

STATE OF  
COLORADO

Ebert - DNR, Jared &lt;jared.ebert@state.co.us&gt;

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**M-1995-017, AM-1, ST-01 Compliance Documentation**

1 message

**Krystle Ervin** <kervin@bbawater.com>

Mon, Aug 28, 2017 at 3:52 PM

To: "jared.ebert@state.co.us" &lt;jared.ebert@state.co.us&gt;

Cc: Jon George &lt;jgeorge@bbawater.com&gt;, "saling@sterlingcolo.com" &lt;saling@sterlingcolo.com&gt;

Jared,

The Colorado Division of Water Resources has approved a Substitute Water Supply Plan and well permit that allow for evaporative and mining depletions at the Rothe Sand & Gravel Pit. Please see the attached documentation demonstrating that the City of Sterling is in compliance with the Colorado Division of Water Resources.

Please let me know if you have any questions.

Krystle Ervin  
Water Resource Engineer  
[kervin@bbawater.com](mailto:kervin@bbawater.com)

Bishop-Brogden Associates, Inc.  
333 W. Hampden Ave., Suite 1050  
Englewood, CO 80110  
phone: [303.806.8952](tel:303.806.8952) ext. 205

direct: [720.245.2655](tel:720.245.2655)mobile: [909.576.6140](tel:909.576.6140)fax: [303.806.8953](tel:303.806.8953)[www.bbawater.com](http://www.bbawater.com)

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**3 attachments****image001.jpg**  
33K**PlanID5879Amended.pdf**  
1739K**81272-F.pdf**  
109K



**ORIGINAL PERMIT APPLICANT(S)**

CITY OF STERLING

**APPROVED WELL LOCATION**

Water Division: 1      Water District: 64  
Designated Basin: N/A  
Management District: N/A  
County: LOGAN  
Parcel Name: N/A

**AUTHORIZED AGENT**

BBA WATER (GEORGE, JONATHAN D.)

NE 1/4 SW 1/4 Section 33 Township 8.0 N Range 52.0 W Sixth P.M.

**UTM COORDINATES (Meters, Zone:13, NAD83)**

Easting: 652655.1      Northing: 4497631.2

**PERMIT TO EXPOSE WATER IN A EXISTING PIT**

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

**CONDITIONS OF APPROVAL**

- 1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
- 2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
- 3) Approved pursuant to CRS 37-90-137 (2) and (11) for the change/expansion of use of an existing well (gravel pit pond) in accordance with the amended substitute water supply plan approved by the State Engineer on August 28, 2017, for the City of Sterling's Rothe Pond, Division of Reclamation, Mining & Safety Permit Number M-1995-017. The well (pond) shall not be operated unless it is included in a substitute water supply plan approved by the State Engineer or a plan for augmentation approved by the Water Court. The water supply plan for this pit is currently valid through December 31, 2017, and if it is not extended or if a court decree is not entered for a plan for augmentation, diversion of ground water from this well must cease immediately.
- 4) Upon issuance of this permit, well permit no. 80792-F shall be cancelled by Order of the State Engineer.
- 5) The annual amount of ground water to be appropriated shall not exceed 4.59 acre-feet with the total surface area of the proposed ground water pond limited to 1.34 acres.
- 6) The use of ground water, in addition to evaporation, is limited to water removed with the mined product. No other use of water is allowed unless a new well permit allows for such use.
- 7) The owner shall mark the well (gravel pit pond) in a conspicuous location with well permit number(s) and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
- 8) Permanent records of the tonage of mined product and the surface area of ground water exposure shall be maintained by the well owner (recorded at least monthly) and submitted to the Division Engineer upon request.
- 9) Pursuant to Rule 9.3.3 of the Water Well Construction Rules, ground water ponds and gravel pit wells are exempt from the minimum well construction and location standards except for contamination considerations as stated in the Rule. The owner shall take necessary means and precautions to prevent contaminants from entering the gravel pit well.
- 10) Pursuant to Rule 17.1.5 of the Water Well Construction Rules, the owner shall submit, after initiation of construction, site plan and cross section drawings showing the extent of intended excavation, the maximum depth of the pit or pond, the initial static water level, and the date of initial ground water exposure to the atmosphere.
- 11) The boundaries of the gravel pit pond shall be more than 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
- 12) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

