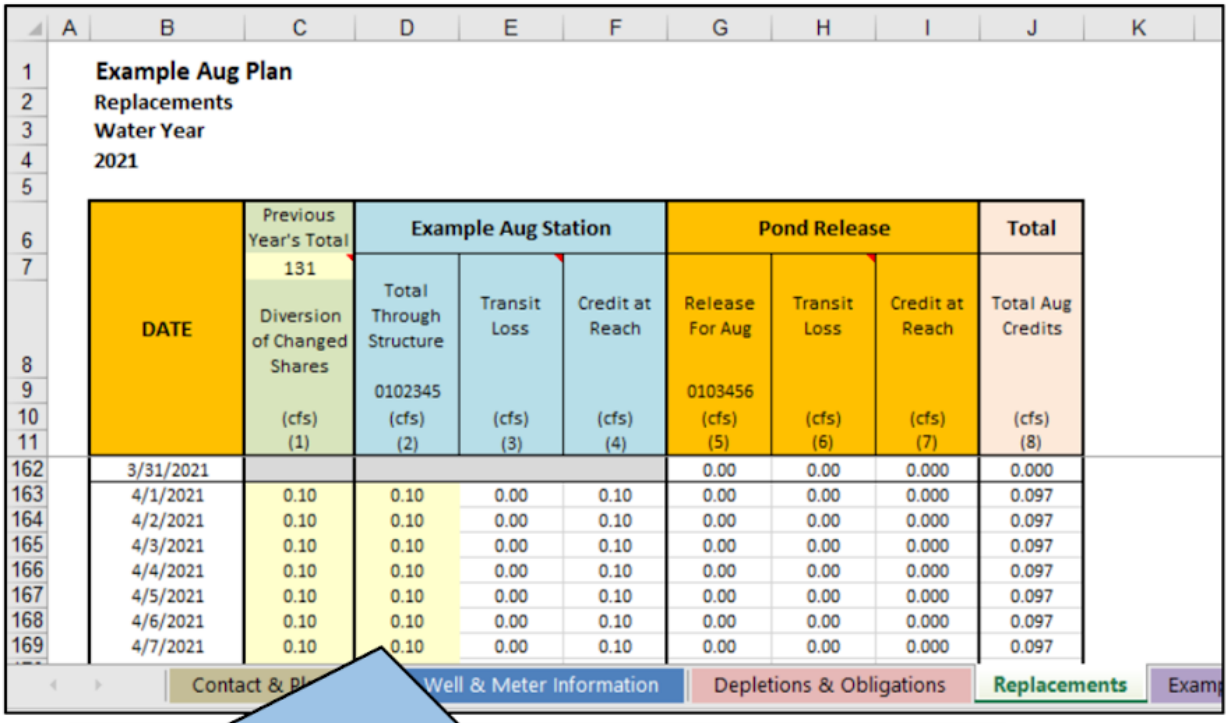
6.F (Depletions & Obligations) - calculate lagged depletions for the month



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



6.H (Replacements)



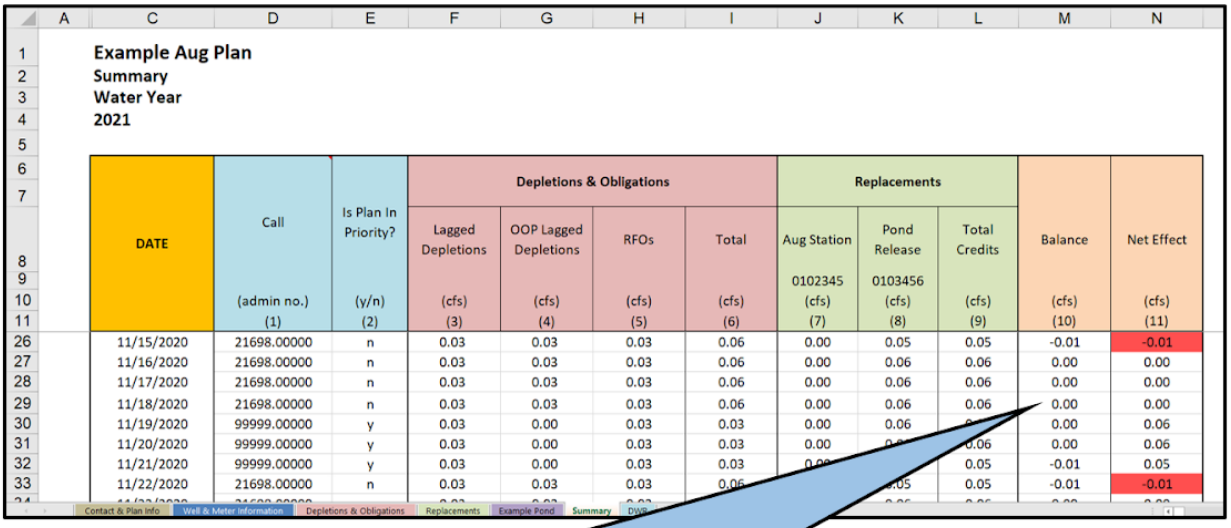
Example Aug Plan
Replacements
Water Year
2021

