



Notice of Regular Meeting
Cherry Creek Basin Water Quality Authority
Board of Directors Meeting
Thursday, January 19, 2023 at 9:00 a.m.

The meeting will be conducted in-person and virtually as set forth below.

In-Person: SEMSWA
7437 S. Fairplay St.
Centennial, CO 80112

Virtual: Zoom
<https://zoom.us/j/3039689098> Passcode: CCBWQA
Phone (669)900-6833 Mtg ID 3039689098# Passcode: #542117

CCBWQA Board of Directors Meeting Documents can be found online at the link below.
<https://drive.google.com/drive/folders/1ctix7RwAcABNmt1PKGS8FHTs5G0g-6s?usp=sharing>

1. Call to Order and Pledge of Allegiance
2. Oaths of Office and Introductions (5 minutes)
 - a. Cathie Frazzini - City of Lone Tree, Alternate
 - b. Jessica La Pierre - City of Aurora, Alternate
 - c. Max Brooks - Castle Rock
 - d. Rebecca Tejada - Special Districts, Alternate
3. Consent Agenda (5 minutes)

(Items on the consent agenda can be approved with a single motion or, items can be requested to be moved from the consent agenda and moved to the "discussion or direction and/or action" section.)

 - a. Approval of the December 15, 2022 Minutes (enclosed)
 - b. Acceptance of the Schedule of Cash Position dated January, 2023 (enclosed)
 - c. Approval of the Unpaid Claims as of January, 2023 (enclosed)
 - d. Adoption of Resolution 2023-1-1, Open Meetings Law Notices Postings for 2023 (enclosed)
 - e. Approval of CLRMA/NALMS Membership (enclosed)
 - f. Approval of 2023 Agreements (enclosed)
 - i. Collins Cole Flynn Winn & Ulmer
 - ii. Pinpoint Systems
 - iii. Hydros Site Specific
 - iv. Hydros As Needed
4. Direction and/or Action (40 minutes)
 - a. Recognition of Caryn Johnson, Board Service (January 2019-December 2022) (Rivero, enclosed)
 - b. Recognition of Nancy Sharpe, Board Service (2010-2022) (Rivero, enclosed)
 - c. Acceptance of the 2022 RDS Operations Report (Borchardt, enclosed)
 - d. Approval of Dove Creek Stream Reclamation IGA (Borchardt, enclosed)
 - e. Approval of Lake Nutrients RMH Rebuttal Statement (DiToro/Clary, enclosed)*
 - f. Approval of the CR72 Informational Hearing Letter (DiToro, enclosed)
5. Discussion (5 minutes)
 - a. Land Use Referral Contacts and Process Update (Clary, enclosed)
6. Presentations (45 minutes)
 - a. WY 2022 Annual Water Quality Monitoring Report Presentation (Stewart)
7. Board Member Items
8. Updates (5 minutes)
 - a. Technical Manager (Clary)
 - i. 2023 TAC Members Update (enclosed)
 - ii. Board Binder Update

- iii. Board Orientation
 - b. Cherry Creek Stewardship Partners Update and [Events](#) (Davenhill)
 - c. TAC (Erickson)
 - d. Contract Staff (see enclosed memos)
 - i. PAPM
 - a. CIP Status Report (Borchardt)
 - b. Maintenance and Operations Status Report (Goncalves)
 - ii. [Water Quality](#) (Stewart)
 - iii. Regulatory (DiToro)
 - iv. LUR Summary
 - a. December LUR Update (Borchardt)
 - b. 2023 LUR Tracking [Link](#) (Endyk)
 - e. Legal
 - f. Other: Reminder of 2023 Workshops
 - i. Cherry Creek in CCSP Muller Report and BMP Effectiveness Workshop - March 16, 2023
8:30-11:30 am
 - ii. Watershed Plan Process - September 21, 2023
8:30-11:30 am
9. Executive Session pursuant to Section 24-6-402(4) C.R.S., if necessary.
10. Adjournment

