



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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Jared Polis, Governor

Dan Gibbs, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Linda Bassi, Section Chief
Kaylea White, Senior Water Resource Specialist
Stream and Lake Protection Section

DATE: May 15-16, 2019 Board Meeting

AGENDA ITEM: **#16. City of Boulder Water Delivery Agreement from Gross Reservoir for Instream Flow Use in South Boulder Creek (Water Div. 1)**

The City of Boulder ("Boulder") has offered to the Colorado Water Conservation Board a donation of a contractual interest in water releases associated with Case Nos. 16CW3160 and 17CW3212 ("Environmental Pool") from Gross Reservoir for instream flow ("ISF") use in South Boulder Creek from the outlet of Gross Reservoir to the confluence of South Boulder Creek and Boulder Creek, approximately 17 stream miles. See draft Water Delivery Agreement, **Attachment 1**. See location map, **Attachment 2**. This is the second of a two-meeting process; the Board may take final action at this meeting.

Staff recommends that the Board:

1. Accept the interest in water that would be provided by Boulder under the Water Delivery Agreement;
2. Determine that the amounts set forth in the Water Delivery Agreement are appropriate to preserve the natural environment to a reasonable degree on the subject reach of the South Boulder Creek in the time, amounts and locations provided by the Agreement. The flow rates and uses are to preserve the natural environment to a reasonable degree within Segments 1 & 2 of the Subject Reach up to the CWCB/CPW Flow rates of 8 cfs in the winter and 15 cfs in the summer, and in Segment 3 up to 2.5 cfs in the winter and up to 5.8 cfs in the summer;
3. Determine that the best use of the interest in water to be acquired is in the time, amounts and locations provided by the Water Delivery Agreement; and
4. Authorize the CWCB Director to finalize and sign the Water Delivery Agreement.



Background

In 2010, two intergovernmental agreements (“IGAs”) were finalized to effectuate agreements regarding an Environmental Pool in Gross Reservoir. One IGA is between Boulder and Lafayette, and the other is among Boulder, Lafayette, and Denver. The IGAs identified a storage pool of 5,000 acre-feet to be used to achieve stream flows up to the targeted flow rates identified in the IGAs and further described herein. See IGAs, **Attachments 3 & 4**. The Denver IGA and the Lafayette-Boulder IGA are collectively referred to herein as the “Gross Reservoir IGAs.” The Water Delivery Agreement is between only the CWCB and Boulder, even though Lafayette and Denver are also participants in the Gross Reservoir Environmental Pool.

The CWCB filed statements of opposition in Case Nos. 16CW3160 and 17CW3212, in part to negotiate the acquisition of interests in water for ISF use on South Boulder Creek. Boulder and co-applicant Lafayette had filed Case No. 17CW3212 for adjudication of the 5,000 acre-feet storage right for the Gross Reservoir Environmental Pool. Boulder filed Case No. 16CW3160 for storage in Wittermyer Ponds to allow substitutions and exchanges to various listed locations including to Gross Reservoir. Both water court applications allow reservoir releases from Gross Reservoir for ISFs for the CWCB to protect in the subject reach of South Boulder Creek. See map, **Attachment 2**.

In Case No. 16CW3160, Water Division No. 1, Boulder filed for a conditional water storage right for proposed ponds (“Wittermyer Ponds”) that will divert water from Boulder Creek. Boulder also filed for conditional rights of substitution and exchange that will, among other things, allow Boulder to deliver fully consumable water supplies to downstream appropriators on Boulder Creek, and to deliver an equivalent amount of water from the Environmental Pool in enlarged Gross Reservoir to the Subject Reach and other locations. Boulder also claimed ISF uses to be made by the CWCB pursuant to the Water Delivery Agreement from water attributable to the conditional water storage right that is diverted by substitution or exchange into the Gross Reservoir Environmental Pool, and subsequently released in amounts up to the IGA Targeted Flows within the Subject Reach identified in the Gross Reservoir IGAs.

In Case No. 17CW3212, Water Division No. 1, Boulder and co-applicant Lafayette filed for adjudication of a 5,000 acre-foot conditional water storage right for the Gross Reservoir Environmental Pool. Among other beneficial uses, and pursuant to the Gross Reservoir IGAs, Boulder sought approval of a decreed CWCB ISF use for the Gross Reservoir Environmental Pool water storage right within the Subject Reach when water is released to meet the IGA Targeted Flows in South Boulder Creek as described in the Lafayette-Boulder IGA. At this time, Boulder wishes to donate an interest in water released from Gross Reservoir to the CWCB to protect in South Boulder Creek, as described below and in the Water Delivery Agreement. See **Attachment 1**. CWCB will use and protect the water for ISF use to preserve the natural environment to a reasonable degree through South Boulder Creek to its confluence with Boulder Creek. However, if Gross Reservoir enlargement is unsuccessful, Boulder will continue to explore other avenues to improve South Boulder Creek streamflows and will work with CWCB as appropriate.

The Board's Water Acquisition Procedures

Rule 6 of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program ("ISF Rules") sets forth the Board's procedures for acquiring water for ISF use. ISF Rule 6 requires a minimum of two Board meetings to allow for public input prior to taking final action on a proposed acquisition. The Board's initial consideration of this proposal occurred at the March 2019 Board meeting, which initiated the 120-day time period for the Board to consider the terms and conditions of the proposed acquisition. ISF Rule 6m.(4) provides that any person may request the Board to hold a hearing on the proposed acquisition, and that such a request must be filed within twenty days of the Board's initial consideration. No such request was filed and the time for filing such request has expired. Staff will request the Board to take final action on the proposal at this May 2019 Board meeting.

ISF Rules 6e. and 6f. require the Board to evaluate the appropriateness of the acquisition and determine how best to utilize the acquired water rights to preserve the natural environment. The Rules list several factors the Board may consider in its evaluation of the acquisitions. Several factors address water rights that need to be changed from irrigation or other uses to instream flow uses. Because this acquisition involves a new adjudication, those factors do not apply. This memo addresses the applicable factors.

Pursuant to statute, Staff has requested recommendations from Colorado Parks and Wildlife ("CPW"), the U.S. Department of Agriculture and the U.S. Department of Interior. Pursuant to ISF Rule 6m.(1), Staff has provided notice of the proposed acquisition to all persons included on the appropriate ISF Subscription Mailing Lists and provided notice to the State Engineer's Substitute Supply Plan Notification List. Staff has requested a biological analysis from CPW pursuant to Rule 6f.(2). CPW has reviewed this proposal, and has provided a final recommendation letter. See **Attachment 5**. CPW staff will be available to answer any questions at this Board meeting in support of the project.

Water Proposed for Acquisition

The water rights proposed to be donated to the CWCB would be up to 5,000 acre-feet per year of water released from Gross Reservoir using the water rights claimed for the Gross Reservoir Environmental Pool, or water stored pursuant to 16CW3160 or 17CW3212 and exchanged into Gross Reservoir ("Acquired Water Rights").

Reach of Stream Proposed for Use of the Acquired Water Rights

The reach of stream proposed for use of Boulder's releases from Gross Reservoir is on South Boulder Creek downstream from Gross Reservoir to the confluence with Boulder Creek. The segment extends through Eldorado Canyon and into the City of Boulder, approximately 17 river miles.

Existing and Future ISF Water Rights

CWCB holds the following existing decreed ISF water rights on South Boulder Creek between the outlet of Gross Reservoir and South Boulder Road:

Decree	Stream	Upper Terminus	Lower Terminus	Flow Rates in cfs (dates)	Appropriation Date
80CW0379	South Boulder Creek	outlet Gross Res	USGS gage 06729500	15 (5/1 - 9/30) 6 (10/1 - 4/30)	12/02/1980
80CW0379	South Boulder Creek	USGS Gage 06729500	South Boulder Road Bridge	15 (5/1 - 9/30) 2 (10/1 - 4/30)	12/02/1980

The IGA Targeted Flow rates are slightly different from the decreed ISF rates. Furthermore, due to water availability, the CWCB does not currently hold an ISF water right within the lowest segment of South Boulder Creek to its confluence with Boulder Creek. CPW has been studying and collecting field data in South Boulder Creek for several decades and has developed flow recommendations to preserve the natural environment for this stream segment. Both the IGA Targeted Flow Rates and the CPW recommended ISF rates to preserve the natural environment (CWCB/CPW Flows”) are shown below:

Stream Segment	IGA TARGETED FLOWS				CWCB/CPW FLOWS	
	Summer (May-Sept.)		Winter (Oct.-April)		Summer (May-Sept.)	Winter (Oct.-April)
	Average Year	Dry Year	Average Year	Dry Year	All Year Types	
Segment 1 Gross Reservoir to USGS gage 06729500	10 cfs	7 cfs	7 cfs	5 cfs	15 cfs (Preserve)	8 cfs (Preserve)
Segment 2 USGS gage 06729500 to South Boulder Road Bridge	10 cfs	7 cfs	7 cfs	5 cfs	15 cfs (Preserve)	8 cfs (Preserve)
Segment 3 South Boulder Road to confluence with Boulder Creek	4 cfs	2 cfs	2.5 cfs	1.5 cfs	5.8 cfs (Preserve)	2.5 cfs (Preserve)

Natural Flow Regime

The headwaters of South Boulder Creek originate at approximately 11,600 feet in elevation near Rogers Pass directly west of Rollinsville. The upper portions of South Boulder Creek are typical of a high-gradient mountain stream. As the creek emerges from Eldorado Canyon near Eldorado Springs, it transitions from a high-gradient, cold-water environment to a lower-gradient plains stream, flowing northeasterly onto the valley floor to its confluence with Boulder Creek near Valmont Road. The watershed's total drainage area is approximately 130 square miles.

A majority of the streamflow in South Boulder Creek is in the form of high-elevation snow accruals; however, operations of Denver Water's Moffat System affect the upper portions of South Boulder Creek as Colorado River water is imported into Gross Reservoir via the Moffat Tunnel. Gross Reservoir is an on-channel reservoir in the upper portions of South Boulder Creek, storing water for Denver Water, which is then diverted through the South Boulder Creek Diversion Conduit upstream of Eldorado Springs. In the narrow transition zone from a cold-water to warm-water fishery, there are significant modifications due to municipal and agricultural diversions. Below Eldorado Springs, flows in South Boulder Creek are depleted by diversions for agriculture, industrial, and municipal uses. Flows in South Boulder Creek show a traditional peak due to snowmelt runoff in late-spring to early-summer; however, many segments of the stream experience periods of depleted base-flow and virtually no flow in certain segments.

Existing Natural Environment

The natural environment in South Boulder Creek supports a variety of plant and animal species including a fishery for both cold-water and warm-water species. The fishery is comprised predominantly of brown trout, but includes native fish populations and non-native species, such as rainbow trout, cutthroat rainbow trout hybrid, golden shiner, and bluegill. Native fish species are most prevalent between South Boulder Road and just downstream of Arapahoe Road, and are commonly found in back-water or off-channel habitat and in proximity to complex microhabitat, such as submerged vegetation and woody debris. Native fish populations include longnose sucker, longnose dace, green sunfish, and plains topminnow. South Boulder Creek is also an important resource for the community because of its recreational and aesthetic values.

Proposed Method of Acquisition

Under this proposal, the CWCB would acquire a contractual interest in up to 5,000 acre-feet of releases from the enlarged Gross Reservoir. Boulder and CWCB are in the process of negotiating the terms of the Water Delivery Agreement. Following the Board's approval of such agreement, CWCB, Boulder and Lafayette will stipulate to a decree in each of Case Nos. 16CW3160 and 17CW3212, which will provide a decreed right for CWCB to use the acquired water for ISF purposes, and will provide terms and conditions that will protect CWCB's existing ISF water rights from injury.

Pursuant to the Water Delivery Agreement, Boulder will release and deliver water stored in the enlarged Gross Reservoir as necessary to meet the IGA Targeted Flows, for exclusive ISF use by the CWCB as an acquired interest in water. When Boulder notifies CWCB that such releases are being made, CWCB shall protect the delivered acquired water through the Subject Reach from diversion or exchange by other water users by requesting, when

necessary, administration by the Colorado State and Division Engineers to prevent diversion of or exchange upon the water within the Subject Reach by other water users.

Proposed Use of the Acquired Water

The acquired water would be used to preserve the natural environment in South Boulder Creek to a reasonable degree by protecting reservoir releases up to 10 cfs to meet the IGA Targeted Flows and CWCB/CPW Flow rates in South Boulder Creek. The CWCB would use the reservoir releases to help maintain stream flows in South Boulder Creek for preservation of the natural environment to a reasonable degree within Segments 1 & 2 of the Subject Reach up to the CWCB/CPW Flow rates of 8 cfs in the winter and 15 cfs in the summer; and in Segment 3 up to 2.5 cfs in the winter and up to 5.8 cfs in the summer.

Historical Use and Historical Return Flows

The Board does not need to consider historical use and return flows because this is a release of new junior storage water and does not involve a change of water right or other mechanism for which return flows would be owed.

Location of Other Water Rights

There are many other water rights located on South Boulder Creek; however, they will not be affected by this release and protection of water stored in priority.

Material Injury to Existing Rights

Any terms and conditions to prevent injury to other water rights are currently being negotiated and will be included in the final decrees filed in Case Nos. 16CW3160 and 17CW3212.

