January 5, 2018

Mr. Richard T. Raines, P.H.
Water Resource Manager
Tri-Districts
4424 LaPorte Avenue
Fort Collins, CO 80521

Ms. Jen Petrzelka
Water Resource Administrator
City of Greeley
1100 10th Street, Suite 300
Greeley, CO 80631

Re: Partners Combined Substitute Water Supply Plan (WDID 0302556)
Treiber Lakes, DRMS Permit No. M-2011-049 (WDID 0303042)
Lamb Lakes portion of the Home Office Pit, DRMS Permit No. M-1977-439 (WDID 0303005)
Section 33, T8N and Section 3, T7N, R69W, 6th P.M.
Water Division 1, Water District 3, Larimer County
Plan IDs: 2998 and 5436

Approval Period: January 1, 2018 through December 31, 2019
Contact Information for Mr. Raines: (970) 218-2738; rraines@scwtp.org
Contact Information for Ms. Petrzelka: (970) 350-9859; jennifer.petrzelka@greeleygov.com

Dear Mr. Raines & Ms. Petrzelka:

We have reviewed your letter dated November 9, 2017, requesting renewal of the above referenced substitute water supply plan ("SWSP") in accordance with § 37-90-137(11), C.R.S. This SWSP is requested to cover depletions for five previously mined gravel pits (ground water ponds) that are owned and operated by the Tri-Districts and the City of Greeley ("Partners" or "Applicant") and located within two permitted sites. The required fee of $514 (2 × $257) has been submitted (receipt nos. 3683565A-B).

SWSP Operations

The two Treiber Lakes and three Lamb Lakes were constructed under DRMS permit no. M-1977-439 (Home Office Pit). The Home Office Pit is operated by Martin Marietta Materials ("MMM") and is included in their Upper Poudre Combined SWSP (WDID 0302517), most recently approved in a letter dated February 3, 2017 (renewal pending under receipt no. 3683606). The Treiber Lakes have officially been separated from the Home Office Pit mining permit boundaries and are now covered under DRMS permit no. M-2011-049. The Lamb Lakes remain within the boundaries of MMM's DRMS mining permit for the Home Office Pit. Depletions from the Lamb Lakes will be replaced under this SWSP; however, final reclamation liability remains with MMM as the Home Office Pit permit holder.

The Partners completed construction of a slurry wall around Treiber Lake A on August 7, 2013. The liner was approved on January 27, 2014 and re-approved (after intentional breaching) on August 19, 2015 as meeting the design standard. Treiber Lake A is therefore classified as a lined reservoir in accordance with the 1999 SEO Guidelines. All lagged evaporative depletions associated with Treiber Lake A have been replaced under previous SWSPs. A slurry wall was completed around Treiber Lake B in May 2016. The liner for Treiber Lake B was approved on September 16, 2016 as meeting the design standard. Treiber Lake B is therefore classified as a lined reservoir in accordance with the 1999 SEO Guidelines.

The only depletions during the SWSP period will be evaporative depletions from Lamb B and Lamb C and lagged depletions associated with past use of ground water for slurry wall construction from Treiber Lake B. Replacement sources under this SWSP include releases of reusable water from mountain reservoirs, direct replacement from transmountain sources, reusable municipal return flows from East Larimer County Water District pursuant to case no. 2009CW282, and water stored in the Overland Trail Reservoirs pursuant to case no. 2000CW251.

Depletions

Pursuant to § 37-90-137(11)(b), C.R.S., and 2009CW49, a gravel pit operator or property owner does not need to replace depletions that occur due to evaporation from ground water exposed prior to January 1, 1981 as a result of open mining of sand and gravel ("pre-81 areas"), regardless of whether mining continued after December 31, 1980. Per our "General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits" updated April 1, 2011, pre-81 areas are tied to the physical location at which the groundwater was exposed prior to January 1, 1981 with the exception for areas whose reallocation was approved by the State Engineer prior to January 1, 2011. Previous SWSPs (prior to January 1, 2011) approved the pre-81 area without specific mention of its location. Therefore, the State Engineer's Office allowed the pre-81 area to be re-allocated and memorialized under the May 11, 2011 SWSP approval. The applicant provided a map (*Figure 1 – Home Office Pit*) showing the specific location of the pre-81 area, which includes the 22.1 acres of ground water exposed in Lamb Lake A. The credits for the pre-81 area are tied to the location identified on *Figure 1 – Home Office Pit* and may not be re-allocated to other areas of ground water exposure within the gravel pit boundary.