IN RE THE MATTER OF THE CHERRY CREEK BASIN WATER
QUALITY AUTHORITY

ARAPAHOE AND DOUGLAS COUNTIES, COLORADO

Attorney: Timothy J. Flynn, Esq.
Collins Cole Flynn Winn & Ulmer
A Professional Limited Liability
Company
165 South Union Blvd, Suite 785
Lakewood, Colorado 80228

Phone Number: (720) 617-0080
E-mail: tflynn@cogovlaw.com

▲ FOR CLERK AND RECORDER'S ▲
USE ONLY

OATH OF OFFICE

I, Jessica La Pierre, do affirm that I will support the Constitution of the United States, the Constitution of the State of Colorado, and the laws of the State of Colorado, and will faithfully perform the duties of the office of Director of the Cherry Creek Basin Water Quality Authority, on behalf of the City of Aurora, upon which I am about to enter to the best of my ability.

Jessica La Pierre

STATE OF COLORADO)
) ss.
COUNTY OF ARAPAHOE)

Sworn to before me this ____ day of _____, 20__ by Jessica La Pierre.

Witness my hand and official seal.

Joshua R. Rivero

Title: Chair

IN RE THE MATTER OF THE CHERRY CREEK BASIN WATER
QUALITY AUTHORITY

ARAPAHOE AND DOUGLAS COUNTIES, COLORADO

Attorney: Timothy J. Flynn, Esq.
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Phone Number: (720) 617-0080
E-mail: tflynn@cogovlaw.com

▲ FOR CLERK AND RECORDER'S ▲
USE ONLY

OATH OF OFFICE

I, Max Brooks, do affirm that I will support the Constitution of the United States, the Constitution of the State of Colorado, and the laws of the State of Colorado, and will faithfully perform the duties of the office of Director of the Cherry Creek Basin Water Quality Authority, on behalf of the Town of Castle Rock, upon which I am about to enter to the best of my ability.

Max Brooks

STATE OF COLORADO)
) ss.
COUNTY OF ARAPAHOE)

Sworn to before me this ____ day of _____, 20__ by Max Brooks.

Witness my hand and official seal.

Joshua R. Rivero

Title: Chair



**Cherry Creek Basin Water Quality Authority
Minutes of the Board of Directors
Thursday, December 15, 2022 at 9:00 a.m.**

Board Members Present

Abe Laydon, Douglas County (zoom)
Bahman Hatami, Governor's Appointee (zoom)
Bill Ruzzo, Governor's Appointee
Christopher Lewis, Vice Chairman, Governor's Appointee
Joshua Rivero, Chairman, Town of Parker
Luis Tovar, Special District Representative (zoom)
Mike Anderson, City of Lone Tree
Mike Sutherland, City of Centennial - Alternate
Nancy Sharpe, Arapahoe County
Stephanie Piko, City of Centennial
Tom Downing, Governor's Appointee (zoom)
Tom Stahl, City of Greenwood Village

TAC Members Present

Alex Mestdagh, Town of Parker (zoom)
Casey Davenhill, Board Appointee, Cherry Creek Stewardship Partners (zoom)
David Van Dellen, Town of Castle Rock (zoom)
Jacob James, TAC Chairman, City of Lone Tree
Jason Trujillo, Board Appointee, Cherry Creek State Park (zoom)
Jeremiah Unger, CDOT (zoom)
Jim Watt, Board Appointee, Mile High Flood District
Joe Marencik, City of Castle Pines (zoom)
Jon Erickson, TAC Vice Chairman, Board Appointee, Colorado Parks and Wildlife
Lisa Knerr, Arapahoe County
Rick Goncalves, Board Appointee
Ryan Adrian, Douglas County (zoom)
Sherry Scaggiari, City of Aurora (zoom)
Wanda DeVargas, Board Appointee, E-470 (zoom)

Others Present

Alan Leak, RESPEC
Erin Stewart, LRE Water (zoom)
James Linden, SEMSWA (zoom)
Jane Clary, Wright Water Engineers, CCBWQA Technical Manager
Jessica DiToro, LRE Water
Larry Butterfield, CPW (zoom)
Richard Borchardt, R2R Engineers
Tim Flynn, Collins Cole Flynn Winn & Ulmer, PLLC
Val Endyk, CCBWQA

1. Call to Order and Pledge of Allegiance

Director Rivero called the meeting to order at 9:00 am and led the pledge of allegiance.