Stacking Evaluation

When water is available under the Water Delivery Agreement for ISF use in South Boulder Creek, the CWCB can use it in addition to any other appropriated or acquired water rights available to the CWCB for ISF use in this segment of South Boulder Creek to achieve a greater level of preservation of the natural environment and to meet the CPW flow recommendations to preserve the natural environment, as approved by the Board.

Effect of Proposed Acquisition on Any Relevant Interstate Compact Issue

The proposed acquisition does not negatively affect any interstate compact. The reservoir release will be used for ISF purposes and for other beneficial uses downstream of the lower terminus of the ISF stream segment.

Effect on Maximum Utilization of Waters of the State

This proposed acquisition will promote maximum utilization of waters of the State by delivering the water to downstream consumptive users, while at the same time the ISF preserves the natural environment to a reasonable degree along the delivery path of South Boulder Creek.

Availability for Downstream Use

Boulder and Lafayette will use the reservoir releases downstream of South Boulder Creek, and if not reused by Boulder and Lafayette will be used by other appropriators on Boulder Creek, St. Vrain Creek, and the South Platte River.

Administrability

CWCB staff has discussed this project with the Division 1 Division Engineer. It is anticipated that once the water court case is closed and a final decree is issued, the reservoir release water from Gross Reservoir through South Boulder Creek will be administrable. There may be some needed modification of diversion structures and installation of some measuring devices for administration.

Potential Benefits of This Proposed Acquisition

The proposed acquisition will increase stream flows in South Boulder Creek, provide water to current dry-up points in the creek below headgate diversions, and provide benefits to the fish species that live in this reach.

Cost to Complete Transaction

No direct costs will be incurred by the CWCB because Boulder will donate the interest in water to the CWCB. However, as part of its normal work load, CWCB staff will continue to work on the acquisition documents, maintain records of the water use, and request administration, as needed to protect the released water through the Subject Reach. Boulder will be responsible for the costs of physical modifications of any existing diversion structures on the stream, installation and maintenance of any additional stream gages, and any additional consultant work.

ATTACHMENTS:

Attachment 1 - Water Delivery Agreement (Draft)

Attachment 2 - Location Map

Attachment 3 - Denver IGA, "Intergovernmental Agreement Between the City and County of Denver, the City of Boulder, and the City of Lafayette For an Environmental Pool in Gross Reservoir," dated February 24, 2010.

Attachment 4 - Lafayette-Boulder IGA, "Intergovernmental Agreement Between the City of Lafayette and the City of Boulder Regarding the Operation of the Environmental Pool in Gross Reservoir," dated February 17, 2010.

Attachment 5 - CPW recommendation letter, by Katie Birch, CPW Instream Flow Program Coordinator

WATER DELIVERY AGREEMENT

The Colorado Water Conservation Board (“CWCB”) an agency of the State of Colorado, and the City of Boulder (“Boulder”), a home rule municipal corporation of the State of Colorado, in consideration of the mutual promises contained herein, agree as follows:

RECITALS

- A. CWCB is an agency of the State of Colorado created to aid in the protection and development of the waters of the state for the benefit of the present and future inhabitants of the state. In 1973, the General Assembly vested the CWCB with the exclusive authority to appropriate waters of natural streams for minimum stream flows between specific points on a stream to preserve the natural environment to a reasonable degree.
- B. Pursuant to section 37-92-102(3), C.R.S. (2018), the CWCB may acquire by contractual agreement with any person, including any governmental entity, such water, water rights, or interests in water that are not on the Division Engineer’s abandonment list, in such amounts as the CWCB determines are appropriate for stream flows to preserve or improve the natural environment to a reasonable degree. This Water Delivery Agreement provides for the CWCB’s contractual acquisition of water or an interest in water, yielded from certain water rights, to be delivered as specified below to preserve the natural environment to a reasonable degree in a specified stream reach.
- C. On February 24, 2010, Boulder, the City of Lafayette (“Lafayette”), and the City and County of Denver (“Denver”) entered into the “Intergovernmental Agreement Between the City and County of Denver, The City of Boulder, and the City of Lafayette For An Environmental Pool in Gross Reservoir” (“Denver IGA”). In the Denver IGA, Denver granted Boulder and Lafayette the right to store up to 5,000 acre-feet of their decreed water rights in the Environmental Pool of enlarged Gross Reservoir. The Denver IGA also states the parties’ agreement and understanding that Boulder and Lafayette anticipate seeking decrees for new exchanges, changes of water rights, and/or a new storage right for the purposes of filling the Environmental Pool.
- D. On February 17, 2010, Boulder and Lafayette entered into the “Intergovernmental Agreement Between the City of Lafayette and the City of Boulder Regarding the Operation of the Environmental Pool in Gross Reservoir” (“Lafayette–Boulder IGA”). The Lafayette–Boulder IGA contains details about the parties’ storage of water in the Environmental Pool and sets out the targeted flows (“IGA Targeted Flows”) in South Boulder Creek between the enlarged Gross Reservoir and the confluence of South Boulder Creek and Boulder Creek, approximately 17 miles, (“Subject Reach”) that the parties seek to meet by releases of water from the Environmental Pool. The Subject Reach is generally depicted in the map attached hereto as **Exhibit A**. The Denver IGA and the Lafayette–Boulder IGA are collectively referred to herein as the “Gross Reservoir IGAs.”

- E. In Case No. 16CW3160, Water Division No. 1, Boulder filed for, among other things, adjudication of a conditional water storage right for proposed ponds known as Wittemyer Ponds that will divert water from Boulder Creek, as well as conditional rights of substitution and exchange that will, among other things, allow Boulder to deliver fully consumable water supplies to downstream appropriators on Boulder Creek, and to divert an equivalent amount of water at, among other locations, the Environmental Pool of enlarged Gross Reservoir. Boulder claimed instream flow uses to be made by the CWCB of water attributable to the conditional water storage right that is diverted by substitution or exchange into the Gross Reservoir Environmental Pool and subsequently released to South Boulder Creek, up to the IGA Targeted Flows within the Subject Reach identified in the Gross Reservoir IGAs.
- F. In Case No. 17CW3212, Water Division No. 1, Boulder and co-applicant Lafayette filed for a 5,000 acre-feet conditional water storage right for the Gross Reservoir Environmental Pool. Among other beneficial uses, and pursuant to the Gross Reservoir IGAs, Boulder sought a decreed instream flow use to be made by the CWCB of the Gross Reservoir Environmental Pool water storage right within the Subject Reach when water is released to meet the targeted flows in South Boulder Creek as described in the Lafayette–Boulder IGA.
- G. The water rights described in Paragraphs E and F above collectively shall be referred to herein as the “Subject Water Rights.”
- H. The CWCB holds the following decreed instream flow water rights on South Boulder Creek between the outlet of Gross Reservoir and South Boulder Road:

Decree	Stream	Upper Terminus	Lower Terminus	Flow rates in cfs (dates)	Appropriation Date
80CW0379 (Div. 1)	South Boulder Creek	outlet Gross Res	USGS gage 06729500	15 (5/1 - 9/30) 6 (10/1 - 4/30)	12/02/1980
80CW0379 (Div. 1)	South Boulder Creek	USGS Gage 06729500	South Boulder Road bridge	15 (5/1 - 9/30) 2 (10/1 - 4/30)	12/02/1980

The reaches for the CWCB’s instream flow water rights decreed in Case No. 80CW379 are generally depicted in the map attached hereto as **Exhibit A**.

- I. The CWCB and Boulder wish to cooperate in accomplishing and protecting the Targeted Flows identified in the Gross Reservoir IGAs in South Boulder Creek from the outlet of Gross Reservoir to the confluence of South Boulder Creek and Boulder Creek. The CWCB has approved of the flow rates recommended by the CPW to preserve the natural environment to a reasonable degree (“CWCB/CPW Flows”). The CWCB/CPW Flows are equal to or in excess of the existing appropriated and decreed instream flow rates through the IGA identified reaches. Some of the existing decreed instream flow rates were water

supply limited, but the original R2CRSSS measurements for the amount of water to preserve the natural environment to a reasonable degree is consistent with the new CWCB/CPW Flow rates.

- J. For the purposes of administration, the CWCB/CPW Flows will be met in whole or in part with existing CWCB instream flow water rights in the applicable stream segments, to the extent the existing instream flow rights are in priority. When the CWCB instream flow rights are out of priority, and/or when the CWCB instream flow water rights are insufficient to bring South Boulder Creek up to the IGA Targeted Flows, Environmental Pool releases will be made. Therefore, the amount of water to be protected from diversion or exchange in a given reach would be the amount released to meet the IGA Targeted Flow releases, plus any water available pursuant to existing instream flow rights in that reach, to the extent such rights are in priority, up to the CWCB/CPW Flows. The IGA Targeted Flows and the CWCB/CPW Flows are identified in Table 1 below.
- K. Pursuant to Rule 6. of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program, 2CCR 408-2, on [REDACTED], 2019, the CWCB found that deliveries of water under this Water Delivery Agreement are appropriate for stream flows to preserve the natural environment in three segments of the Subject Reach to a reasonable degree at rates up to the CWCB/CPW Flows.

NOW THEREFORE, the CWCB and Boulder agree as follows:

DELIVERY

1. Subject to the terms of this Water Delivery Agreement and in accordance with the Gross Reservoir IGAs, Boulder will release and deliver water stored in the Gross Reservoir Environmental Pool under its Subject Water Rights (“Environmental Pool Releases”), in the volumes and at rates of flow and times to be determined at the sole discretion of Boulder, but in consultation with the CWCB, to be necessary to meet the Targeted Flows set forth in the Lafayette–Boulder IGA, for exclusive use by the CWCB to help maintain stream flows to preserve the natural environment to a reasonable degree in the Subject Reach.
2. Delivery of water in accordance with this Water Delivery Agreement is subject to availability under the Subject Water Rights and the terms and conditions of the Gross Reservoir IGAs. Boulder is under no obligation to deliver water to the CWCB pursuant to this Water Delivery Agreement when: (1) water yielded from the Subject Water Rights is not in storage or available in the Environmental Pool; (2) Environmental Pool Releases are not necessary to preserve the natural environment up to the Targeted Flows in the IGA; or (3) Environmental Pool Releases are not being made by Boulder to meet the Targeted Flows that are set forth in the Lafayette–Boulder IGA.

3. The CWCBC shall, when notified by Boulder that water is being released pursuant to this Water Delivery Agreement, protect the delivered Environmental Pool Releases through the Subject Reach by requesting administration by the Colorado State and Division Engineers to prevent diversion or depletion of, or exchange upon, the water by other water users. In the event that CWCBC does not or cannot protect the full amount of the Environmental Pool Releases in accordance with the terms of this Water Delivery Agreement, nothing shall prevent Boulder from exercising its water rights in a manner consistent with its decrees as entered in Case Nos. 16CW3160 and 17CW3212.

CONDITIONS OF THE CWCBC'S USE OF WATER DELIVERED BY BOULDER

4. The CWCBC shall use the Environmental Pool Releases to help maintain stream flows in South Boulder Creek through the Subject Reach to preserve the natural environment at rates up to CWCBC/CPW Flows with the Subject Water Rights as follows:

Table 1.

IGA Targeted Flows and CWCBC/CPW Flows for Three South Boulder Creek Segments in the Subject Reach

Stream Segment	IGA TARGETED FLOWS				CWCBC/CPW FLOWS	
	Summer (May–Sept.)		Winter (Oct.–April)		Summer (May–Sept.)	Winter (Oct.–April)
	Average Year	Dry Year	Average Year	Dry Year	All Year Types	
Segment 1 Gross Reservoir to USGS gage 06729500	10 cfs	7 cfs	7 cfs	5 cfs	15 cfs (Preserve)	8 cfs (Preserve)
Segment 2 USGS gage 06729500 to South Boulder Road	10 cfs	7 cfs	7 cfs	5 cfs	15 cfs (Preserve)	8 cfs (Preserve)
Segment 3 South Boulder Road to confluence with Boulder Creek	4 cfs	2 cfs	2.5 cfs	1.5 cfs	5.8 cfs (Preserve)	2.5 cfs (Preserve)

5. The release and delivery of water from the Gross Reservoir Environmental Pool by Boulder for the CWCBC's use for instream flows in no way provides the CWCBC an

operating interest or ownership in Boulder's facilities or other water rights as they exist now or may exist in the future. The City's obligations as provided in this Water Delivery Agreement are expressly subject to Section 121 of the Boulder Home Rule Charter and §11-1-32 of the Boulder Revised Code.

6. The CWCB's exclusive right to use water released from Gross Reservoir under the Subject Rights in the Subject Reach under this Water Delivery Agreement extends to and terminates at the downstream terminus of the Subject Reach at the confluence of South Boulder Creek and Boulder Creek.

USE OF THE SUBJECT WATER RIGHTS BY BOULDER DOWNSTREAM OF THE SUBJECT REACH

7. In accordance with section 37-92-102(3), C.R.S. (2018), section 37-87-102(4), C.R.S. (2018), and the decrees adjudicating the CWCB's right to use the Environmental Pool Releases for instream flow purposes, Boulder may redivert and bring about the beneficial use of its Subject Water Rights downstream of the Subject Reach as fully consumable reusable water.