Evaporative depletions for the remaining lakes were calculated using a gross annual evaporation of 38 inches, with a credit of 10.58 inches for effective precipitation (based on an average annual precipitation of 15.12 inches for the Fort Collins weather station). You have estimated the surface area of ground water exposed in the Lamb Lakes after December 31, 1980 as 61.8 acres which results in a net evaporative depletion of 141.19 for this plan period. Lagged depletions resulting from the use of ground water from Treiber Lake B for slurry wall construction will continue to be replaced under this SWSP. According to attached Table 2 there are 0.07 acre-feet of remaining lagged depletions at Treiber Lake B from January 2018 through June 2018.

The monthly evaporative depletions to the Cache la Poudre River were lagged using the AWAS program developed by the IDS Group at Colorado State University. The parameters used in the model were an average distance from the centroid of each lake to the river (X) of 744 feet, an estimated distance from the site to the no flow aquifer boundary (W, measured perpendicular to the point of impact) of 6,500 feet, an aquifer transmissivity (T) of 160,000 gallons per day per foot, and a specific yield (S) of 0.2. Since water required for the slurry wall construction was pumped from Treiber Lake B, those depletions were lagged using a distance (X) of 640 feet from the centroid of Treiber Lake B to the river. All other parameters remained the same.

Lagged depletions due to past and projected operations at the site will total 141.16 acre-feet for 2018 and 141.18 acre-feet for 2019.

Replacements

The first source of replacement water to be utilized under this SWSP is reusable municipal return flows from the East Larimer County Water District (ELCO). ELCO is one of the Tri-Districts. ELCO recently decreed its municipal return flows in case no. 2009CW282 on June 29, 2012. Their accounting was approved by the Division Office on August 23, 2012. The reusable municipal return flows accrue to the Poudre River primarily at either the Fort Collins Waste Water Treatment Plants Nos. 1 & 2 (WDIDs 0302313 and 0302314, respectively) or the Boxelder Sanitation District Waste Water Treatment Plant (WDID 0302322).

All three WWTPs are located downstream of the point of depletion and thus no transit loss will be applied to any releases made for this SWSP. However, there are water rights between the point of depletion and the WWTPs that have the potential to be injured should they place a call. Therefore, the ELCO municipal return credits are not a valid replacement source when an intervening water right places a call. Depending on which WWTP is supplying the municipal reuse credits, the intervening water rights may include the Fort Collins Irrigation Canal, Larimer and Weld Irrigation Canal, Lake Canal, Coy Ditch, Timnath Reservoir Inlet, Box Elder Ditch, and the Fossil Creek Reservoir Inlet. Because of this limitation, the applicant does not rely on ELCO municipal return credits in their projections, however they reserve the right to use this source when available and at their discretion.

The second source of replacement water consists of various supplies owned by the City of Greeley or the Tri-Districts as follows:

Owner	Decree	Description
City of Greeley	87CW042	Milton Seaman Reservoir Water stored under 87CW42.
City of Greeley		Windy Gap Units - Wholly consumable transbasin water pursuant to 61 units owned by Greeley in the Windy Gap Project.
City of Greeley	06CW258	Water pursuant to Greeley's 75 shares of stock in the Windsor Reservoir and Canal Company that entitle Greeley to water from the Laramie River System. A decree was entered in this case on January 4, 2012.
Tri-Districts	03CW421	Reusable supplies stored in an account in Chambers Reservoir for water decreed in case no. 03CW421.
Tri-Districts	89CW071	Transmountain water available from the Divide Canal and Reservoir Company in case no. 89CW071.
Bi-Districts	06CW259	Water pursuant to Bi-Districts's 75 shares of stock in the Windsor Reservoir and Canal Company that entitle Bi-Districts to water from the Laramie River System. A decree was entered in this case on January 22, 2013
Tri-Districts	03CW422	Transmountain water available from ownership in Water Supply and Storage Company and released from Chambers Reservoir decreed in case no. 03CW422.