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.

6.I (Summary) - daily



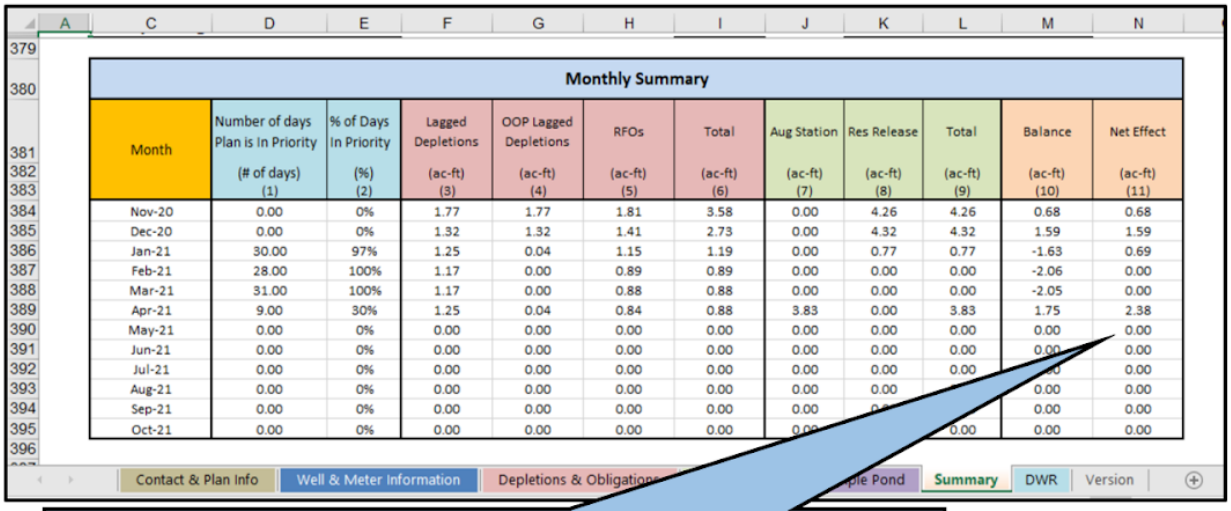
Example Aug Plan
Summary
Water Year
2021

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	0.00	[illegible]	0.05	-0.01	0.05
11/22/2020	21698.00000	n	0.03	0.03	0.03	0.06	[illegible]	[illegible]05	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.

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



Monthly Summary

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

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | 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.

April 30, 2010

Permittee Address

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

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

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

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

The Division has identified four approaches for operators:

1. File a financial warranty that will ensure backfilling of the pit to cover the exposed ground water to a depth of two feet above the static ground water level or,

2. Obtain a court approved augmentation plan prior to exposing ground water or,

3. File a financial warranty to cover the cost of installing a clay liner or slurry wall that meets the Division of Water Resources requirements for preventing ground water exposure or,

4. Obtain approval from the Division of Water Resources that acknowledges compliance with the SEO's requirements pursuant to § 37-90-137(11).

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

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

cc: Permit Id Site Name