ACCOUNTING AND REPORTING

8. Boulder shall be responsible for maintaining all records and accounting necessary for the implementation of this Water Delivery Agreement, using forms mutually agreeable to the parties, and all records required by the Division Engineer and water court decrees for administration of the Environmental Pool Releases.
9. Boulder will provide accounting related to the operation of this Water Delivery Agreement to the CWCB and to the Division Engineer when requested.

MISCELLANEOUS PROVISIONS

10. The term of this Water Delivery Agreement is perpetual unless terminated under the provisions of this paragraph. This Agreement may only be amended or terminated by the written agreement of the parties.
11. The CWCB is not responsible for modification of any structures that may be necessary for use of the Subject Water Rights to preserve the natural environment, including but not limited to, modification of the Community Ditch structure.
12. This Water Delivery Agreement shall not be assignable by any party without written consent of the other.

13. Pursuant to section 37-92-102(3), C.R.S. (2018), the terms of this Water Delivery Agreement shall be enforceable by each party as a water matter in the District Court for Water Division No. 1; provided, however, that before commencing any action for enforcement of this Water Delivery Agreement, the party alleging the violation shall notify the other party in writing of the alleged violation and the parties shall make a good faith effort to resolve their differences through informal consultation.
14. Specific performance of this Water Delivery Agreement shall be the exclusive remedy for failure of any party to comply with any provision of this Agreement.
15. This Water Delivery Agreement shall be construed in accordance with the laws of the State of Colorado and shall be interpreted broadly to effect its purposes.
16. Should any conflict appear to exist between this Water Delivery Agreement and either of the Gross Reservoir IGAs or any amendments thereto, or the decrees in Case Nos. 16CW3160 and 17CW3212, the parties shall consult on how to resolve the conflict.
17. Any notice or request required or permitted to be given under this Water Delivery Agreement will be in writing and considered effective when delivered by fax, email, hand delivery, Express Mail, Federal Express, or similar service, or on the third mail-delivery day after being deposited in the United States mail, postage prepaid, addressed to the parties as follows:

If to the CWCB:

Colorado Water Conservation Board
Stream and Lake Protection Section
1313 Sherman Street, Room 721
Denver, CO 80203
dnr_cwcbisf@state.co.us

If to Boulder:

City of Boulder
c/o/ Water Resources Manager
P.O. Box 791
Boulder, CO 80306-0791
taddeucci@bouldercolorado.gov
bloomj@bouldercolorado.gov

18. Nothing contained in this Agreement is intended to or shall create a contractual relationship with, cause of action in favor of, or claim for relief for, any third party. Any third party receiving a benefit from this Agreement is an incidental and unintended beneficiary only.

IN WITNESS WHEREOF, the CWCB and Boulder have executed this Agreement as of the last date of execution.

COLORADO WATER CONSERVATION BOARD

By: _____
Rebecca Mitchell, Director

Date: _____

CITY OF BOULDER

City Manager

ATTEST:

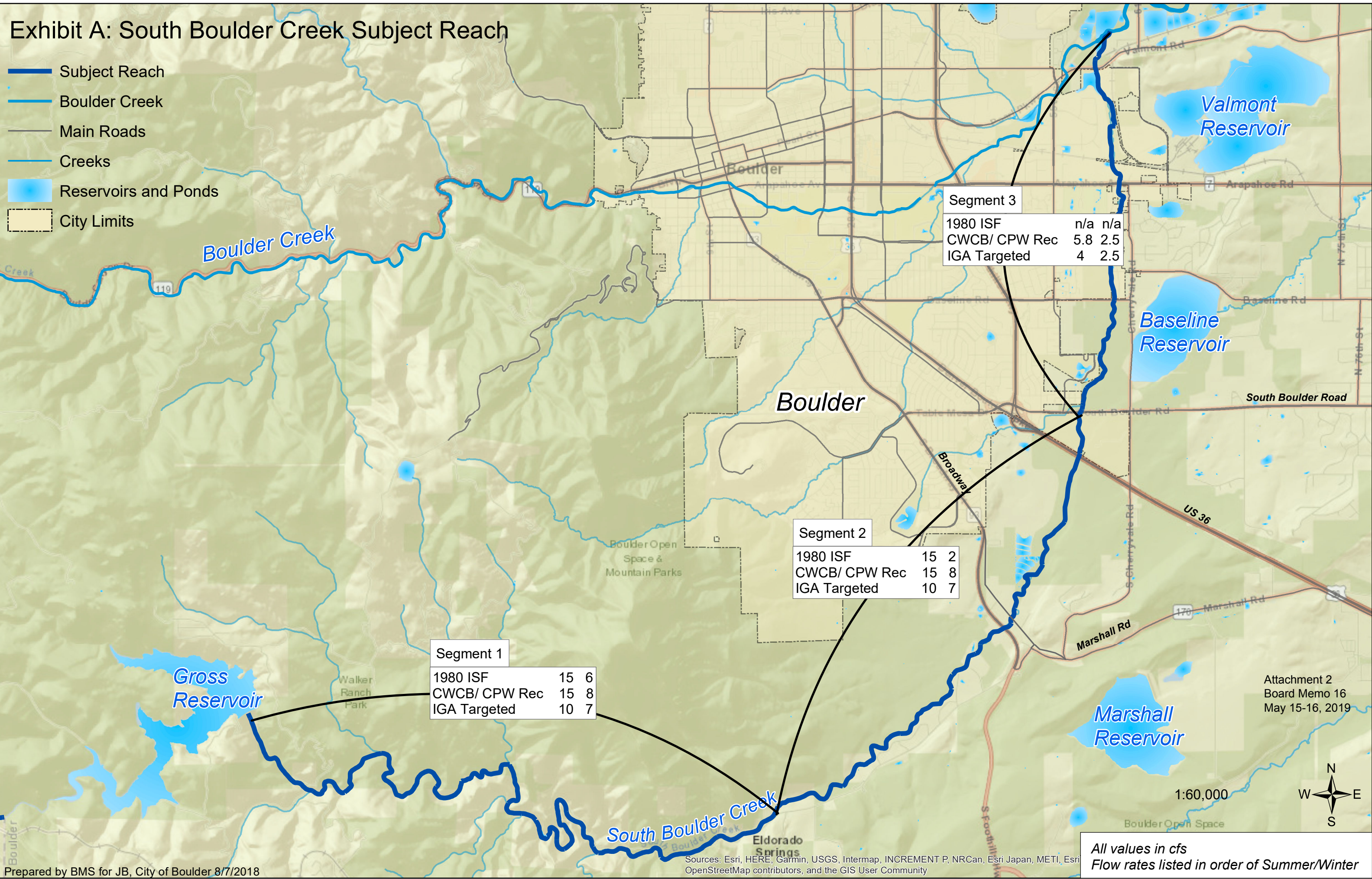
City Clerk

APPROVED AS TO FORM:

City Attorney's Office

Exhibit A: South Boulder Creek Subject Reach

- Subject Reach
- Boulder Creek
- Main Roads
- Creeks
- Reservoirs and Ponds
- City Limits



Attachment 2
Board Memo 16
May 15-16, 2019



1:60,000

All values in cfs
Flow rates listed in order of Summer/Winter

CONTRACT NO. 12899A

CONTRACT DATE _____

To be completed by Contract Control

**INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY AND COUNTY OF
DENVER, THE CITY OF BOULDER, AND THE CITY OF LAFAYETTE FOR AN
ENVIRONMENTAL POOL IN GROSS RESERVOIR**

— This Intergovernmental Agreement ("IGA") is made and entered into this 24th day of February, 2010, between the City and County of Denver, acting by and through its Board of Water Commissioners ("Board"), the City of Boulder, a Colorado home rule municipality ("Boulder"), and the City of Lafayette, a Colorado home rule municipality, acting by and through its Water Fund Enterprise, ("Lafayette") for the purpose of creating storage space in Gross Reservoir for a 5,000 acre-foot permanent, year-round environmental pool ("Environmental Pool"). Each of the above entities may be referred to as a "Party" or collectively as the "Parties."

WHEREAS, the Parties are authorized to enter into this IGA pursuant to C.R.S. Section 29-1-201, *et. seq.*; and

WHEREAS, the Board is currently engaged in the permitting process for its Moffat Collection System Project ("Moffat Project"), which includes an enlargement of Gross Reservoir ("Enlarged Gross Reservoir") and thus presents a unique opportunity to create new storage for the Environmental Pool; and

WHEREAS, the creation of the Environmental Pool in the Enlarged Gross Reservoir will allow for the storage of water that can be released to augment stream flows in South Boulder Creek and thus provide significant ecological and environmental benefits to the creek and to the surrounding habitat; and

WHEREAS, augmented stream flows in South Boulder Creek will benefit 17.3 miles of South Boulder Creek, including Eldorado Canyon State Park and the South Boulder Creek State Natural Area, and will benefit numerous species including the Plains Top Minnow, a species of special concern listed by the State of Colorado; and

WHEREAS, the Parties acknowledge that the low flows in South Boulder Creek below the Board's South Boulder Creek diversion dam are not caused by the Moffat Project, but the Parties intend to utilize the opportunity presented by the Enlarged Gross Reservoir to address low flows below the Board's South Boulder Creek diversion dam; and

WHEREAS, the Board is willing to cooperate with Boulder and Lafayette, to augment stream flows in South Boulder Creek between the Board's South Boulder diversion dam and the

mouth of South Boulder Creek by enlarging Gross Reservoir by an additional 5,000 acre feet (AF) to create a dedicated year-round Environmental Pool in the Enlarged Gross Reservoir; and

WHEREAS, in addition to augmenting stream flows in the critical reach from the Board's South Boulder Creek diversion dam to the mouth of South Boulder Creek, this Agreement will increase stream flows during low flow periods in the stream reach between the Gross Reservoir Dam and the Board's South Boulder diversion dam; and

WHEREAS, certain Lafayette water rights name Gross Reservoir as an alternate point of diversion; and

WHEREAS, the Parties believe that enhancing stream flows in South Boulder Creek is the preferred mitigation concept to address all impacts to aquatic resources in the South Boulder Creek basin from the Moffat Project; and

WHEREAS, the Board and Boulder entered into an Intergovernmental Agreement, dated October 29, 1998, to address low flows in South Boulder Creek; and

WHEREAS, subject to the provisions of this IGA, the Parties to this IGA intend that this IGA shall supersede the October 29, 1998 Intergovernmental Agreement;

NOW THEREFORE, in consideration of the mutual covenants and commitments made herein, the parties agree as follows:

I. ENVIRONMENTAL POOL

A. Size of Environmental Pool

The Environmental Pool shall consist of 5,000 AF of permanent, year-round storage space in the Enlarged Gross Reservoir. At such time as the Board enlarges Gross Reservoir as part of the Moffat Project permitting process, the Board shall construct storage space in the Enlarged Gross Reservoir in the amount of 5,000 acre-feet ("AF") for the Environmental Pool. Boulder and Lafayette shall have the right to store up to 5,000 AF of their decreed water rights in the Environmental Pool. The Environmental Pool shall be dedicated solely and permanently for the purpose of allowing Lafayette and Boulder to store their water for releases made during times when the flow of water in South Boulder Creek would otherwise fall below specified minimum levels, as more particularly described herein. Water stored in but not released from the Environmental Pool shall be carried over from year to year, subject to losses provided in section III(A)(7) of this Agreement, without interruption. However, water stored under Boulder and Lafayette's water rights and any carried over water cannot equal more than 5,000 acre-feet.

The Environmental Pool, as set forth in this IGA, shall be included as the preferred mitigation concept to offset the impacts to aquatic resources in the South Boulder Creek basin from the Moffat Project.

B. Water Sources for Environmental Pool

Boulder and Lafayette will provide water for storage in the Environmental Pool. Subject to the operation of each entity's municipal water system, Boulder and Lafayette will make good faith efforts to store portions of their water supplies in the Environmental Pool to provide a minimum flow of water in South Boulder Creek below Gross Reservoir on a year-round basis.

It is agreed and understood that Lafayette, and Boulder, either alone or in conjunction with each other and/or the Colorado Water Conservation Board ("CWCB"), anticipate seeking decrees from the District Court for Water Division 1 for new exchanges, changes of water rights and/or a new storage right for the purpose of filling the Environmental Pool. The Board will cooperate with Lafayette, Boulder and the CWCB regarding Boulder's and Lafayette's new exchanges, changes of water rights and a new storage right needed to implement this IGA. Nothing in this IGA shall require the Board to run more water through the Moffat Tunnel than the Board requires.

At no time shall the Board be obligated to provide any water for the Environmental Pool. Each entity that stores water in the Environmental Pool will retain full ownership of the water so stored, subject only to the constraints set forth herein.

C. Use of Environmental Pool Water

Water stored in the Environmental Pool will be utilized to provide minimum flows of water in South Boulder Creek as more particularly described below as the instream flow targets "Targeted Flows." Based on Boulder's hydrologic modeling for 1995-2007, the Environmental Pool size of 5,000 AF is sufficient to meet the Targeted Flows in the segments: 1) Gross Reservoir to South Boulder Road ("Upper Segment"); and 2) South Boulder Road to the confluence with Boulder Creek ("Lower Segment"). Any subsequent changes to the Targeted Flows shall not change the size of the Environmental Pool.