WELL PERMIT NUMBER 81272-F

RECEIPT NUMBER 3680721B



Issued By SARAH BRUCKER

Date Issued: 8/28/2017

Expiration Date: 8/28/2018



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

Office of the State Engineer  
1313 Sherman St, Room 821  
Denver, CO 80203

August 28, 2017

Jonathan D. George, P.E.  
Bishop-Brogden Associates, Inc.  
333 West Hampden Avenue, Suite 1050  
Englewood, CO 80110

**Re: City of Sterling's Rothe Pond Substitute Water Supply Plan (WDID 6402526, Plan ID 5879)  
Rothe Sand & Gravel Pit, DRMS Permit No. M-1995-017 (WDID 6406949)  
SW ¼ Section 33, T8N, R52W, 6<sup>th</sup> P.M.  
Water Division 1, Water District 64, Logan County**

**Approval Period: August 28, 2017 through December 31, 2017**  
*Contact Information for Mr. George: (303) 806-8952, [jgeorge@bbawater.com](mailto:jgeorge@bbawater.com)*

Dear Mr. George:

We have reviewed your letter dated July 13, 2017, requesting approval of an amended substitute water supply plan ("SWSP") in accordance with § 37-92-308(5), C.R.S. on behalf of the City of Sterling ("Applicant" or "Sterling"). The original SWSP for the Rothe Pond was issued on April 13, 2017. The Applicant now requests an amended SWSP to allow for a small amount of material to be mined at the site. This amendment supersedes the SWSP approval issued on April 13, 2017. A copy of the SWSP request was sent to all parties who have subscribed to the Division 1 SWSP Notification List on July 13, 2017. The State Engineer's Office ("SEO") did not receive any comments during the statutory 35-day comment period. The required \$300 filing fee has been received (receipt no. 3680721A).

This SWSP is requested to replace out-of-priority depletions associated with an unlined gravel pit known as the Rothe Sand & Gravel Pit. An application for approval of a change of water right or a plan for augmentation has not been filed with the water court and the depletions associated with the proposed water uses will not exceed five years, therefore this request has been submitted pursuant to § 37-92-308(5), C.R.S. In accordance with § 37-92-308(5), C.R.S., SWSPs may be approved for new water use plans involving out-of-priority diversions or a change of water right, if no application for approval of a plan for augmentation or a change of water right has been filed with a water court and the water use plan or change proposed and the depletions associated with such water use plan or change will be for a limited duration not to exceed five years.

### SWSP Operation

The Rothe Pond property is located just south of the City of Sterling and was recently purchased by the city. The site currently contains two ponds created by previous gravel pit mining operations with a total surface area of 0.87 acres, as shown on the attached Figure 1. Sterling plans to gradually expand and connect the ponds over the course of the next year to create a single



pond with a maximum surface area of 1.34 acres. The pond is intended to be used as a public amenity for youth fishing and other recreational activities. As part of the expansion and connection of the two existing ponds, Sterling will also mine a small amount of material that is anticipated to be used on-site to create paths and roadways. Sterling is seeking this SWSP to replace evaporative and mining depletions from the Rothe Pond using leased excess recharge accretions from the North Sterling Irrigation District.

## Depletions

Depletions at the site will consist of evaporation from exposed ground water in the Rothe Pond and water removed with the mined material.

Ground water exposed to the atmosphere in connection with the extraction of sand and gravel by open mining is specifically allowed to claim credit for the consumptive use of the vegetation that existed at the site prior to mining pursuant to § 37-80-120(5), C.R.S., and § 37-92-305(12)(a), C.R.S. Net evaporative depletions were calculated using a gross annual evaporation of 49.0 inches from the exposed water surface, with a credit of 10.58 inches for effective precipitation. The current surface area of the ponds total 0.87 acres. Sterling plans to begin expanding the ponds August 2017, and finish the expansion to 1.34 acres by August 2018. For the purposes of this SWSP, you have projected that the ponds will be expanded at a steady rate of 0.4 acres per month beginning in August 2017. Evaporative depletions for this plan period (August-December 2017) are projected to total 1.21 acre-feet, distributed monthly as shown in the attached Table 1.