Water will primarily be released from Greeley's mountain reservoirs although the Tri-Districts may supplement the Greeley releases. The applicant has included a 5% transit loss through the Poudre Canyon and a 0.25% per mile transit loss from the mouth of the Poudre Canyon to the Home Office Pit for a total transit loss of 7.8%. This loss will be applied to Greeley's and the Tri-Districts' replacement supplies unless the Partners receive prior approval from the District 3 Water Commissioner to make replacements downstream of the Home Office Pit. Appropriate transit losses are subject to the Water Commissioner's approval for any replacements made upstream of the Home Office Pit.

The third source of replacement water, if necessary, is water stored pursuant to the Overland Trail Reservoirs conditional water storage right decreed in case no. 2000CW251. The Overland Trail Reservoir system (WDID 0303312) consists of a series of existing off-channel lined gravel pits, located in portions of Sections 32 & 33, T8N, and Section 3, T7N, R69W, 6th P.M. (*see Figure 1: Overland Trail Reservoir Project*). The liners for Overland Ponds 1-5 and Treiber Lake A have been approved by this office. The Overland Trail Reservoirs are filled with water diverted from the Cache la Poudre River via the New Mercer Ditch, Larimer County Canal No. 2, the Overland Trail Diversion Structure, Munroe Gravity Canal (a/k/a North Poudre Supply Canal), and/or the Pleasant Valley Pipeline. The total

decreed capacity of the Overland Trail Reservoirs is 10,962 acre-feet, conditional. Replacement water from the Overland Trail Reservoirs is proposed to be pumped into the Cache la Poudre River at approximately the same location as the Treiber Lakes and Lamb Lakes.

The total amount of replacement water to be released is 152.17 acre-feet for 2018 and 152.19 acre-feet for 2019, as shown on the attached Table 4.

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. To prevent long term injurious stream depletions that result from mining related exposure of ground water, future operations will include constructing slurry walls around each of the five ponds to construct water storage reservoirs. The Partners obtained a conditional water right for these future reservoirs (collectively known as the Overland Trail Reservoirs) in water court case no. 2000CW251. The owners and operators of the mining site are municipal entities and thus a bond to cover the cost of lining or backfilling the pits is not required.

Conditions of Approval

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

1. This plan shall be valid for the period of January 1, 2018 through December 31, 2019, unless otherwise revoked or modified. If this plan will not be made absolute by a water court action by the plan's expiration date, a renewal request must be submitted to this office with the statutory fee of $514 (2 DRMS permits × $257) **no later than November 1, 2019**.
2. Well permit no. 75423-F was obtained for the Home Office Pit by Lafarge to cover their use and exposed pond surface area of the gravel pit in accordance with § 37-90-137(2) and (11), C.R.S. This permit is now held by Martin Marietta Materials and currently covers evaporation from the three Lamb Lakes that are the subject of this SWSP.
3. Well permit no. 77301-F was obtained for the current use and exposed pond surface area of the Treiber Lakes in accordance with § 37-90-137(2) and (11), C.R.S.
4. The total surface area of the groundwater exposed in the Lamb Lakes after December 31, 1980 must not exceed 61.8 acres, which results in an evaporative loss of 141.19 acre-feet per year. Should the total surface area exposed exceed this amount, an amendment will need to be filed with this office. The remaining lagged depletions at Treiber Lake B shall not exceed 0.07 acre-feet.
5. Total consumption at the Treiber Lakes and Lamb Lakes must not exceed these aforementioned amounts unless an amendment is made to this plan.
6. Approval of this SWSP is for the purposes as stated herein. Any additional uses of this water must first be approved by this office. Any future historic consumptive use credits sought for this site (e.g., agricultural water transfer) must consider all previous credits applied.
7. All releases of replacement water must be sufficient to cover all out-of-priority depletions in time, place, and amount and must be made under the direction and/or the approval of the water commissioner. Notice must be provided and approval made by the water commissioner at least 48 hours prior to the release of replacement water, or as required by the water commissioner. 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.

8. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity. As a condition of subsequent renewals of this SWSP, the replacement water must be appurtenant to this site until a plan for augmentation is obtained. A copy of this approval letter should be recorded with the county clerk and recorder. All replacement water must be concurrent with depletions in quantity, timing and locations.

9. Applicant shall replace the net evaporative depletions from the exposed ground water surface area for any time that the exposed ground water in the pit is not completely covered by ice.

10. The name, address, and phone number of the contact person who will be responsible for the operation and accounting of this plan must be provided on the accounting forms submitted to the division engineer and the water commissioner.

11. Adequate accounting of depletions and replacements must be provided to the division engineer in Greeley (DNR_Div1accounting@state.co.us) and the water commissioner (Mark Simpson, Mark.Simpson@state.co.us) on a monthly basis, or more frequent if required by the water commissioner. Submitted accounting shall conform to the Administration Protocol *"Augmentation Plan Accounting, Division One – South Platte River"* (attached). All amounts shall be in acre-feet.

    In addition, the Applicant shall verify that the entities providing replacement water for this plan have included and shown this use in their monthly accounting submitted to this office. For this plan those entities are the City of Greeley (WDID 0303330) and the East Larimer County Water District (WDID 0302563).

12. 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.

13. The approval of this SWSP does not relieve the Applicant and/or the landowner of the requirement to obtain a water court decree approving a permanent plan for augmentation or mitigation to ensure the permanent replacement of all depletions, including long-term evaporation losses and lagged depletions after gravel mining has ceased. Granting of this SWSP does not imply approval by this office of any such court application(s).

14. In accordance with amendments to §25-8-202(7), C.R.S., and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the State Engineer shall determine whether the substitute supply is of a quality to meet requirements of use to senior appropriators. As such, water quality data or analysis may be requested at any time to determine if the water quality is appropriate for downstream water users.

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

Should you have any questions or comments, please contact Michael Hein, Assistant Division Engineer, in Greeley at (970) 352-8712 or Ioana Comaniciu in Denver at (303) 866-3581.

Sincerely,

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

Attachments: Figure 1 – Home Office Pit
Figure 1 – Overland Trail Reservoir Project
Tables 1, 2 and 4
Letter from DRMS dated April 30, 2010
Augmentation Plan Accounting, Division One – South Platte River