Stream Segment	Average Year Flow	Dry Year Flow	Average Year Flow	Dry Year Flow
	May – Sept.	May – Sept.	Oct. - April	Oct – April
Gross Reservoir to South Boulder Road "Upper Segment"	10 c.f.s.	7 c.f.s.	7 c.f.s.	5 c.f.s.
South Boulder Road to Confluence with Boulder Creek "Lower Segment"	4 c.f.s.	2 c.f.s.	2.5 c.f.s.	1.5 c.f.s.

Once water that is released from the Environmental Pool reaches the downstream terminus of either of the two stream segments described above for which the water has been released, the owner of the water shall be free to divert and make full beneficial use of the water. As an example, if Lafayette releases 7 c.f.s. of water from the Environmental Pool, all of which is needed to meet the Targeted Flows target for the Upper Segment, and 2 c.f.s. is needed to meet the Targeted Flows target for the Lower Segment, Lafayette shall be free to divert 5 c.f.s. of the water at South Boulder Road and divert the remaining 2 c.f.s. below the confluence of South Boulder Creek and Boulder Creek, or divert the entire 7 c.f.s. below the confluence, subject to transportation losses assessed by the State water administration officials.

D. Benefit to the Upper and Lower Segments.

It is recognized that hydrologic conditions and water rights operations may, under certain circumstances, limit the ability of Lafayette and Boulder to meet the Targeted Flow in one or both segments of South Boulder Creek. Nonetheless, Lafayette's and Boulder's coordinated management of releases from the Environmental Pool will enhance flows in the Upper and Lower Segments in most years.

To the extent that there are excessive stream losses between the point where water stored in the Environmental Pool is released to South Boulder Creek and the downstream location of the Upper Segment or the Lower Segment, and either Lafayette or Boulder are unable to obtain use of their water supplies, one of the key objectives of the program described herein will not be met. The Parties agree to work together to take all reasonable steps to ensure that water released from the Environmental Pool reaches its downstream delivery point with a loss that never exceeds an average of one-quarter percent per stream mile calculated on a daily basis; provided, however, that the Board shall not be required to contribute water or costs beyond reasonable staff time towards such reasonable steps. To the extent that stream losses exceed that figure, in either the Upper Segment or the Lower Segment of South Boulder Creek, Lafayette and Boulder reserve the right to suspend delivery of water to that stream segment under the program until the reason for the excessive losses is determined, and such excessive losses are eliminated.

In the event that either the Lafayette City Administrator or the Boulder City Manager declare in good faith that an emergency exists regarding the ability of their respective communities to meet the water demands of their customers, Lafayette and/or Boulder shall have the right to release water that Party then has stored in the Environmental Pool to address the emergency regardless of whether the water is then needed to maintain Targeted Flows in South Boulder Creek; provided, however, that the Party seeking to invoke this provision is fully utilizing all of the direct flow water then available to the Party. Examples of such an emergency include, but are not necessarily limited to, an extended drought or an unexpected problem with a Party's water storage, conveyance or treatment infrastructure. The right to remove water from the Environmental Pool in an emergency shall not extend beyond thirty days unless the City Council of the Party declaring the emergency confirms the actions of the staff and implements reasonable restrictions on outdoor watering. To the extent practicable, the other Party participating in the Environmental Pool will attempt to make releases from the Environmental Pool to meet Targeted Flows.

Boulder and Lafayette have entered into a separate Intergovernmental Agreement, dated February 17, 2010 ("Boulder/Lafayette IGA"), for the purpose of clarifying the details associated with the operation of their water rights in the Environmental Pool and the maintenance of Targeted Flows in South Boulder Creek. Pursuant to the terms of the Boulder/Lafayette IGA, releases made from the Environmental Pool may not, at times, reach the Lower Segment under specified conditions. If such a condition occurs, Targeted Flows in the Upper Segment are expected to be met.

In the event there are conflicts, differences, or inconsistencies between the Boulder/Lafayette IGA and this IGA with regard to Lafayette's and Boulder's operation of the Environmental Pool and the delivery of water to the Upper and Lower Segments, the terms and conditions of the Boulder/Lafayette IGA shall control; provided, however, that the Operating Principles under section III (A) of this IGA shall remain in full force and effect.

II. INSTREAM IMPROVEMENTS

A. Modifications to Diversion Structures

Boulder and Lafayette shall be responsible for the costs associated with the construction of stream flow bypass structures or modifications to diversion structures in South Boulder Creek in order to deliver water released from the Environmental Pool into and through the Upper and/or Lower Segments. The diversion structures to be modified include, but are not necessarily limited to: The Community Ditch diversion dam, the New Dry Creek Carrier diversion dam, the Leggett/Valmont Reservoir diversion dam, and the Butte Mill South Boulder Creek diversion dam. Subject to the limitation set forth in subparagraph II(C) below, these modifications shall be completed by the time or within 12 months of the time when space in the Enlarged Gross Reservoir is made available for the Environmental Pool.

The Parties recognize that Boulder and Lafayette may seek contributions from other entities for the costs associated with modifications to the above referenced diversion structures. This section is not intended to diminish Boulder and Lafayette's responsibilities pursuant to paragraph IV (B), but recognizes that there may be individuals or entities that cannot or do not want to contribute to the enlargement of Gross Reservoir.

B. Flow Gages

At their cost, Boulder and Lafayette shall install and maintain new gages as needed to determine whether the Targeted Flows are being met in South Boulder Creek from the gage maintained by the State at Eldorado Springs to the confluence of Boulder Creek.

C. Approvals of Third Party Owners of South Boulder Creek Structures

The Parties acknowledge that the cooperation of entities not parties to this IGA may be necessary for the completion of the stream flow bypass structures and/or modifications to diversion structures needed to allow water released from the Environmental Pool to reach the Upper and Lower Segments. Boulder and Lafayette shall utilize best efforts to secure all

necessary approvals. The Board will assist Boulder and Lafayette in any discussions with the State water administration officials and the Parties will work together in good faith in legal proceedings, if necessary, to obtain the right to construct stream flow bypass structures and to modify existing diversion structures on South Boulder Creek to ensure that water released from the Environmental Pool will reach the Upper and Lower Segments. In the event that such approvals cannot be obtained despite the diligent efforts of the Parties, Boulder and Lafayette shall not be required to complete the flow bypass structures and/or modifications referenced herein.

III. OPERATING PROCEDURES

A. Operating Principles

1. The fundamental basis for the operation of the Environmental Pool shall be that Boulder and Lafayette have complete control of all decisions concerning both storing and releasing water in and from the Environmental Pool at all times so long as decisions are consistent with: (i) administrative requirements of the State Engineers Office; (ii) the Board's ramping obligations under the amended Gross Reservoir Hydropower License (Project No. 2035) issued by the Federal Energy Regulatory Commission ("FERC") and, (iii) the physical limitations of Gross Dam. The Board shall have no rights whatsoever to any use of the water in the Environmental Pool, even in times of drought or in the event of an emergency, except as otherwise provided in paragraph 14 below.
2. Nothing herein shall be deemed or construed as creating any obligation on the Board to operate its facilities in any particular manner, so long as the Board complies with the express terms of this Agreement.
3. The Environmental Pool shall begin operation concurrently with the Board commencing storage of water in the Enlarged Gross Reservoir.
4. Lafayette and Boulder shall be responsible for coordination and communication regarding any water stored in or released from the Environmental Pool.
5. Boulder or Lafayette will notify the District 6 Water Commissioner of the amounts of water to be released from the Environmental Pool and obtain the necessary approval(s) for any releases. The Water Commissioner will notify the Board and the Board shall release the specified amount of water subject to its ramping obligations.
6. Boulder and Lafayette will notify the District 6 Water Commissioner of the amounts of Boulder's and Lafayette's water to be diverted into the Environmental Pool. The Water Commissioner will notify the Board and the Board shall divert and, within 2 business days, account for the specified amounts of water into the Environmental Pool, up to the available capacity in the Environmental Pool.
7. The Environmental Pool will be assessed its pro-rata share on a volumetric basis of the Enlarged Gross Reservoir evaporation losses as charged by the State water

administration officials. As an example, if the Environmental Pool contains 5,000 AF of water stored at a time when the total volume of water stored in the Enlarged Gross Reservoir is 80,000 AF; the Environmental Pool will be assessed 6.25% of the evaporation loss as charged by the State water administration officials.

8. The point of delivery of water from the Environmental Pool is the flume immediately below the Enlarged Gross Reservoir. The Board will not divert water released from the Environmental Pool at its South Boulder diversion dam

9. Boulder and Lafayette shall be responsible for any transit loss assessed by the State water administration officials on water released from the Environmental Pool.

10. The unit of measure for the storage and release of water in the Environmental Pool will be in units of cubic feet per second. It shall be assumed that the delivery of one cubic feet per second over a twenty-four hour period yields 1.9835 AF of water.

11. The minimum release from the Environmental Pool will be 0.5 cubic feet per second. Releases will be made in 0.5 cubic feet per second increments.

12. Storage in the Environmental Pool will be included in the water storage accounting maintained by the Board for the Enlarged Gross Reservoir. The Board will maintain such information in an electronic format, and will make the information available to Boulder and Lafayette electronically on normal business days.

13. If the Board, the State, or the FERC determines that the reservoir needs to be drawn down for dam safety, maintenance, emergency, or any other reason, the capacity of water each Party is able to store in Gross Reservoir shall be reduced pro rata on available capacity. Available capacity in this paragraph shall be the total capacity less the unusable pool. The unusable pool shall be comprised of only the Board's water. Currently, the Board calculates 12,000 acre-feet of water in the Gross Reservoir unusable pool. In the event the Board revises the amount of water in the unusable pool, the pro rata reductions shall be calculated using the new value for the unusable pool.

14. Nothing herein shall be construed as a modification of any existing water right decree or operations under the priority system; provided, however, that in order to eliminate future disputes over the exercise of the Board's water rights decreed in C.A. 12111 and the fill and the use of the Environmental Pool, the Parties have agreed to the following principles.

(a) The Board acknowledges that the Decrees whereby Lafayette changed senior South Boulder Creek direct flow water rights to municipal purposes in Case Nos. W-8346-A-76, W-8346-B(1)-76, W-8347-76, W-8348(1)-76, 80W468, 80CW469, and Consolidated Case Nos. W-8346-B(2)-76 and W-8348(2)-76, allow Lafayette to store those changed senior South Boulder Creek direct flow water rights in Gross Reservoir under the priority dates decreed to each of those rights. The Board acknowledges that the Decrees in Case Nos. 85CW119 and 90CW108 whereby Lafayette changed senior South Boulder Creek direct flow water rights to municipal purposes allow Lafayette to store those changed senior South Boulder Creek direct flow water rights in Gross Reservoir

under the priority dates decreed to each of those rights, except as otherwise provided in Lafayette's stipulations with the Colorado Water Conservation Board in those cases.

(b) The Board shall not generate hydropower at Gross Reservoir to the extent such operations interfere with the ability of Boulder and/or Lafayette to store water in, or release water from, the Environmental Pool. Neither shall the Board seek to recover lost hydropower revenues from Boulder or Lafayette due to the operation of this IGA. Boulder and Lafayette do not object to the Board using water released from the Environmental Pool to generate hydropower and retaining all revenues from such hydropower generation, provided that hydropower generation does not negatively impact the delivery of water from the Environmental Pool to South Boulder Creek. Boulder and Lafayette make no representations regarding the ability of the Board to utilize Environmental Pool water for hydropower purposes.

(c) Storage of water in the Environmental Pool by Boulder or Lafayette shall be limited to the amount of water and times when, but for storage in the Environmental Pool, the water would have been called past the Board's existing South Boulder Creek storage right decreed to Gross Reservoir in C.A. 12111 (i.e. 113,078 acre-feet with an appropriation date of May 10, 1945, of which 41,811 acre-feet have been made absolute), to satisfy downstream water users in the South Platte basin. This limitation shall not apply if the Board elects, for any reason, not to store all of the water in Gross Reservoir that would otherwise be available in priority under the storage right decreed in C.A. 12111.

15. Lafayette and Boulder shall not divert water into the Environmental Pool in such a manner as to reduce flows in South Boulder Creek below the Targeted Flows or the Colorado Water Conservation Board instream flow water rights decreed in Case No. 80CW379, whichever is greater.

B. Annual Meeting

The Board, Lafayette and Boulder water officials will, at the request of any Party, schedule a meeting during the month of March each year to address any issues relevant to this IGA and resolve any conflicts that may exist. Each Party shall designate a person that the other Parties can contact regarding the day-to-day operation of the Environmental Pool.