2. Board Member Transitions

a. Nancy Sharpe - Arapahoe County

b. Caryn Johnson - Castle Rock

Director Rivero informed the Board that Director Sharpe is term limited as an Arapahoe County Commissioner after 12 years of service. Director Sharpe thanked the Board for the collaboration and shared knowledge.

Jessica Campbell-Swanson will replace Director Sharpe on the CCBWQA Board in 2023.

Castle Rock will also have a new Board representative in 2023 to replace Director Johnson.

3. Oaths of Office

a. Cathie Frazzini - City of Lone Tree, Alternate

b. Mike Sutherland - City of Centennial, Alternate

c. Rebecca Tejada - Special Districts, Alternate

d. Stephanie Piko - City of Centennial

Cathie Frazzini and Rebecca Tejada were not in attendance. Their oaths will be administered at a future meeting.

Director Rivero administered the oaths of office for Mike Sutherland, and Stephanie Piko.

4. Consent Agenda

a. Approval of the November 17, 2022 Minutes (enclosed)

b. Acceptance of the Schedule of Cash Position dated December, 2022 (enclosed)

c. Approval of the Unpaid Claims as of December, 2022 (enclosed)

d. Approval of 2023 Agreements (enclosed)

i. CLA - Accounting

ii. Val Endyk - CCBWQA Administrative Assistant

iii. Pinpoint Systems*

iv. Davis Graham and Stubbs

The Pinpoint Systems Agreement was moved to the January Board agenda.

Director Piko moved to approve the consent agenda with the exception of the Pinpoint Systems Agreement.

Seconded by Director Ruzzo. The motion carried.

5. Direction and/or Action

a. Resolution Ratifying All Actions Taken at the November 17, 2022 Board Meeting

Legal counsel stated that full notice of the Authority's November meeting may not have occurred, so the Board was asked to ratify the actions taken at that meeting.

Director Lewis moved to adopt Resolution 2022-12-01 ratifying, approving and confirming all actions taken by the Board at its November 17, 2022 meeting. Seconded by Director Piko. The motion carried.

b. Board Appointees to the TAC

Director Rivero reviewed the [memo](#) enclosed in the Board Packet with the list of current TAC members including a list of Board-appointed TAC members and entities for Board consideration. The Board discussed the addition of the US Army Corps of Engineers, Arapahoe County Health, and Douglas County Health to the TAC.

Joe Maxwell is the Authority's current contact for USACE. Per Jason Trujillo, the Corps of Engineers has just hired Bobbi Jo's replacement, Gene Seagle. Bobbi Jo represented USACE in the past on our TAC. USACE will need to designate a representative.

Discussion identified the need to engage with Arapahoe and Douglas County Health Departments to identify TAC members for these two groups.

Director Piko moved to approve Board appointees to the 2023 TAC as presented in the memo. Seconded by Director Lewis. The motion carried.

c. Land Use Referral Process

Jane Clary provided background information on the proposed approach to changing the land development review referral process, following previous discussions with the Board and the TAC. The proposed changes will begin being implemented in January 2023 as described in the attached [memo](#). For most referral requests, CCBWQA will provide an acknowledgement of the referral request that defers to the local government's review for compliance with Regulation 72.7 requirements; however, an option to request a more detailed review will be maintained. Changes to the process will be communicated to the referring agencies with that attached [letter](#), which explains the changes to the process and also requests confirmation of receipt from the referring agency. This change to Land Use Reviews is expected to reduce the Authority's budget by over \$30,000 per year without diminishing water quality protection.