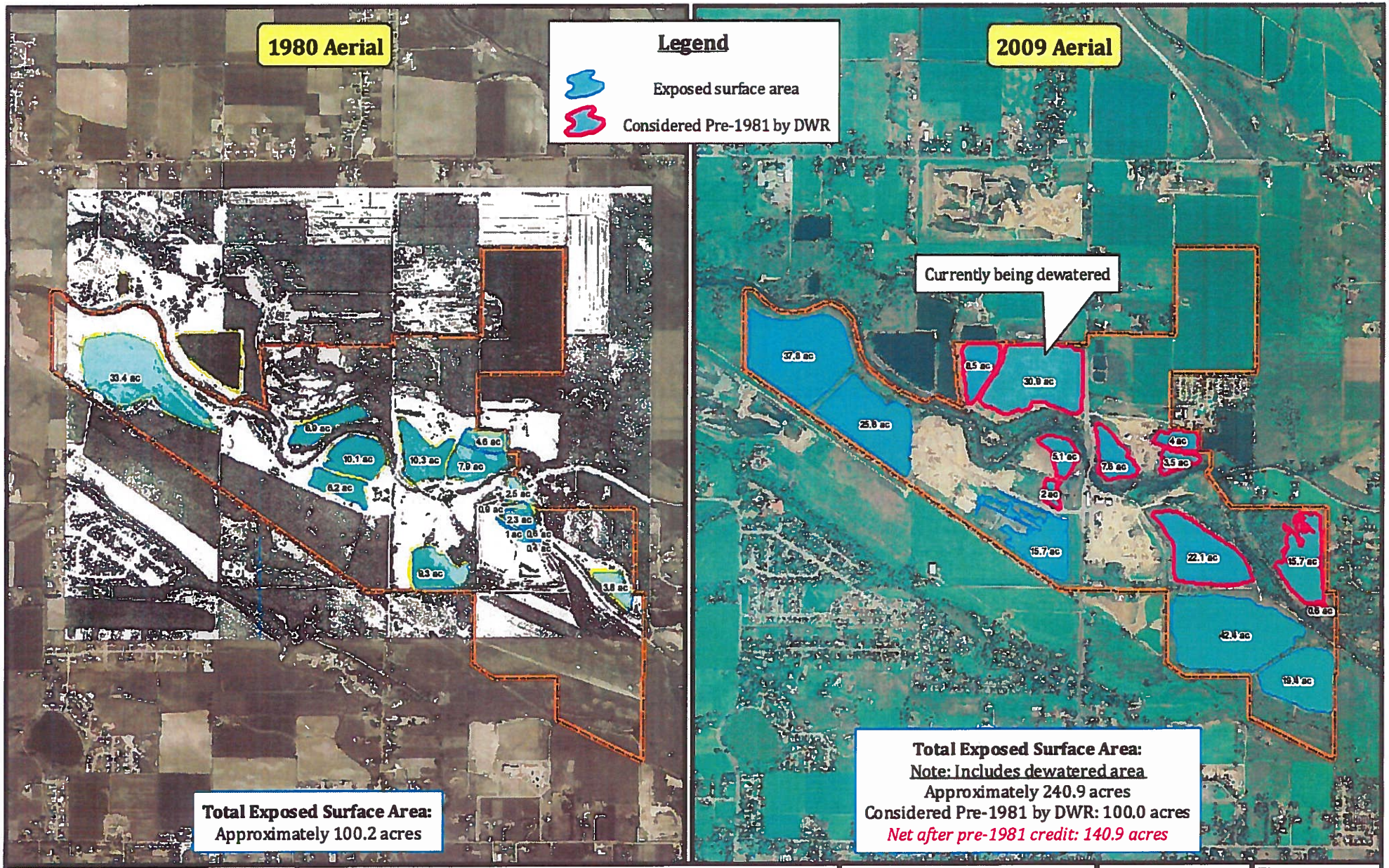
Cc: Michael Hein, Assistant Division Engineer, Division 1, Michael.Hein@state.co.us
810 9th Street, Suite 200, Greeley CO 80631; (970) 352-8712

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

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

JD/SRB/idc: Partners Combined 2018-2019

Printed: April 13, 2011 by JMD
N:\05105 Lafarge Water Planning\Drawings\GIS\Pre-1981\Home_Office_Pre81_Aerial.mxd