IV. FINANCIAL RESPONSIBILITY FOR CONSTRUCTION AND OPERATION OF THE ENVIRONMENTAL POOL AND THE ENLARGED GROSS RESERVOIR

A. Construction Costs

1. Boulder and Lafayette

Boulder and Lafayette shall make a one-time combined contribution of Four Million Dollars to the cost of the Enlarged Gross Reservoir, which shall include the Environmental Pool. Boulder shall make a Two Million Dollar payment, plus

accumulated interest as provided below, to the Board when physical construction of the Enlarged Gross Reservoir is ninety percent (90%) complete. Lafayette shall make a One Million Dollar payment, plus accumulated interest as provided below, to the Board when the physical construction of the Enlarged Gross Reservoir is ninety percent (90%) complete. Lafayette shall make a second One Million Dollar payment, plus accumulated interest as provided below, to the Board at the time the initial One Million Dollar payment is made, or February 1, 2025, whichever date is later. At their sole discretion, both entities may make payments prior to the dates referenced in this paragraph. Interest shall accrue on payments made to the Board according to the following schedule:

a) Interest will begin to accrue on the amounts owed at the rate of two percent (2%) per annum beginning on the later of January 1, 2012 or the issuance of the U.S. Corps of Engineers 404 permit ("Permit") needed to proceed with the Moffat Project, but no later than January 1, 2017.

b) When physical construction of the Enlarged Gross Reservoir is ninety percent (90%) complete, interest will begin to accrue on the unpaid balance of amounts owed at a rate of four percent (4%) per annum.

c) With regard to Boulder's appropriation of funds, nothing herein shall constitute a multiple fiscal year obligation pursuant to Colorado Constitution, article X, Section 20. Notwithstanding any other provision of this IGA, Boulder's obligations under this IGA are subject to annual appropriation by the Boulder City Council. Boulder is appropriating funds annually in advance of its obligation to make its Two Million Dollar Payment. Upon a failure of a Boulder City Council to approve such annual appropriation, Boulder shall promptly notify the Board and Lafayette of such failure. Within sixty (60) days after the Board receives the Amended License, Boulder shall confirm, in writing, to the Parties, Boulder's ability to make the payments it is required to make pursuant to this Section. If Boulder fails to make such written confirmation, this IGA may be terminated or amended as set forth in Section VI.

2. Board

Subject to subparagraph IV.B below, the Board shall contribute the remainder of the funds necessary for the construction, maintenance, repair, and/or reconstruction, of the Environmental Pool.

B. Contributions From Other Funding Sources.

Boulder and Lafayette also agree to work in good faith with the Board to encourage other entities to make monetary contributions for the costs of constructing the Environmental Pool. Such entities include without limitation, Colorado Division of Wildlife, Colorado Water Conservation Board, Trout Unlimited, Western Resource Advocates, The Nature Conservancy, Boulder Creek Watershed Initiative, Boulder County and the Great Outdoors Colorado program ("GOCO"). Any such contributions shall be for the benefit of the Board.

V. RESOLUTION OF ENVIRONMENTAL CONCERNS ASSOCIATED WITH THE ENLARGEMENT OF GROSS RESERVOIR

A. South Boulder Creek

Boulder and Lafayette agree that creation and operation of the Environmental Pool in an Enlarged Gross Reservoir, as set forth in this IGA, adequately addresses the impacts to aquatic resources in the South Boulder Creek basin from the Moffat Project and thereby enables the Parties to support those aspects of the permits and approvals for the Moffat Project that are related to the impacts to aquatic resources in the South Boulder Creek basin.

B. 1998 Intergovernmental Agreement

The Board and Boulder entered into an Intergovernmental Agreement dated October 29, 1998 that was associated with the process of FERC Project No. 2035-006, Denver Water Board Gross Reservoir Re-licensing.

At the time that FERC grants the Amended License to the Board, this IGA shall supersede the October 29, 1998 Intergovernmental Agreement. In the event that FERC does not grant the Amended License, or if for any reason the Board does not complete construction of the Enlarged Gross Reservoir, then the October 29, 1998 Intergovernmental Agreement shall remain in effect.

VI. RIGHT TO TERMINATE AND AMEND THE IGA

In the event the Board decides not to enlarge Gross Reservoir, the Board may terminate this IGA by providing written notice to the Parties. If the Board does not obtain the Permit needed to proceed with the Moffat Project by January 1, 2017 or the Amended License by December 31, 2020; or construction of the Enlarged Gross Reservoir does not begin by December 31, 2025, Lafayette and Boulder shall have the option of notifying the other Parties, in writing, that they are withdrawing from participation under this IGA. They may do so individually or together. Upon such notification, the withdrawing Party shall be relieved of all obligations contained in this Agreement, including any obligation for accrued interest.

If Boulder or Lafayette choose to withdraw based on the reasons set forth above, or if Boulder is unable to provide funding under Section IV (A), the rights of the Party withdrawing or failing to provide funding shall terminate under this IGA. If Boulder or Lafayette terminates pursuant to this article, the remaining Party shall have the option to assume the financial responsibility of that Party under this IGA. In the event of such an election, the Party and the Board shall have the right to amend this IGA. Absent an election of the remaining Party to assume the financial obligation of the terminated Party, the Board and the remaining Party may, at their discretion, continue to participate under a mutually acceptable amendment to this IGA or a new agreement.

VII. NO RIGHTS GRANTED TO THIRD PARTIES

Nothing contained in this IGA is intended to or shall create a contractual relationship with, cause of action in favor of, or claim for relief for any third party. Any third party receiving a benefit from this IGA is only an incidental and unintended beneficiary.

VIII. MISCELLANEOUS

A. Governing Law

Colorado law shall govern the administration of this IGA. Venue for purposes of any dispute shall be in the District Court for the City and County of Denver or Boulder County District Court.

B. No Transfer of Property Interests

This IGA does not transfer any property interest in either real property or water.

C. Water Quality

This IGA makes no guarantee as to the quality of water in the Environmental Pool. Releases from the Enlarged Gross Reservoir for purposes of this IGA are not required to meet any particular water quality standard.

D. IGA is Not Assignable

This IGA is not assignable without the express written consent of all Parties.

E. Captions

The captions used in this document are for convenience only and have no other significance. The captions do not modify the substance of the IGA.

F. Notices

Any notice or communication to any Party under this IGA shall be effective only if it is in writing and either delivered personally or mailed or emailed to the following addresses:

If to the Board:

Denver Water Board of Commissioners
Manager of Raw Water Supply
1600 West 12th Ave.
Denver, CO 80204
303.628.6510

If to Boulder:

City Manager, City of Boulder
P.O. Box 791
Boulder, CO 80306
303.441.3020

City Attorney, City of Boulder
P.O. Box 791
Boulder, CO 80306
303.441.3020

City of Boulder
Open Space and Mountain Parks
Attn: Water Resources Administrator
P.O. Box 791
Boulder, CO 80306
303.441.3440

City of Boulder
Director of Public Works/Utilities
Attn: Water Resources Coordinator
Box 791
Boulder, CO 80306
303.441.3200

If to Lafayette:

City of Lafayette
Attn: City Administrator
1290 South Public Road
Lafayette, CO 80026
303.665.5588

APPROVED:

By: _____
Secretary

AGREED AND ACCEPTED:

THE CITY AND COUNTY OF DENVER
acting by and through its
BOARD OF WATER COMMISSIONERS



By: _____
President

Date: February 24, 2010

APPROVED:

D. White
Director of Planning

REGISTERED AND COUNTERSIGNED:
Dennis J. Gallagher, Auditor
CITY AND COUNTY OF DENVER

By: _____

Approved as to form:

Shane E. S. S. S.
Legal Division

CITY OF BOULDER, COLORADO

By: Jane S. Brautigam
Jane Brautigam, City Manager

Attest:

Steven Kohl for
City Clerk on behalf of the
Director of Finance and Record

Approved as to form:

Debra S. Kalish
City Attorney

**CITY OF LAFAYETTE
ACTING BY AND THROUGH ITS
WATER FUND ENTERPRISE**

By: Islamier
Chairperson

Approved as to Form:

David Hill
City Attorney
Water

**INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY OF
LAFAYETTE AND THE CITY OF BOULDER REGARDING THE OPERATION
OF THE ENVIRONMENTAL POOL IN GROSS RESERVOIR**

This Intergovernmental Agreement (IGA) is made and entered into this 17th day of February, 2010, between the City of Lafayette, a Colorado home rule municipality, acting ~~by and~~ through its Water Fund Enterprise ("Lafayette"), and the City of Boulder, a Colorado home rule municipality ("Boulder"). Each entity may be referred to as a "Party" or collectively as the "Parties."

WHEREAS the Parties are authorized to enter into this IGA pursuant to C.R.S. Section 29-1-201, *et. seq.*; and

WHEREAS, on Feb. 24, 2010, the Parties entered into a separate Intergovernmental Agreement with the City and County of Denver, acting by and through its Board of Water Commissioners ("Denver"), regarding the creation and use of an Environmental Pool in Gross Reservoir, ("Gross Reservoir IGA"); and

WHEREAS, the purpose of the Gross Reservoir IGA is to allow the Parties to store portions of their municipal water supplies in Gross Reservoir so that the water can be released to South Boulder Creek to maintain minimum levels of flow in selected stream reaches before the water is diverted for one or more beneficial uses by the Party responsible for the release; and

WHEREAS, the Environmental Pool in Gross Reservoir ("Environmental Pool"), will have a capacity of 5,000 acre-feet ("AF"); and

WHEREAS, the purpose of this IGA is to clarify between Lafayette and Boulder the details associated with the operation of the Environmental Pool and the maintenance of minimum flows in South Boulder Creek;

NOW THEREFORE, in consideration of the mutual covenants and commitments made herein, the Parties agree as follows:

1. **Priority for Storing Water in Environmental Pool and Ownership of Water.** The Parties agree that Lafayette is better able to store water in the Environmental Pool and fulfill the objectives of the Gross Reservoir IGA. Therefore, whenever there is insufficient flow in South Boulder Creek to accommodate the rate at which Lafayette desires to store water in the Environmental Pool and the rate that Boulder desires to store water in the Environmental Pool, Lafayette shall have priority. All water that Lafayette stores in the Environmental Pool shall remain the property of Lafayette and all water that Boulder stores in the Environmental Pool shall remain the property of Boulder. Neither Party shall divert water that has been released by the other Party to meet the instream flow targets provided in Paragraph 4, below ("Targeted Flows"), except as provided in Paragraph 10, below. Neither Party shall divert water into the Environmental Pool in such a manner as to reduce flows in South Boulder Creek below the Targeted Flows or

the Colorado Water Conservation Board instream flow water rights decreed in Case No. 80CW379, whichever is greater.

2. Cooperation on New Exchanges, Changes of Water Rights and Appropriation of a Junior Storage Right. In order to ensure that there will be sufficient water supplies to fill the Environmental Pool to the greatest extent possible, the Parties anticipate seeking decrees from the District Court for Water Division 1 ("Water Court") for new exchanges, changes of water rights and/or a junior storage right. Boulder shall be responsible for processing any application that involves its water rights and Lafayette shall be responsible for processing any application that involves its water rights. The Parties agree to jointly file a new storage right application with the Water Court so that water can be stored in the Environmental Pool for their mutual benefit whenever a junior water right is in priority on South Boulder Creek. The water stored in the Environmental Pool under the new storage right shall be available for municipal and other uses by the Parties subject to the terms of this IGA.

3. South Boulder Creek Measuring Devices. Pursuant to Section II, Paragraph 2 of the Gross Reservoir IGA, the Parties agree to install measuring devices that accurately measure the flow of water ("Measuring Devices") at the locations set forth below ("Measuring Points") in order to determine whether the Targeted Flows are being met in the Upper Segment and the Lower Segment. The Parties agree that the location of the Measuring Points and the timing of their monitoring shall be as follows:

- a. Past the Community Ditch diversion dam during October through April, inclusive ("the Winter Season");
- b. Immediately upstream of South Boulder Road at all times;
- c. Past the Dry Creek Carrier diversion dam at all times;
- d. At the East Boulder Ditch bypass during May through September, inclusive ("the Summer Season"); and
- e. Past the Leggett/Valmont Reservoir diversion dam at all times.

Each Measuring Device shall be equipped with electronics that allow flow readings to be transmitted to the Parties at offsite locations on at least a periodic basis each day the Measuring Device is in use. The Parties agree to work together on the design, installation, rating, maintenance and periodic recalibration of the Measuring Devices and the necessary electronic equipment. The costs to install, rate, maintain and recalibrate the Measuring Devices shall be separately determined from the cost to construct any needed bypass facilities and shall be split equally between the Parties.

4. Responsibility for Meeting South Boulder Creek Targeted Flows and Assignment of Space in the Environmental Pool. The Gross Reservoir IGA sets forth

Targeted Flows for South Boulder Creek between Gross Reservoir and the confluence of South Boulder Creek and Boulder Creek by segment and by season, as follows:

Stream Segment	Average Year Flow May – Sept.	Dry Year Flow May – Sept.	Average Year Flow Oct. - April	Dry Year Flow Oct – April
Gross Reservoir to South Boulder Road "Upper Segment"	10 c.f.s.	7 c.f.s.	7 c.f.s.	5 c.f.s.
South Boulder Road to Confluence with Boulder Creek "Lower Segment"	4 c.f.s.	2 c.f.s.	2.5 c.f.s.	1.5 c.f.s.