Sterling anticipates mining 10,237 tons of material over the course of the next year, evenly distributed as 853 tons of material mined per month, resulting in 4,265 tons of material anticipated to be mined during this plan period (August-December 2017). For the purposes of this SWSP, it was assumed that all material will be mined below the ground water table; therefore the water retained in the mined product is considered to be 4% of the mined material by weight. This results in a groundwater loss of 0.025 acre-feet per month or a total of 0.125 acre-feet for this plan period.

The monthly depletions were lagged to the South Platte River using the AWAS program developed by the IDS Group at Colorado State University. The parameters used in the model were a distance from the centroid of the exposed water surface area to the river (X) of 408 feet; an aquifer width (W) of 24,149 feet; an aquifer transmissivity (T) of 155,000 gallons per day per foot; and a specific yield (S) of 0.2. The lagged stream depletions are estimated to total 1.38 acre-feet for this plan period (August-December 2017), as shown in the attached Table 1.

Depletions are assumed to impact the South Platte River perpendicular to the location of the Rothe Pond, at a point approximately 1364 feet from the south section line and 2062 feet from the west section line of said Section 33.

## Replacements

Replacement water under this SWSP will come from a lease for a total of 4.29 acre-feet of recharge from the North Sterling Irrigation District ("North Sterling"). A copy of the lease dated January 17, 2017 is attached, which shows the monthly breakdown of replacement water for the



period of January through December 2017. The amount of replacement water available for this plan period of August through December 2017 totals 1.79 acre-feet.

North Sterling obtained a decree in case no. 96CW1034 for the North Sterling Recharge Water Right and North Sterling Recharge Water Right, First Amendment, a change of water right for a portion of their North Sterling Reservoir Water Right to include augmentation and exchange, and a plan for augmentation. Water diverted to recharge under the decree which is not needed to replace water from wells augmented under the decree may be sold or leased to other parties in accordance with paragraph 63 of the decree.

The point where depletions from the Rothe Pond will impact the South Platte River is within Impact Reach 3 of case no. 96CW1034, described as the reach from the Sterling No. 1 Ditch headgate to the Iliff and Platte Ditch headgate.

The City of Sterling will account for depletions and replacements on a monthly basis, and will provide the accounting to the division engineer and water commissioner on a monthly basis or at other times requested. North Sterling must identify in their accounting the amount of excess recharge credits in Impact Reach 3 allocated to this plan, and in turn, the accounting for this plan must show the same volume of credits as allocated by North Sterling.

### Conditions of Approval

This SWSP is hereby approved pursuant to § 37-92-308(5), C.R.S., subject to the conditions stated below.

1. This SWSP supersedes the April 13, 2017 approval and shall be valid for the period of August 28, 2017 through December 31, 2017, unless otherwise revoked or superseded by decree. Additional SWSPs are required until a court decreed plan for augmentation is obtained for the evaporative depletions described in this SWSP. Additional SWSPs are subject to the provisions of § 37-92-308(5)(b), C.R.S. The statutory fee of \$300 will be required pursuant to § 37-92-308(8), C.R.S. **Any request for an additional SWSP must be submitted to this office no later than October 1, 2017.**
2. In accordance with § 37-92-308(5), C.R.S., this SWSP cannot be approved or renewed for more than five years, and the depletions associated with this SWSP cannot exceed five years. As part of any request for an additional SWSP pursuant to § 37-92-308(5), C.R.S., the Applicant must demonstrate that depletions associated with the proposed water uses will not exceed five years. Further, in accordance with paragraph 63 of case no. 96CW1034, if recharge water available to the North Sterling Irrigation District is used by any other water users in five (5) separate years, such other water users shall be required to apply to the Court for, and obtain, a decree authorizing the use of such recharge water in order for such use to continue. This approval represents the first year of operation of this SWSP.
3. Approval of this SWSP is for the purposes stated herein and consumptive use is limited to the amounts identified herein. Additional uses may be included in this SWSP only if a new SWSP is approved for those additional uses. Should a new SWSP be requested, the provisions of § 37-92-308(5), C.R.S., shall apply. The statutory fee of \$300 will be required pursuant to § 37-92-308(8), C.R.S.