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HOME OFFICE PIT

Pre-1981 Exposed Surface Area
for 2011 Upper Poudre SWSP

0 1,500 3,000 Feet
1:24,000

Date: 13 Apr 2011
Job #: 05-105
Drawn By: JMD

Figure: 1
Of: 1

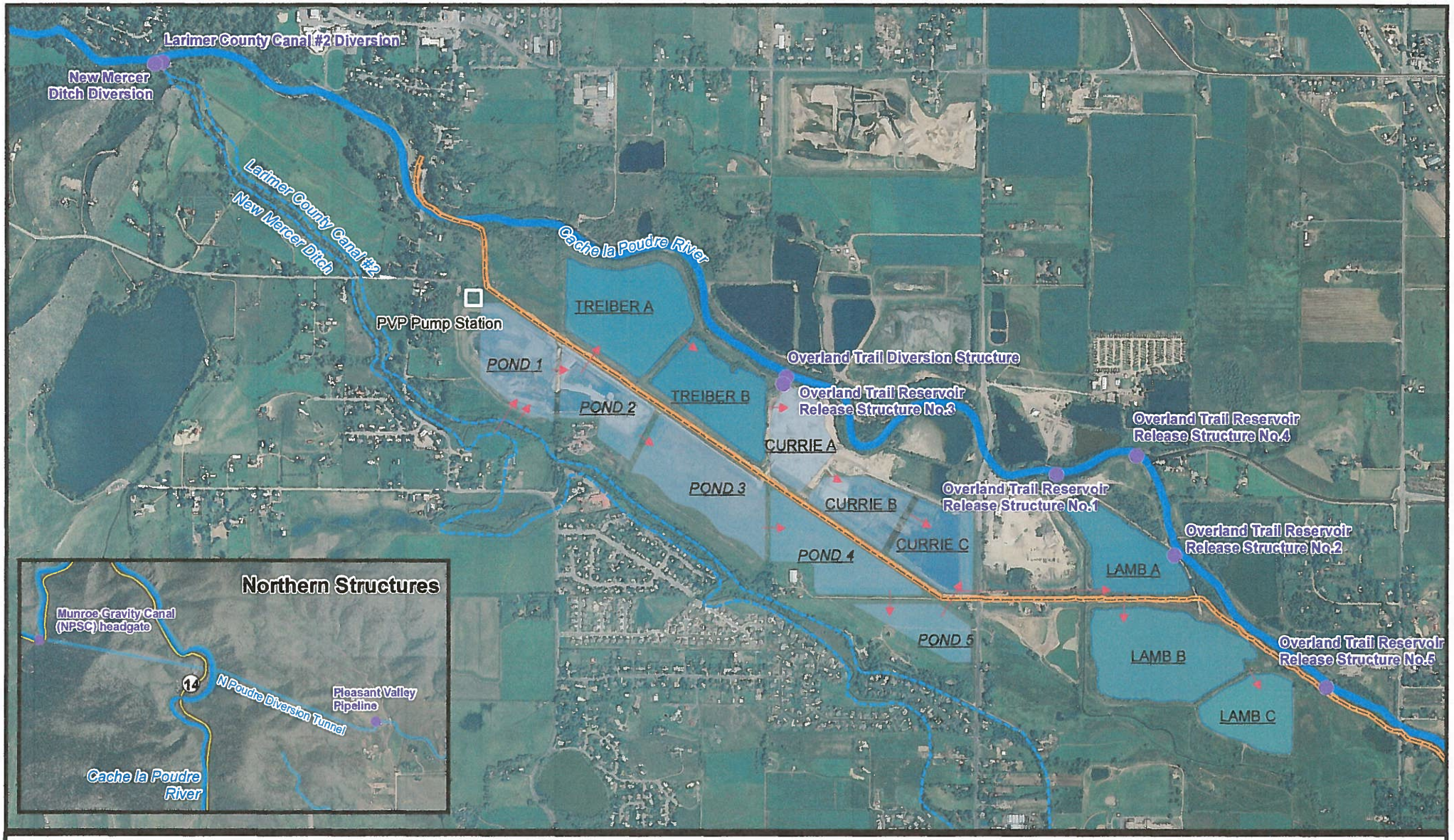

Figure 1: Overland Trail Reservoir Project

City of Greeley Colorado
Great. From the Ground Up.

Best Copy Available

0 0.3 0.6
Miles

By: Greeley GIS, jmt
Date: 7/14/2011
File: OverlandPonds2011
2009 NAIP Aerial Imagery

Legend

- Cache la Poudre River
- Poudre River Trail
- Proposed Overland Trail Reservoirs / Gravel Pits
- Fill Sequence
- Approximate Location of Structures of Interest in Case No. 00CW251

Table 1

Tri-Districts and City of Greeley

Treiber Lakes, M-2011-049

Home Office Pit SWSP, M-77-439 - Part A

Calculated Evaporative Losses at Lamb A, B, and C

Total Exposed Water Surface =	83.9	acres
Pre-1981 Exposed Surface Area=	22.1	acres
Augmented Water Surface =	**61.8**	acres
Annual Precipitation =	15.12	inches - *Taken from Fort Collins Weather Station*
Gross Annual Evaporation =	38	inches - *Taken from NOAA Technical Report NWS 33*

	(1)	(2)	(3)	(4)	(5)	(6)
Month	Percent of Annual Evaporation	Gross Lake Evaporation (ft)	Annual Precipitation (in)	Effective Precipitation (ft)	Net Lake Evaporation (ft)	Total Lake Evaporation (AF)
Nov	4.0%	0.13	0.59	0.03	0.09	5.70
Dec	3.0%	0.10	0.49	0.03	0.07	4.10
Jan	3.0%	0.10	0.36	0.02	0.07	4.57
Feb	3.5%	0.11	0.48	0.03	0.08	5.12
Mar	5.5%	0.17	1.20	0.07	0.10	6.44
Apr	9.0%	0.29	1.98	0.12	0.17	10.48
May	12.0%	0.38	2.72	0.16	0.22	13.68
Jun	14.5%	0.46	1.83	0.11	0.35	21.78
Jul	15.0%	0.48	1.60	0.09	0.38	23.59
Aug	13.5%	0.43	1.44	0.08	0.34	21.23
Sep	10.0%	0.32	1.30	0.08	0.24	14.88
Oct	7.0%	0.22	1.13	0.07	0.16	9.63
Totals	**100.0%**	**3.17**	**15.12**	**0.88**	**2.28**	**141.19**