The Parties agree that Lafayette will be primarily responsible for measuring the flow of South Boulder Creek using the Measuring Devices and for maintaining the Targeted Flows at the Measuring Points specified in Paragraph 3 during the Winter Season. Lafayette will require 3,000 AF of storage capacity in the Environmental Pool in order to meet the Winter Season Targeted Flows. Therefore, Lafayette shall have the right to store 3,000 AF of water in the Environmental Pool ("Lafayette's Reserved Space"). Two thousand AF of storage capacity in the Environmental Pool ("Boulder's Reserved Space") is needed to meet the Summer Season Targeted Flows. Boulder will be primarily responsible for measuring the flow of South Boulder Creek using the Measuring Devices and for maintaining the Targeted Flows at the Measuring Points specified in Paragraph 3 during the Summer Season, except for those years that Lafayette is able to fill Lafayette's Reserved Space and to store water in Boulder's Reserved Space, as described below.

To the extent consistent with its then-existing water obligations, Lafayette agrees to fill Lafayette's Reserved Space and to store as much water in Boulder's Reserved Space as possible each year. This commitment is intended to reduce the volume of water that Boulder will need to commit under the Gross Reservoir IGA. During those years that Lafayette is able to fill Lafayette's Reserved Space and to store water in Boulder's Reserved Space prior to August 1, the following conditions shall apply:

- (a) The Parties shall jointly determine the volume of water Lafayette has stored in Boulder's Reserved Space ("Lafayette's Excess Water") and the volume of water Boulder has stored in Boulder's Reserved Space ("Boulder's Water").
- (b) During any year that Lafayette has been able to store water in Boulder's Reserved Space, Lafayette shall assume primary responsibility for maintaining the

Targeted Flows during the months of August and September if there is a sufficient volume of Lafayette's Excess Water to meet the Targeted Flows.

(c) To the extent there is an insufficient volume of Boulder's Water in Boulder's Reserved Space to meet the Targeted Flows during May, June and July of the following year, Lafayette's Excess Water from prior years will be used to satisfy the Targeted Flows during those months.

(d) In the event not all of Lafayette's Excess Water is needed to meet Targeted Flows during the Summer Season as described above, the Excess Water shall be available for the same uses in subsequent years until depleted.

(e) The Parties recognize that Lafayette's Excess Water and Boulder's Water will be subject to evaporation losses that will reduce the volume of such water in the Environmental Pool over time.

Boulder shall have the option of releasing up to 200 AF of Boulder's Water from the Environmental Pool during the Winter Season if Boulder determines that such a release of water is needed for its augmentation water obligations; provided, however, that if Boulder exercises this option, Lafayette shall have the option of releasing an equivalent volume of water that Boulder would otherwise release from the Environmental Pool during the immediately following months of August and September.

To the extent that Lafayette is unable to fill Lafayette's Reserved Space, Boulder shall have the option of storing water in Lafayette's Reserved Space; provided, however, that if Lafayette makes a good faith determination that the portion of Lafayette's reserved space occupied by Boulder's Water is needed by Lafayette, Boulder's Water shall be released from the Environmental Pool at the same rate that Lafayette's water is then being stored in the Environmental Pool. Should Boulder be required to release water from the Environmental Pool to accommodate Lafayette pursuant to this Paragraph, the water so released by Boulder shall be available for diversion and use by Boulder at downstream points, subject only to the assessment of transit losses by the State water administration officials.

Any water that is stored in the Environmental Pool under the junior storage right referenced in Paragraph 2, above, shall be split equally between the Parties, unless and until Lafayette has filled Lafayette's Reserved Space or Boulder has filled Boulder's Reserved Space. Thereafter, the Party whose Reserved Space is not filled shall be entitled to any additional amount of junior storage right water available for diversion.

By agreeing to the distribution of responsibility outlined herein, neither Lafayette nor Boulder is guaranteeing that the Targeted Flows will always be met.

5. **Criteria for Making Dry Year Determination.** For the purposes of Paragraph 3, above, "Dry Year" means the 12-month period following the June 1 issuance of the Natural Resources Conservation Service's Colorado Basin Supply

Outlook Report that shows the "most probable" forecast (50% chance of exceedance) for South Boulder Creek near Eldorado Springs is less than 70%. During Dry Years, the Targeted Flows set forth in the Gross Reservoir IGA are reduced. However, during Dry Years, the Parties may, by mutual agreement, elect to meet the average year Targeted Flows if they so choose.

6. Responsibility for Maintaining the Targeted Flows.

a. During each day that Lafayette is responsible for maintaining the Targeted Flows, Lafayette shall determine which Measuring Point in the Lower Segment and which Measuring Point in the Upper Segment has the lowest flow of water ("Critical Low Flow Locations"). Lafayette shall make appropriate adjustments in its release of water from the Environmental Pool with the goal of meeting, but not exceeding, the Targeted Flow at each Critical Low Flow Location. Within reasonable operational limitations, Lafayette's releases shall not result in stream flows in excess of the Targeted Flows at the Critical Low Flow Locations. During each day that Boulder is responsible for maintaining the Targeted Flows, Boulder shall determine the Critical Low Flow Location for the Upper Segment and for the Lower Segment. Boulder shall make appropriate adjustments in its release of water from the Environmental Pool with the goal of meeting, but not exceeding, the Targeted Flow at the Critical Low Flow Locations. Within reasonable operational limitations, Boulder's releases shall not result in stream flows in excess of Targeted Flows at the Critical Low Flow Locations.

b. The Party responsible for maintaining the Targeted Flows on a given day shall also be responsible for maintaining a written record of the flow readings at the specified Measuring Points for that day. Absent extraordinary circumstances, neither Party shall question or object to the actions of the other Party in this regard. It is understood that it will not be possible to maintain the Targeted Flows with precision, and that a diurnal fluctuation in South Boulder Creek flows is likely to occur. The water accounting to be utilized by the Parties is set forth in Exhibit A, attached and incorporated herein by reference.

c. If, during the Winter Season, Lafayette has released all of its water from the Environmental Pool and the Targeted Flows are not being met, Boulder shall take all reasonable steps to meet the Targeted Flows using the water Boulder has stored in the Environmental Pool. If, during the Summer Season, Boulder has released all of its water from the Environmental Pool and the Targeted Flows are not being met and all of Lafayette's Excess Water has been used, Lafayette shall take all reasonable steps to meet the Targeted Flows using water Lafayette then has stored in Lafayette's Reserved Space; provided, however, that Lafayette shall not be obligated to release water from Lafayette's Reserved Space during the months of May, June and July unless the water so released by Lafayette can be diverted and used by Lafayette at downstream points.

7. **Protection against Excessive Stream Losses.** The program outlined in the Gross Reservoir IGA and this IGA has been agreed upon by the Parties with the expectation that each Party's water stored in the Environmental Pool will be available for that Party's beneficial use once the water has passed through the Upper Segment and/or the Lower Segment. To the extent that there are excessive stream losses, a Party will be unable to fully utilize its water supplies and one of the key objectives of the program will not be met. The Parties agree to work together to take all reasonable steps to ensure that water released from the Environmental Pool reaches its downstream delivery point with losses that never exceed an average of one-quarter percent per stream mile. To the extent that stream losses exceed that figure in either the Upper Segment or the Lower Segment, each Party reserves the right to suspend delivery of water to that stream segment until the reason for the excessive losses is determined and such excessive losses are eliminated.

8. **Coordination on Operation of the Environmental Pool.** Each Party shall designate and maintain at all times at least one contact person who is familiar with the water rights of the Party, the Gross Reservoir IGA, this IGA and the specifics of the operation of the Environmental Pool, ("Contact Persons"). The Parties shall schedule a meeting that will take place prior to April 1 of each year ("Spring Meeting") to discuss the anticipated operation of the Environmental Pool for the following twelve months and related issues such as stream losses and accounting. At the Spring Meeting, the Parties shall confirm the volume of water then in the Environmental Pool, discuss releases from the Environmental Pool projected to be needed over the next twelve months to meet the Targeted Flows, discuss the volume of water that each Party proposes to store in the Environmental Pool in each of the next twelve months, as well as the rate at which water is projected to be stored and the sources of water to be stored. The Contact Persons shall be responsible for communicating with each other on a regular basis regarding all aspects of the Environmental Pool. This shall include all changes to the projections made at the Spring Meeting, as well as the actual storage of water in and release of water from the Environmental Pool at the direction of either Party.

9. **Responsibility for Modification to Diversion Structures.** As described in Section II, Paragraph 1 of the Gross Reservoir IGA, the Parties anticipate the need to modify diversion structures on South Boulder Creek to allow water released from the Environmental Pool to reach the confluence of South Boulder Creek and Boulder Creek. The diversion structures to be modified include, but are not necessarily limited to, the Community Ditch diversion dam, the New Dry Creek Carrier diversion dam, the Leggett/Valmont Reservoir diversion dam, and the Butte Mill South Boulder Creek diversion dam. Preliminary cost and scope estimates to modify the subject structures are described in Exhibit B, attached and incorporated herein by reference. Lafayette shall be primarily responsible for obtaining necessary approvals to modify the Community Ditch diversion dam to allow bypass flows. Boulder shall be primarily responsible for obtaining necessary approvals to modify the Leggett/Valmont Reservoir and New Dry Creek Carrier diversion dams to allow bypass flows. The primary responsibility for obtaining approval to modify the other structures shall be resolved on a case-by-case basis after further information is obtained. The Parties agree to share equally the capital construction costs for the Measuring Devices referenced in Paragraph 3 and the

modifications to Diversion Structures, up to a maximum of \$200,000.00 for each Party. The Parties further agree to share equally, any non-capital construction costs that may be incurred in modifying the Community Ditch diversion dam; provided, however, that the Parties are in agreement on the action taken. The Parties shall work together to ensure that the capital construction projects are completed in the most advantageous and cost effective manner for each Party; specifically including, but not limited to the hiring of contractors.

10. **Bypass Requirement Set Forth in 2001 IGA.** On June 19, 2001, the Parties entered into an intergovernmental agreement ("2001 IGA") involving, among other matters, Lafayette's diversion of water from Boulder Creek at a new point of diversion near 75th Street ("75th Street Diversion"). Paragraph 5 of the 2001 IGA contains the following language:

Diversions during the October 1 through April 30 period shall be limited to the extent necessary to allow at least 3.0 cubic feet per second of water to pass Lafayette's new point of diversion, and diversions during the May 1 through September 30 period shall be limited to the extent necessary to allow at least 10 cubic feet per second of water to pass Lafayette's new point of diversion, all measured as the average flow passing Lafayette's new point of diversion each day over the same number of hours Lafayette makes diversions that day; provided, however, that this limitation shall not apply during times of emergency conditions involving loss of water to Lafayette's municipal system as a result of catastrophic events (such as failure of conveyance, storage or treatment facilities), or lack of physical supply, when Lafayette has no other sources of water available to meet, and requires water from Boulder Creek to meet, the in-building requirements of its municipal customers.

The Parties agree it is not the intent of the Gross Reservoir IGA or this IGA that Lafayette lose water it stores in the Environmental Pool because of the above referenced provision. The Parties also agree that it is not the intent of the Gross Reservoir IGA or this IGA to modify the 2001 IGA.

If, during times when Lafayette is releasing water from the Environmental Pool to meet the Targeted Flows for the Lower Segment, the flow of water in Boulder Creek at the current location of the 75th Street gage is less than 15 cfs in the Summer Season or less than 6 cfs in the Winter Season, the Parties agree to the following program of operation:

- a. The Parties shall determine the daily volume of water released from the Environmental Pool that arrives at Lafayette's 75th Street Diversion. The Parties shall also determine the daily volume of Lafayette's water released from the Environmental Pool that Lafayette is precluded from diverting at its 75th Street

Boulder CK.
10/3 plus
streamflow
losses
(coincidentally
15th #15).
on S.B.CK.

Diversion because of the requirements of paragraph 5 of the 2001 IGA (the "Environmental Pool Bypass Water"). Such determinations shall be made as set forth in Exhibit A.

- b. Provided that Boulder has at least 25 AF of water that is legally available for use by Lafayette ("Qualifying Water") stored in the Environmental Pool, Lafayette shall continue to release water from the Environmental Pool to meet Targeted Flows for the Lower Segment and Lafayette shall bypass and not divert the Environmental Pool Bypass Water at the 75th Street Diversion, subject to the limitations set forth in subparagraphs (e) and (g) below. Boulder shall book over the daily amount of the Environmental Pool Bypass Water, using Qualifying Water in Boulder's Environmental Pool account, to Lafayette's Environmental Pool account to compensate for Lafayette's loss of the Environmental Pool Bypass Water. The daily amount of the Environmental Pool Bypass Water shall be considered to have been released from Boulder's Reserved Space and shall be divertible by Boulder downstream of the 75th Street Diversion, subject to any transit losses. Lafayette shall have the option of releasing Qualifying Water transferred to Lafayette's Environmental Pool account from Boulder's Environmental Pool account during any month when Boulder would otherwise be releasing water from the Environmental Pool.
- c. If Boulder has less than 25 AF of Qualifying Water stored in the Environmental Pool, Boulder may choose to compensate Lafayette for the Environmental Pool Bypass Water with Qualifying Water from other sources that are physically deliverable to Lafayette's 75th Street Diversion or Lafayette's diversion at the Dry Creek Carrier near South Boulder Road in an amount up to 50 AF ("Other Compensation Water"). For 72 hours after the day when Qualifying Water stored in the Environmental Pool becomes less than 25 AF, Lafayette shall continue to release water from the Environmental Pool in an amount up to the volume of Qualifying Water remaining in the Environmental Pool to meet Targeted Flows for the Lower Segment and Lafayette shall bypass and not divert the Environmental Pool Bypass Water at the 75th Street Diversion, subject to the limitations set forth in subparagraphs (e) and (g) below. Boulder's shall transfer water from Boulder's Environmental Pool account to Lafayette's Environmental Pool account in an amount equal to the volume of Environmental Pool Bypass Water incurred during the 72-hour notice period. Within 72 hours of the day when Qualifying Water stored in the Environmental Pool becomes less than 25 AF, Boulder shall give notice to Lafayette that Boulder has elected to provide Other Compensation Water, the amount of Other Compensation Water elected by Boulder not to exceed 50 AF and the possible sources. If Boulder has given such notice, Lafayette shall continue to release water from the Environmental Pool to meet Targeted Flows for the Lower Segment and shall bypass and not divert the Environmental Pool Bypass Water at the 75th Street Diversion, up to the volume of Other Compensation Water elected by Boulder, subject to the limitations set forth in subparagraph (e) and (g) below. Boulder shall reflect in its records a credit to

Lafayette for the daily amount of Environmental Pool Bypass Water to be delivered to Lafayette from Other Compensation Water.

