



**COLORADO**  
Division of Water Resources  
Department of Natural Resources

1313 Sherman Street, Room 821  
Denver, CO 80203

April 10, 2018

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

**Re: Extension of Lafarge Middle Poudre Combined Substitute Water Supply Plan  
(WDID 0302533, Plan ID 3068) through December 31, 2018**

Dear Mr. Dains:

In accordance with Condition of Approval No. 1, you have provided an updated 2018 Water Balance showing that no replacement water was required to be released from Veldman Reservoir during the period of January through March of 2018. As a result, there is sufficient water in storage in Veldman Reservoir to replace all irrigation season depletions under this plan above the calling right. It is anticipated that the water stored in Heaton Reservoir will be sufficient to replace all non-irrigation season depletions. Therefore, this substitute water supply plan is extended through December 31, 2018. Any request for renewal of this substitute water supply plan should be submitted to this office no later than November 1, 2018. If you have any questions, please contact me at this office.

Sincerely,

Sarah Brucker, P.E.  
Water Resources Engineer

Attachments: Table No. 2 - 2018 Water Balance (04/09/2018)

Cc: Michael Hein, Assistant Division Engineer, Division 1, [Michael.Hein@state.co.us](mailto:Michael.Hein@state.co.us)  
810 9<sup>th</sup> Street, Suite 200, Greeley, CO 80631

Mark Simpson, Water Commissioner, District 3, [Mark.Simpson@state.co.us](mailto:Mark.Simpson@state.co.us)

Amy Eschberger, Division of Reclamation Mining and Safety, [Amy.Eschberger@state.co.us](mailto:Amy.Eschberger@state.co.us)



**Table No. 2**

Three Bells Pit SWSP 2018

Distance from Heaton Reservoir to Poudre River Confluence = 

35
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 miles  
Transit Loss Rate = 

0.50%
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 per mile



4/9/2018  
10-106

**2018 Water Balance**

*Red italics denote projections*

2018 Water Balance						2017 FHD =		0.00	ac-ft			Additional Replacements			
Month	Total Combined Lagged Depletions	Farm Headgate Delivery for Recharge of Box Elder Shares	Evap at Recharge Pit for Box Elder shares	Net Recharge	Lagged Recharge Credit of Box Elder Shares	Return Flow Factor	Return Flow Obligation	Net Impact to the Poudre River	% of Month Under Call Conditions	Initial Net Impact to the Poudre River	Veldman Reservoir Release	Heaton Reservoir Release	Heaton Reservoir Transit Loss	Net Impact to the Poudre River	
	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(I)	(K)	(L)	(M)	
Jan-18	30.71	0.00	0.00	0.00	4.58	1.7%	0.00	-26.13	0%	0.00		0.0	0.00	0.00	
Feb-18	27.73	0.00	0.00	0.00	4.18	1.5%	0.00	-23.55	0%	0.00		0.0	0.00	0.00	
Mar-18	25.29	0.00	0.00	0.00	3.82	1.3%	0.00	-21.47	0%	0.00		0.0	0.00	0.00	
Apr-18	23.37	0.00	0.00	0.00	3.49	1.3%	0.00	-19.87	100%	-19.87	26.5		0.00	6.63	
May-18	21.71	0.00	0.00	0.00	3.19	25.1%	0.00	-18.52	100%	-18.52	23.5		0.00	4.98	
Jun-18	19.79	0.00	0.00	0.00	2.92	25.2%	0.00	-16.87	100%	-16.87	19.5		0.00	2.63	
Jul-18	18.08	0.00	0.00	0.00	2.66	22.2%	0.00	-15.41	100%	-15.41	17.0		0.00	1.59	
Aug-18	16.57	0.00	0.00	0.00	2.43	34.5%	0.00	-14.13	100%	-14.13	16.0		0.00	1.87	
Sep-18	15.20	0.00	0.00	0.00	2.22	67.1%	0.00	-12.98	100%	-12.98	14.5		0.00	1.52	
Oct-18	13.96	0.00	0.00	0.00	2.03	4.0%	0.00	-11.93	100%	-11.93	13.0		0.00	1.07	
Nov-18	12.82	0.00	0.00	0.00	1.86	2.7%	0.00	-10.96	100%	-10.96		14.0	2.45	0.59	
Dec-18	11.78	0.00	0.00	0.00	1.70	2.1%	0.00	-10.08	100%	-10.08		13.0	2.28	0.64	
Total	237.00	0.00	0.00	0.00	35.09		0.00	-201.91	-	-130.76	130.0	27.0	4.7	21.51	

**NOTES:**

(A) Total lagged depletions from Table No. 1 Column (G)

(B) Projected and actual diversions into recharge in 2012 for 5 Box Elder Ditch Company shares

(C) Estimated evaporation losses from the recharge site assuming 1.0 acre pond at gross evaporation rate

(D) = (B) - (C)

(E) Lagged recharge from recharge model

(F) Return flow factors from Table No. 4 Column (F)

(G) May through September: Columns (B) \* (F). October through April: Column (F) \* Total farm headgate delivery from previous irrigation season

(H) Columns (E) - (A) - (G) (positive values indicate a net accretion)

(I) Percentage of month under call conditions

(J) Column (H) \* Column (I)

(K) Release from Vedlman Reservoir

(L) Release from Heaton Reservoir

(M) Transit loss on Heaton Reservoir release

(N) = (J) + (K) + (L) - (M)