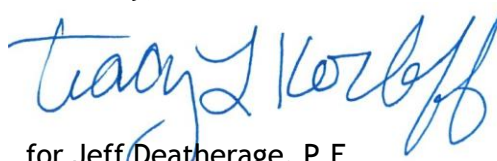
4. Well permit no. 81272-F has been obtained for the Rothe Pond in accordance with § 37-90-137(2) and (11), C.R.S.
5. The total surface area of the groundwater exposed at the site in any month must not exceed the amount shown in the attached Table 1, which results in an evaporative loss of 1.21 acre-feet for this plan period.
6. The total product mined at the site during this plan period shall not exceed 10,237 tons, which results in 0.125 acre-feet of water lost with the mined material.
7. Total consumption at the Rothe Pond must not exceed these aforementioned amounts unless an amendment is made to this plan.
8. The Applicant shall provide daily accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis, or more frequent if required by the water commissioner. The accounting must be emailed to the water commissioner, [Bruce.Phillips@state.co.us](mailto:Bruce.Phillips@state.co.us), and [Brent.Schantz@state.co.us](mailto:Brent.Schantz@state.co.us) and [DNR\\_Div1Accounting@state.co.us](mailto:DNR_Div1Accounting@state.co.us) within 30 days of the end of the month for which the accounting applies. Accounting and reporting procedures are subject to approval and modification by the division engineer. Accounting forms need to identify the WDID number for each well operating under this SWSP. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.
9. The name, address, and phone number of the contact person who will be responsible for the operation and accounting of this SWSP must be provided with the accounting forms to the division engineer and water commissioner.
10. Applicant shall follow the attached Augmentation Plan Accounting protocol for the operation of this SWSP.
11. Applicant shall verify that the entity making replacement, in this case, the North Sterling Irrigation District, has included the Rothe Pond within Reach 3 on their accounting submitted to our office.
12. Replacement water shall be made available to cover all out-of-priority depletions in time, location, and amount, and shall be made available under the direction and/or approval of the water commissioner.
13. 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.
14. 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 the pending 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. Any appeal of a decision made by the state engineer concerning an SWSP pursuant to § 37-92-308(5), C.R.S., shall be to the Division 1 water judge within thirty days of the date of this decision.





Should you have any questions concerning this approval, please contact Michael Hein, Assistant Division Engineer, in Greeley at 970-352-8712 or Sarah Brucker of this office.

Sincerely,



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

Attachment(s):     Figure 1  
                             Table 1  
                             North Sterling Irrigation District lease  
                             Accounting Protocol