- d. The daily amount of Environmental Pool Bypass Water to be delivered to Lafayette from Other Compensation Water shall be delivered to Lafayette at such times as mutually agreed upon between the Parties, subject to the following limitations. Deliveries shall be made as soon as possible after the date on which Boulder incurs the obligation to deliver such Other Compensation Water to Lafayette and at times when Lafayette has a need for water that is not being met by Lafayette's direct flow rights. In scheduling such deliveries, consideration shall be given to accommodating limitations on delivery of Boulder's Other Compensation Water, such as limitations on deliveries through facilities managed by others including the Northern Colorado Water Conservancy District, or limitations on availability of Other Compensation Water. Deliveries to compensate Lafayette for loss of Environmental Pool Bypass Water during the Winter Season or during May through September of the Summer Season (Non-October Losses) shall occur prior to the next October 31st. If the Other Compensation Water for Non-October Losses is made available for Lafayette's use by Boulder but Lafayette does not request that delivery of the water be made on a date prior to the next Oct 31, Boulder's obligation to provide such Other Compensation water for Non-October Losses shall terminate. Deliveries to compensate Lafayette for loss of Environmental Pool Bypass Water during October (October Losses) shall occur prior to April 30 of the following year. If the Other Compensation Water for October Losses is made available for Lafayette's use by Boulder but Lafayette does not request that delivery of the water be made on a date prior to the next April 30, Boulder's obligation to provide Other Compensation Water for October Losses shall terminate.
- e. If the delivery of Environmental Pool water to the Lower Segment by Lafayette has resulted in the volume of the Environmental Pool Bypass Water exceeding 50AF in any twelve month period beginning on October 1 and ending on September 30 of the following year, Lafayette shall have the option of discontinuing the delivery of the water it has stored in the Environmental Pool to the Lower Segment, for the remainder of that October 1 through September 30 period.
- f. If Boulder has 25 AF or less of Qualifying Water stored in the Environmental Pool and chooses not to provide Other Compensation Water, and if Lafayette is precluded from diverting its Environmental Pool released water at its 75th Street Diversion because of the requirements of paragraph 5 of the 2001 IGA, Lafayette may also elect to suspend the delivery of water to the Lower Segment until such time as Boulder chooses to provide Other Compensation Water.
- g. Under either condition set forth in subparagraphs (e) and (f) above, if Lafayette determines there is a need for water it has previously stored in the Environmental Pool, Lafayette shall have the right to release from the Environmental Pool and divert from South Boulder Creek at Lafayette's point of diversion near South Boulder Road, water that Lafayette would otherwise be obligated to deliver to the Lower Segment pursuant to this IGA or the Gross Reservoir IGA. Such releases

will be made in coordination with Boulder in an effort to achieve the maximum environmental benefit for the Upper Segment.

11. **Control over Gross Reservoir IGA.** In the event there are conflicts, differences or inconsistencies between the Gross Reservoir IGA and this IGA, the terms and conditions of this IGA shall control provided, however, that the Operating Principles under section III (A) of the Gross Reservoir IGA shall remain in full force and effect.

12. **Governing Law.** Colorado law shall govern the administration of this IGA. Venue for purposes of any dispute shall be in the Boulder County District Court.

13. **Assignability.** The rights, benefits and obligations set forth herein shall not be assignable by either Party unless the written consent of the other Party is first obtained.

14. **No Rights Granted to Third Parties.** Nothing contained in this IGA is intended to or shall create a contractual relationship with, cause of action in favor of, or claim for relief for, any third party. Any third party receiving a benefit from this IGA is an incidental and unintended beneficiary only.

15. **Captions.** The captions used in this document are for convenience only and have no other significance. The captions do not modify the substance of the IGA.

16. **Notices.** Any notice or communication to either Party under this IGA shall be effective only if it is in writing and either delivered personally or mailed or emailed to the following addresses, or at such other address as has been previously furnished in writing, to the other:

If to Boulder:

City Manager, City of Boulder
P.O. Box 791
Boulder CO 80306

City Attorney, City of Boulder
P.O. Box 791
Boulder CO 80306

City of Boulder
Open Space and Mountain Parks
Attn: Water Resources Administrator
P.O. Box 791
Boulder CO 80306

City of Boulder
Director of Public Works/Utilities
Attn: Water Resources Coordinator
P.O. Box 791,
Boulder CO 80306

If to Lafayette:

City of Lafayette
Attn: City Administrator
1290 South Public Road
Lafayette, CO 80026

17. **Non-severability.** If any provision of this IGA is determined by a court of competent jurisdiction to be unlawful, invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this IGA shall continue in full force and effect. In the event that this IGA is terminated pursuant to this Paragraph, the Parties agree to use their best efforts to immediately modify the IGA or otherwise remedy the problem that led to the court determination.

18. **Entire Agreement.** This IGA and the Gross Reservoir IGA constitute the entire agreement between the Parties concerning the subject matter of those Agreements and supersede any and all prior agreements, understandings and representations, written and oral, between the Parties concerning the subject matter contained therein.

19. **Termination.** If the Gross Reservoir IGA is terminated, or either Party exercises its right to withdraw from participation in the Gross Reservoir IGA, this IGA shall automatically terminate and the Parties shall be relieved of all obligations contained in this IGA.

CITY OF BOULDER, COLORADO

By: Jane S. Brautigam
Jane Brautigam, City Manager

Attest:

Susan Kohl for
City Clerk on behalf of the
Director of Finance and Record

Approved as to form:

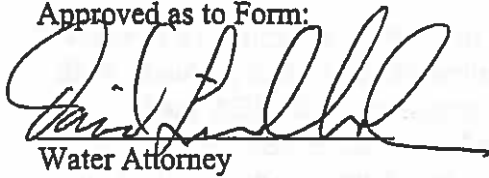
Debra S. Falish
City Attorney

CITY OF LAFAYETTE

ACTING BY AND THROUGH ITS WATER FUND ENTERPRISE

By: Chlammer
Chairperson

Approved as to Form:

A handwritten signature in black ink, appearing to be "J. P. L.", written over a horizontal line.

Water Attorney

Exhibit A

Proposed Delivery Accounting for Environmental Pool Release Water
(Winter Season Example)

(1) Environmental Pool Release	5.00 cfs	based upon order to Denver (must order in 0.5 cfs increments)
(2) Measured flow at Gross Outlet	48.00 cfs	measured flow
(3) EP Release Water at Gross Outlet	5.00 cfs	minimum of (1) and (2)
(4) Transit loss - Gross Outlet to Eldorado gage	0.08 cfs	(3) x loss factor x Gross-to-Eldo stream distance
(5) Flow at Eldorado gage	16.40 cfs	measured flow, includes water diverted by others
(6) EP Release Water at Eldorado Gage	4.92 cfs	(3) minus (4); but not more than (5)
(7) Transit loss - Eldorado gage to Community Ditch	0.01 cfs	(6) x loss factor x Eldo-to-Community stream distance
(8) Flow below Community Ditch	7.00 cfs	measured flow
(9) EP Release Water below Community Ditch	4.91 cfs	(6) minus (7); but not more than (8)
(10) transit loss - Community Ditch to S. Boulder Road	0.07 cfs	(9) x loss factor x Community-SB Road stream distance
(11) Flow above S. Boulder Road	7.40 cfs	measured flow (in this example, reflects an assumed stream gain between Community and SB Road)
(12) EP Release Water at S. Boulder Road	4.83 cfs	(9) minus (10); but not more than (11)
(13) EP Release Water diverted at S. Boulder Road	2.32 cfs	measured and accounted for at Lafayette's Inlet
(14) Flow below Dry Creek Carrier	2.53 cfs	measured flow
(15) EP Release Water below Dry Creek Carrier	2.51 cfs	(12) minus (13); but not more than (14)
(16) transit loss - S. Boulder Road to East Boulder Ditch	0.01 cfs	(15) x loss factor x SB Road - East Boulder stream distance
(17) Flow below East Boulder Ditch	2.60 cfs	measured flow (measurement not normally required during non-irrigation season)
(18) EP Release Water below East Boulder Ditch	2.51 cfs	(15) minus (16); but not more than (17)
(19) transit loss - East Boulder Ditch to Valmont Inlet	0.01 cfs	(18) x loss factor x East Boulder - Valmont Inlet stream distance
(20) Flow below Valmont Inlet	2.80 cfs	measured flow
(21) EP Release Water below Valmont Inlet	2.50 cfs	(18) minus (19); but not more than (20)
(22) Transit loss - Valmont Inlet to 75th Street	0.03 cfs	(21) x loss factor x Valmont Inlet - 75th Street stream distance
(23) Flow at 75th Street gage	7.50 cfs	measured flow
(24) EP Release Water at 75th Street	2.47 cfs	(21) minus (22); but not more than (23)
(25) 75th Street Flow Originating from Boulder Creek	5.03 cfs	(23) minus (24)
(26) Flow Divertible at 75th Street Under 2001 IGA	2.03 cfs	(25) minus 3 cfs
(27) 75th St. water diverted under Lafayette's other rights	0.00 cfs	measured and accounted for at Lafayette's 75th Street Inlet
(28) EP Release Water divertible at 75th Street	2.03 cfs	the minimum of (24) and ((26) minus (27))
(29) EP Release Water diverted at 75th Street	2.03 cfs	limited by (28)
(30) EP Release Water flowing past 75th Street	0.44 cfs	(24) minus (29)
(31) transit loss - 75th Street to Howell Ditch	0.01 cfs	(30) x loss factor x 75th Street-to-Howell Ditch stream distance
(32) EP Release Water at Howell Ditch	0.43 cfs	(30) minus (31)
Percent of Environmental Pool Release Re-diverted	96%	
assumed % per mile transit loss	0.25%	
Stream Distances: (rough estimates for now)	miles	
Gross Reservoir Outlet to Eldorado Springs gage	6.7	
Eldorado Springs gage to Community Ditch	0.9	
Community Ditch to South Boulder Road	6.0	
South Boulder Road to East Boulder Ditch	0.9	
East Boulder Ditch to Valmont Inlet	1.5	
Valmont Inlet to SBC/BC confluence	1.4	
SBC/BC confluence to 75th Street	2.9	
75th Street to Howell Ditch	6.5	

Exhibit B

Modification of Diversion Structures to Accommodate Instream Flow Bypasses Preliminary Construction Cost Estimates April 17, 2009.

Structures on South Boulder Creek Below Denver's South Boulder Diversion Dam	Action Needed Plus Pre-Design Estimated Cost
Louisville Pipeline	None
Lafayette Pipeline	None
Community Ditch	Install bypass capability on diversion dam estimated at \$100,000; or Build new headgate and measuring device in canal wall just downstream of diversion headgate. \$25,000. Cheaper option contingent on FRICO cooperation.
Davidson Ditch	None
Goodhue Ditch	Winter deliveries: no modifications needed. Summer deliveries: probably no, but evaluation needed.
South Boulder Bear Creek	None
Dry Creek No. 2 Ditch	None
Marshallville Ditch	None
Schearer Ditch	None
South Boulder Canon Ditch	Winter deliveries: no modifications needed. Summer deliveries: probably no, but evaluation needed.
McGinn Ditch	None (Fish passage constructed in Fall 2009 will allow bypasses)
New Dry Creek Carrier	\$25,000 to \$50,000 depending on design evaluation and measurement needs.
East Boulder Ditch	If Parshall flume at sand flume can be used, no additional work will be needed. If a bypass is required, \$35,000.
Leggett Inlet/ Jones and Donnelly Diversion	\$35,000 to \$40,000
Butte Mill Ditch	\$0 to \$30,000 pending further investigations
Total Cost Range	\$85,000 to \$255,000

Note: These cost estimates do not reflect any structures needed for fish passage.