Notes:

(1) Based on SEO SB120 guidelines for evaporation rates at elevations below 6500 feet.

(2) Based on NOAA Technical Report NWS 33 and distributed according to SEO SB120 guidelines, Column 1 *(Gross evaporation/12)

(3) Based on Climate data from the Fort Collins Weather Station from CDSS

(4) Assumes 70% effective precipitation, (Column 3 * 0.70)/12

(5) Net lake evaporation from water surface areas, Column 2 - Column 4

(6) Total lake evaporation = Column 5 net lake evap.* total exposed water surface

Table 2
Tri-Districts and City of Greeley
Treiber Lakes, M-2011-049
Home Office Pit SWSP, M-77-439 - Part A

Total Calculated and Lagged Depletions

	(1)	(2)	(3)	(4)
Month	Calculated Evaporative Depletions at Lamb Lakes	Updated Lagged Evaporative Depletions	Remaining Lagged Treiber B Slurry Wall Construction Depletions	Updated Lagged Depletions
	AF	AF	AF	AF
Jan-18	4.57	5.92	0.02	5.94
Feb-18	5.12	5.76	0.01	5.77
Mar-18	6.44	6.89	0.01	6.90
Apr-18	10.48	9.3	0.01	9.31
May-18	13.68	12.16	0.01	12.17
Jun-18	21.78	17.65	0.01	17.66
Jul-18	23.59	20.84		20.84
Aug-18	21.23	20.13		20.13
Sep-18	14.88	15.95		15.95
Oct-18	9.63	11.96		11.96
Nov-18	5.70	8.19		8.19
Dec-18	4.10	6.34		6.34
Total	**141.19**	**141.09**	**0.07**	**141.16**
Jan-19	4.57	5.94		5.94
Feb-19	5.12	5.78		5.78
Mar-19	6.44	6.9		6.90
Apr-19	10.48	9.31		9.31
May-19	13.68	12.17		12.17
Jun-19	21.78	17.66		17.66
Jul-19	23.59	20.85		20.85
Aug-19	21.23	20.13		20.13
Sep-19	14.88	15.95		15.95
Oct-19	9.63	11.96		11.96
Nov-19	5.70	8.19		8.19
Dec-19	4.10	6.34		6.34
Total	**141.19**	**141.18**	**0.00**	**141.18**

NOTES:

1 Calculated evaporative depletions from Table 1
2 Lagged evaporative depletions from AWAS Model
3 Lagged depletions from AWAS Model for slurry construction
4 Total lagged depletions, Columns 2 + 3

Table 4

Tri-Districts and City of Greeley

Treiber Lakes, M-2011-049

Home Office Pit SWSP, M-77-439 - Part A

Water Balance and Replacements

	(1)	(2)	(3)	(4)	(5)
Month	Updated Total Lagged Depletions	ELCO Municipal Return Flows	Remaining Depletions	Transit Losses from Reservoir Releases to Home Office Site	Replacements from the City of Greeley and Tri-Districts
	AF	AF	AF	AF	AF
Jan-18	5.94		5.94	0.46	6.40
Feb-18	5.77		5.77	0.45	6.22
Mar-18	6.90		6.90	0.54	7.44
Apr-18	9.31		9.31	0.73	10.04
May-18	12.17		12.17	0.95	13.12
Jun-18	17.66		17.66	1.38	19.04
Jul-18	20.84		20.84	1.63	22.47
Aug-18	20.13		20.13	1.57	21.70
Sep-18	15.95		15.95	1.24	17.19
Oct-18	11.96		11.96	0.93	12.89
Nov-18	8.19		8.19	0.64	8.83
Dec-18	6.34		6.34	0.49	6.83
Total	**141.16**	**0.00**	**141.16**	**11.01**	**152.17**
Jan-19	5.94		5.94	0.46	6.40
Feb-19	5.78		5.78	0.45	6.23
Mar-19	6.90		6.90	0.54	7.44
Apr-19	9.31		9.31	0.73	10.04
May-19	12.17		12.17	0.95	13.12
Jun-19	17.66		17.66	1.38	19.04
Jul-19	20.85		20.85	1.63	22.48
Aug-19	20.13		20.13	1.57	21.70
Sep-19	15.95		15.95	1.24	17.19
Oct-19	11.96		11.96	0.93	12.89
Nov-19	8.19		8.19	0.64	8.83
Dec-19	6.34		6.34	0.49	6.83
Total	**141.18**	**0.00**	**141.18**	**11.01**	**152.19**