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

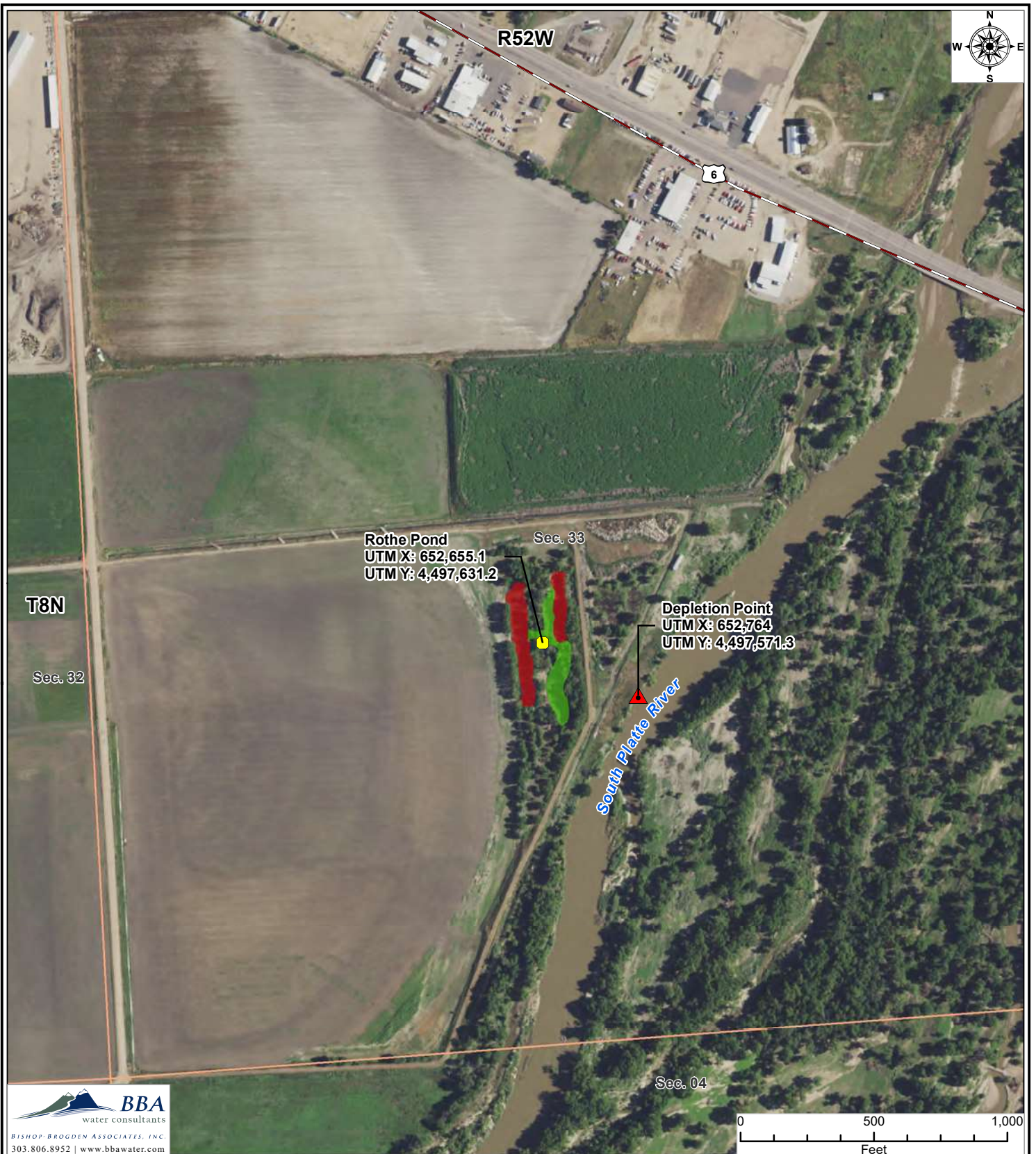
Brent Schantz, River Operations/Compact Coordinator, [Brent.Schantz@state.co.us](mailto:Brent.Schantz@state.co.us)

Bruce Phillips, Water Commissioner, District 64, [Bruce.Phillips@state.co.us](mailto:Bruce.Phillips@state.co.us)

TLK/srb: Rothe Pond 2017\_Amended







**FIGURE 1**  
**City of Sterling**  
**Rothe Pond**  
**General Location Map**

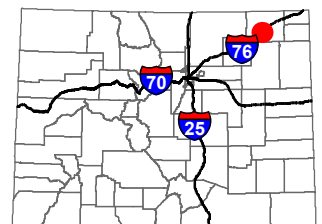
Date: 1/19/2017 | Job No. 7011.28

**Legend**

- Rothe Pond Current Surface Area
- Rothe Pond Proposed Surface Area
- Rothe Pond
- Depletion Point

Data Source: CDSS, USGS  
Aerial Photo: 2015

**Colorado**



**Table 1**  
**City of Sterling - Rothe Pond**  
**Evaporation Depletions and Water Balance**  
All values in acre-feet.