COLORADO

Parks and Wildlife

Department of Natural Resources

Water Resources Section - Capital,
Parks, and Trails Branch
6060 Broadway
Denver, CO 80216

Attachment 5
Board Memo 16
May 15-16, 2019

May 2, 2019

Linda Bassi
Kaylea White
Colorado Water Conservation Board
Stream and Lake Protection Section
1313 Sherman Street, 7th Floor
Denver, CO 80203

SUBJECT: Potential Contractual Interest in Water from Gross Reservoir for the Benefit of
Instream Flows on South Boulder Creek

Linda and Kaylea:

The Colorado Water Conservation Board (CWCB) has requested Colorado Parks and Wildlife's (CPW) recommendation on the proposed acquisition of a contractual interest in stored water from the enlarged Gross Reservoir. The City of Boulder (the City) has offered to donate water that will be stored in the newly-created Environmental Pool in Gross Reservoir. Releases will be made to benefit the flow regime in South Boulder Creek. The following is CPW's analysis and recommendations regarding the proposed dedication of stored water to instream flow (ISF) use in South Boulder Creek below Gross Reservoir.

General Information

The reach benefitting from the proposed releases would extend from the outlet of Gross Reservoir approximately 17 miles downstream to South Boulder Creek's confluence with Boulder Creek, shown in Figure 1. Reservoir releases will be primarily used for ISF use by CWCB and protected in the subject reach. Releases are intended to improve connectivity in the subject reach of South Boulder Creek, where there are a number of points prone to dry-up and low flow conditions, particularly during late-summer, fall, and winter periods.

Since the 1970's, the City has been investigating potential ways to address low flow conditions on South Boulder Creek but were lacking sufficient supplies to implement an instream flow program. Their instream flow program on Boulder Creek has been successful in bolstering flows in the creek since 1990. Implementing a similar program designed to restore flows on South Boulder Creek is a top priority for the City.

With Denver Water's proposal to enlarge Gross Reservoir, the City of Boulder and the City of Lafayette (Lafayette) entered into an Intergovernmental Agreement (IGA) with Denver Water in 2010 which created storage space for a 5,000 acre-foot (AF) permanent pool in Gross Reservoir that could be used for environmental purposes. Releases from the Environmental Pool contribute to project mitigation by increasing flows and addressing some of the aquatic impacts



in South Boulder Creek from the reservoir expansion. The IGA grants the City and Lafayette the ability to store up to 5,000 AF of their decreed water rights in the Environmental Pool and make releases to ISF use by means of a Water Delivery Agreement with CWCB. The Water Delivery Agreement outlines that the City will release water stored in the Environmental Pool as necessary to achieve stream flows up to the Target Flow rates, and CWCB will fully protect the delivered water through the stream reach. Water may then be recaptured and diverted to municipal supply for the City or Lafayette. A second IGA between the City and Lafayette guides the operations of the Environmental Pool and outlines the Target Flow rates (shown in Table 1).

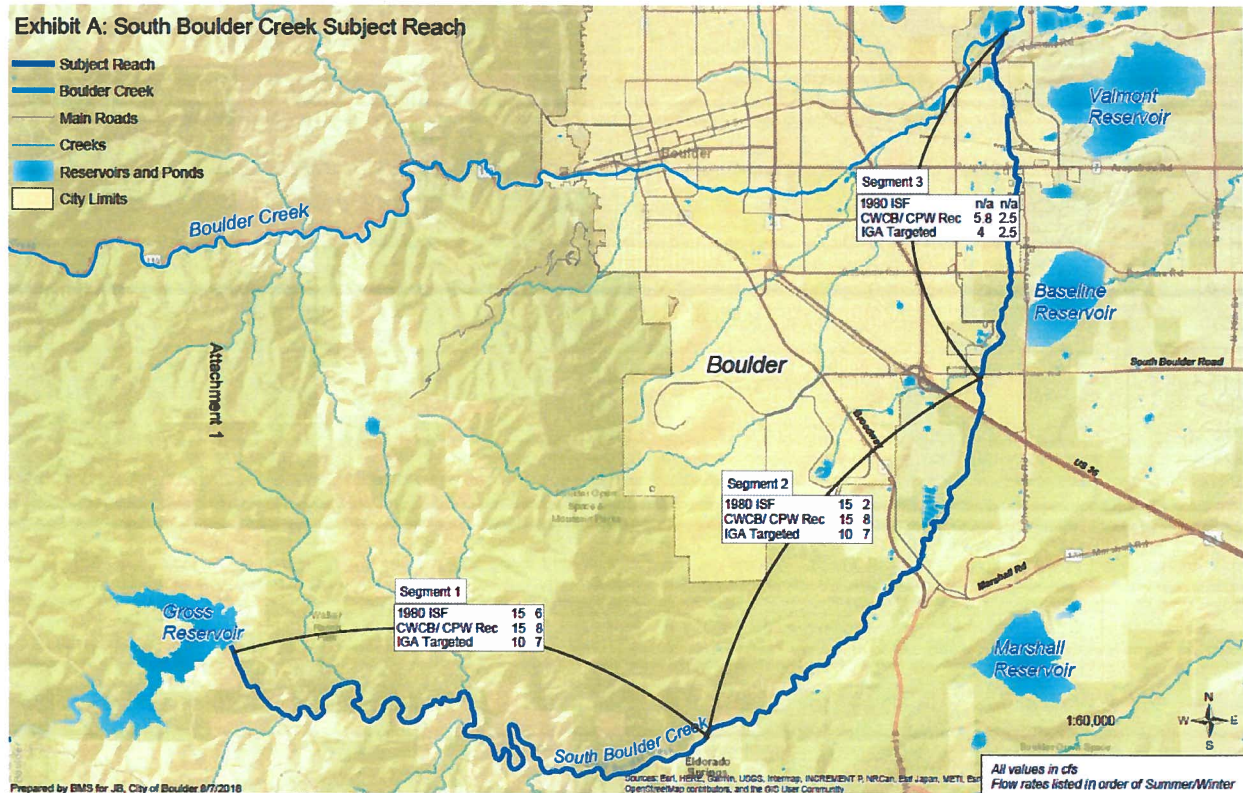


Figure 1. Vicinity Map of subject reach of South Boulder Creek

Table 1. IGA Target Flows				
Stream Segment	Summer (May–Sept.)		Winter (Oct.–April)	
	Average Year	Dry Year	Average Year	Dry Year
Segment 1 Gross Reservoir to USGS gage 06729500	10 cfs	7 cfs	7 cfs	5 cfs
Segment 2 USGS gage 06729500 to South Boulder Road	10 cfs	7 cfs	7 cfs	5 cfs
Segment 3 South Boulder Road bridge to confluence with Boulder Creek	4 cfs	2 cfs	2.5 cfs	1.5 cfs

Field Data Collection

Between 1976 and 1980, Colorado Division of Wildlife (DOW) surveyed a number of cross-sections on South Boulder Creek between the outlet of Gross Reservoir and Baseline Road to perform R2Cross analyses in order to quantify and recommend ISF reaches to the CWCB. Flow rates recommended by DOW to preserve the fishery in South Boulder Creek to a reasonable degree are shown in Table 2.

Table 2. Historic CPW Flow Recommendation Summary		
Reach	Summer (May 1-Sept 30)	Winter (Oct 1-April 30)
Outlet of Gross Reservoir to the gage near Eldorado Springs	15 cfs	8 cfs
USGS gage near Eldorado Springs to South Boulder Road bridge	15 cfs	8 cfs
South Boulder Road bridge to the confluence with Boulder Creek	5.8 cfs	2.5 cfs

Decreed ISF Rights

In 1980, CWCB appropriated two ISF water rights on South Boulder Creek between the outlet of Gross Reservoir and South Boulder Road with support from DOW and the City (shown in Table 3). These ISF water rights were decreed in case 80CW0379.

Table 3. CWCB Decreed ISF Reaches		
Reach	Summer (May 1-Sept 30)	Winter (Oct 1-April 30)
Outlet of Gross Reservoir to USGS gage near Eldorado Springs	15 cfs	6 cfs
USGS gage near Eldorado Springs to South Boulder Road bridge	15 cfs	2 cfs

The biological recommendations initially put forth by DOW were reduced because of water availability driven by agricultural and municipal diversions in the subject reaches. In these cases, the ISF decree recognizes that the decreed ISF rate “is less than required to preserve the natural environment to a reasonable degree, but represents the amount of water available for appropriation.” Specifically, below Gross Reservoir, the winter recommendation was reduced from 8 cfs to 6 cfs, and below the Eldorado Springs gage, the winter recommendation was reduced from 8 cfs to 2 cfs. Additionally, CWCB does not hold an ISF water right below South Boulder Road because so little water was available for appropriation. The donation of the Target Flows outlined in Table 1 will supplement water availability in South Boulder Creek and help to achieve the original DOW biological recommendations shown in Table 2.

Natural Environment Information

Over the past several decades, CPW and others have conducted fish surveys to monitor fishery resources on South Boulder Creek. This data supports the conclusion that a natural environment exists and that this natural environment that can be preserved to a reasonable degree with the water being made available from the acquisition.

The natural environment in South Boulder Creek supports a variety of plant and animal species including a fishery of both cold- and warm-water species. In the subject reach of South Boulder Creek, the creek transitions from a high-gradient, cold-water mountain canyon stream below Gross Reservoir to a cool/warm-water stream as it emerges out of the canyon near Eldorado Springs and flows northeasterly onto the plains valley floor.

A majority of the streamflow in South Boulder Creek is in the form of high-elevation snow accruals, however, operations of Denver Water's Moffat System affect the upper portions of South Boulder Creek as Colorado River water is imported into Gross Reservoir via the Moffat Tunnel. Gross Reservoir is an on-channel reservoir in the upper portions of South Boulder Creek storing water for Denver Water which is then diverted through the South Boulder Creek Diversion Conduit upstream of Eldorado Springs. There are significant modifications due to municipal, industrial, and agricultural diversions impacting flows throughout the transition zone. Flows in South Boulder Creek show a traditional peak due to snowmelt runoff in late-spring to early-summer, however, many segments of the stream experience periods of depleted baseflow and virtually no flow in certain segments, particularly during the winter storage season – late-fall through winter.

The fishery is predominantly made up of brown trout but includes other non-native species – rainbow trout, cutthroat rainbow trout hybrid, golden shiner, and bluegill – and native fish populations. Native fish species are most common between South Boulder Road and just downstream of Arapahoe Road, commonly found in warmer waters, backwater or off-channel habitats, and near complex microhabitat such as submerged vegetation and woody debris. Native fish species include longnose sucker, longnose dace, green sunfish, and plains topminnow. Creek chub, fathead minnow, and white sucker have been observed but are currently not widespread or abundant. A comparative study done by Colorado State University (Haworth & Bestgen 2016) on City of Boulder Open Space and Mountain Parks (OSMP) property found that since the mid 1990's, the fish community in South Boulder Creek has shifted from one dominated by native species to one which is predominantly non-native species. This is largely driven by the increased abundance of brown trout, which adapt to various habitats and outcompete other species.

South Boulder Creek also supports a diverse riparian community with high quality wetlands and cottonwood galleries. The floodplain supports habitat for three species of concern: the federally threatened Ute ladies'-tresses orchid and Preble's meadow jumping mouse, as well as Bobolink ground nesting birds. The riparian habitat along South Boulder Creek supports a host of other wildlife. The creek is also an important resource for the community because of its recreational and aesthetic values. The proposed acquisition will support all of these attributes.

Diversion Infrastructure and Habitat Improvements

In order to deliver the Target Flows through the subject reach of South Boulder Creek, five diversion structures will be retrofit as necessary to bypass flows and incorporate measurement devices. These diversions are the Denver Water Diversion (S Boulder Diversion Conduit), Community Ditch, Dry Creek Carrier, East Boulder Ditch, and Leggett Ditch Inlet. Infrastructure upgrades will be coordinated between the City and structure owners. Upgrades should be done in consultation with CPW to ensure low flow bypass channels are modified to the extent necessary to pass flows and allow fish passage. These improvements may also provide the opportunity to revisit fish passage and species management in this reach of South Boulder Creek. There may be instances when keeping a physical barrier intact may be an important component to managing non-native species.

Additionally, a number of habitat improvements were completed by Boulder OSMP, Boulder Flycasters, and CPW on open space lands above South Boulder Road through a Fishing is Fun grant. This habitat improvement project added natural instream features, confined over winter flows via channel width reduction, and increased low-flow holding habitat in order to increase habitat diversity and improve aquatic conditions for native and sport fish. Streamflow enhancements in South Boulder Creek from the proposed acquisition will complement this project.

CPW Recommendations

CPW is supportive of the proposed acquisition of a contractual interest in stored water from the enlarged Gross Reservoir to be donated by the City to CWCB for ISF use on South Boulder Creek. The addition of the Target Flows provides a unique opportunity to supplement the flow regime in South Boulder Creek – restoring habitat connectivity, increasing water availability, and making necessary increases towards preservation of the natural environment. CPW looks forward to working with the Board's staff and the City to implement logistical components of this project, including the necessary headgate modifications to deliver Target Flows through the subject reach.

As always, CPW staff will be in attendance at the May 2019 CWCB meeting in Gunnison to provide testimony or to answer any questions that the Board might have relating to this agenda item. Thank you for the opportunity to assist in this matter.

Sincerely,



Katie Birch,
CPW Instream Flow Program Coordinator

CC: Conovitz, Spohn, Swigle, Wright, Nicholl, Corday, Armstrong, Cannon