NOTES:

1 Lagged depletions from Table 4

2 ELCO reusable municipal return flows from 09CW282

3 Remaining depletions, Column 1 - 2

4 Transit losses of 7.8 percent for releases from Greeley's mountain reservoirs

5 Total replacements from Greeley's mountain reservoirs to augment depletions

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

ADMINISTRATION PROTOCOL
Augmentation Plan Accounting
Division One – South Platte River

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

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

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

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

iv. The well meter serial readings for each meter shall be included if there is more than one meter on a well.

b. Each **recharge site** must comply with the *Administration Protocol - Recharge* and must report the:

i. daily volume in AF diverted into the site;

ii. monthly volume in AF released from the site;

iii. monthly net evaporative loss in AF;

iv. volume of water in AF remaining at the end of the month.

c. The accounting must identify each source of **fully consumable replacement water** actually delivered to the location impacted by the depletions. To demonstrate the water was actually delivered to the required location will require the following information:

i. the originating source of the water, date released and volume of water released;

ii. transportation losses to point of diversion or use, if any, using stream loss factors approved by the water commissioner;

iii. the volume of water actually delivered on a daily basis past any surface water diversion that was sweeping the river as corroborated by the water commissioner.

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

d. For each source of **replacement water that has been "changed"** for use as a source of augmentation, such as changed reservoir shares, ditch bypass credits or credits from dry-up, etc., the following input information must be reported:

i. the basis and volume of the return flow obligation;

ii. the location the changed water was historically used; this will be the location used to determine the timing of the return flow impact on the river.

4. The accounting must include a monthly **projection** of the plan's operation at least through March 31 of the next calendar year.

5. The accounting must include all input and output files associated with **modeling the delayed impact** of diversions. The output from the modeling must report to a summary table that shows, by month, the ongoing depletions associated with pumping, return flow obligations, etc. and accretions from recharge operations.

6. A **net impact** summary must show the out-of-priority depletions, accretions from each recharge site, volume of replacement water actually delivered to the location of the depletions and the resultant net impact on **a daily basis**. If necessary, the net impact must be done by river reach.

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

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

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

7. The basis for determining that the depletions are **out-of-priority** must be clearly established and all steps in the calculation included in the accounting. The analysis may be done, unless otherwise limited by decree, for each well or groups of wells, provided the most junior water right associated with the group of wells is used as the reference water right for the group's out-of-priority status.

8. Accounting must include **actual information** for the irrigation year through the month for which the accounting is being submitted **AND projections** of the plan operation through March 31 of the next calendar year.

9. The following **naming convention** must be used for all files submitted pursuant to item 1:

   "Plan**WDID**_YYMMDD"

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

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

   "0103333_040515.xls"

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

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

11. If a well is covered in multiple SWSP's or augmentation plans, the monthly meter readings must be the same in the accounting for each plan covering the subject well. The accounting for every plan covering the well shall state the proportionate pumping amount covered by each plan to assure all out-of-priority depletions are replaced.

12. The following additional accounting is required for sources of replacement water used for more than one plan. The water right owner of the replacement water is responsible for accounting for the total replacement amount and how much each plan is using of that total amount. The accounting for portions of the replacement water by other users must match the accounting of the water right owner. The amount of replacement water used by the water right owner and other users together shall not exceed the total replacement amount available.

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