Month	Evap. Distribution	Gross Evap. Rate (ft)	Effective Precip. (ft)	Net Evap. Rate (ft)	Pond Surface Area (ac)	Net Pond Evap. (ac-ft)	Lagged Net Evap. Depletion (ac-ft)	Mined Water (ac-ft)	Lagged Mining Depletion (ac-ft)	Total Lagged Depletion (ac-ft)	Augmentation Water (ac-ft)	Net Effect to River (ac-ft)
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Jan-17	3.0%	0.12	0.02	0.10	0.87	0.09	0.10	-	-	0.10	0.16	0.06
Feb-17	3.5%	0.14	0.02	0.13	0.87	0.11	0.11	-	-	0.11	0.17	0.06
Mar-17	5.5%	0.22	0.05	0.17	0.87	0.15	0.15	-	-	0.15	0.22	0.07
Apr-17	9.0%	0.37	0.09	0.28	0.87	0.25	0.23	-	-	0.23	0.35	0.12
May-17	12.0%	0.49	0.15	0.34	0.87	0.29	0.27	-	-	0.27	0.43	0.16
Jun-17	14.5%	0.59	0.15	0.44	0.87	0.38	0.36	-	-	0.36	0.55	0.19
Jul-17	15.0%	0.61	0.13	0.48	0.87	0.42	0.40	-	-	0.40	0.62	0.22
Aug-17	13.5%	0.55	0.10	0.45	0.91	0.41	0.40	0.025	0.020	0.42	0.59	0.17
Sep-17	10.0%	0.41	0.07	0.34	0.95	0.32	0.33	0.025	0.023	0.35	0.48	0.13
Oct-17	7.0%	0.29	0.06	0.23	0.99	0.23	0.25	0.025	0.023	0.27	0.34	0.07
Nov-17	4.0%	0.16	0.03	0.14	1.03	0.14	0.16	0.025	0.024	0.19	0.22	0.03
Dec-17	3.0%	0.12	0.02	0.10	1.07	0.11	0.13	0.025	0.024	0.15	0.16	0.01
Annual	100%	4.08	0.88	3.20	-	2.90	2.88	0.125	0.114	2.99	4.29	1.30

**Notes:**

1. Evaporation distribution based upon the State's guidelines for SB120, for a pond elevation of <6500 feet.
2. Gross evaporation equals 49 inches per year. Data based upon NOAA Technical Report NWS 33 (Evaporation Atlas for the 48 Contiguous US, 1982), distributed based on [1].
3. Monthly average precipitation obtained from CDSS for the NOAA Sterling Climate Station (USC00057950) and multiplied by 0.7 to calculate effective precipitation.
4. Equal to [2] - [3].
5. Equal to current surface area of 0.87 acres for January through July and equal to the sum of the previous month surface area and 0.039 additional acres per month for August through December. Mining will occur from August 2017 through July 2018 per City of Sterling mining plans.
6. Equal to [4] \* [5].
7. Stream depletions calculated as product of net pond evaporation and AWAS lagging factors (T=155,000 gpd/ft, S=0.02, x=408 ft, w=24,149 ft).
8. Based on a mining rate of 853 tons of material per month from August 2017 through July 2018. Water weight equal to 4% of material weight.
9. Stream depletions calculated as product of mined water and AWAS lagging factors (T=155,000 gpd/ft, S=0.02, x=408 ft, w=24,149 ft).
10. Equal to [7] + [9].
11. Water Leased from North Sterling Irrigation Company.
12. Equal to [11] - [10].

**The North Sterling Irrigation District**

P.O. Box 103 - 112 North 8<sup>th</sup> Avenue  
Sterling, Colorado 80751  
(970) 522-2025

Water Transfer Order

Date: January 17, 2017

The North Sterling Irrigation District hereby transfers 4.29 acre feet (monthly breakdown given in the table below) of recharge water at a rate of \$500/acre foot to:

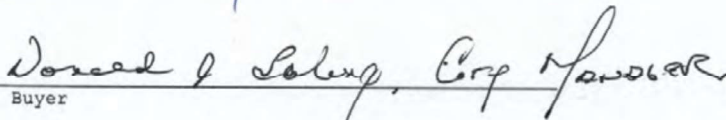
Name: City of Sterling  
Address: P.O. Box 4000  
Sterling, CO 80751

For the time period: 2017

Month/Year	Amount (Ac-Ft)
January	0.16
February	0.17
March	0.22
April	0.35
May	0.43
June	0.55
July	0.62
August	0.59
September	0.48
October	0.34
November	0.22
December	0.16
<b>Total</b>	<b>4.29</b>

I understand that this transfer order is specifically for the amount referenced above, in no way constitutes a time period longer than that stated above, and is subject to all transportation losses and fees.

  
Seller: The North Sterling Irrigation District

  
Buyer



# 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](tel:970-352-8712)) and division engineer at [Div1Accounting@state.co.us](mailto: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. All wells must be decreed by the water court, permitted by the state engineer or included in a decreed plan for augmentation. Unregistered and undeclared 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)



# 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](tel:970-352-8712)) and division engineer at [Div1Accounting@state.co.us](mailto: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.

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(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)