Director Piko moved that the CCBWQA Board update the Authority's land use referral process as described in this TAC Action Memo dated December 15, 2022, with minor edits from Ashley Byerley incorporated. Seconded by Director Anderson. The motion carried.

d. Lakes Nutrient Criteria

i. Update

Jessica DiToro explained that as directed by the Board and TAC, Jane Clary reached out to Blake Beyea (Water Quality Control Division [WQCD] Standards Unit Manager) to share CCBWQA's draft Responsive Prehearing Statement (RPHS) to obtain informal feedback from the WQCD on CCBWQA's request for a delayed effective date to allow time to develop site-specific standards for the reservoir. Based on this correspondence, it does not appear that the WQCD will be supportive of the CCBWQA's delayed effective date request at this time; however, the WQCD does not oppose site-specific standards for Cherry Creek Reservoir. WQCD staff provided a few suggestions on potential ways to strengthen the RPHS such as increased specificity regarding the CCBWQA's proposed approach for site-specific standards and additional information on why CCBWQA and Cherry Creek Reservoir are unique.

Based on additional discussion among the TAC at its December 1st TAC meeting, the TAC made the decision to "stay the course" with the following recommendation: *"the TAC recommends that the CCBWQA Board continue with the delayed effective date request for the Lake Nutrients Criteria RMH."*

The next deadline for the Rulemaking Hearing (RMH) is the RPHS on December 21st. Today's Board meeting will be the last regularly scheduled CCBWQA meeting before the RPHS deadline. If additional feedback from WQCD and related discussions identify minor changes that could result in WQCD supporting the CCBWQA's position, Staff would like the ability to make such changes. Staff requests that the Board create a subcommittee with the delegated authority to make decisions during time-constrained hearing deadlines and/or make minor edits to hearing documents for the Lake Nutrients Criteria RMH that are substantively consistent with prior direction provided by the Board and TAC. See agenda item 4.d.ii, below, for this discussion and motion.

Board agreed to "stay the course" with the RMH at this time. No further action was taken beyond that described in 5.d.ii. below.

ii. Resolution Delegating Authority to Board Subcommittee - Regulatory Issues

Jane Clary and Bill Ruzzo suggested that the Board form a subcommittee with the delegated authority to make time-sensitive decisions related to minor (non-substantive) changes to the CCBWQA's written testimony in submittals for the Lake Nutrient Criteria RMH. Legal included a [Resolution](#) in the packet which would give the CCBWQA authorization to create this committee.

Director Piko moved to adopt Resolution 2022-12-02 establishing a Regulation 38 2023 Rulemaking Hearing

Subcommittee and delegating authority to the subcommittee to make non-substantive changes to the Authority's written statements and other submittals filed with the Water Quality Control Commission in connection with the hearing thereon and adding Director Tovar to said committee. Seconded by Director Ruzzo. The motion carried.

e. Lone Tree, Windmill and Cottonwood Creeks Master Plan Scope

Jane Clary explained that WWE is currently performing drainage master plan work for the Mile High Flood District and SEMSWA for the Southwest Tributaries of Cherry Creek, which include the Cottonwood, Lone Tree, Windmill, and Dove Creek watersheds, but the analysis ends at the Park Boundary. See <https://www.cherrycreekswttribs.com/> for project information. CCBWQA has a current opportunity to extend this project from the Park Boundary to the Reservoir as a companion project to the work being completed by WWE for SEMSWA/MHFD. The [scope of work](#) included in the Board packet provides more information about the project approach and its relation to the upstream master planning effort for these tributaries. WWE's proposed budget is \$40,000 and has been included in the 2023 CCBWQA budget. The optional task for additional meetings of \$4,000 is available in contingency funds in the 2023 budget, if needed.

Director Sharpe moved to authorize legal counsel to prepare an agreement to engage Wright Water Engineers (WWE) to extend an on-going master drainage plan effort for Lone Tree Creek, Windmill Creek and Cottonwood Creek from the Cherry Creek State Park Boundary to the Reservoir in accordance with WWE's proposed scope of work dated November 28, 2022. Seconded by Director Stahl. The motion carried.

f. Acceptance of Muller Reports - Cherry Creek from Reservoir to Park Boundary

Rich Borchardt provided the Board with background information explaining that CCBWQA sole-sourced the [Stream and Water Quality Assessment](#) and [Baseline Channel Monitoring Reports](#) to Muller Engineering in 2020 and 2021, respectively. Muller presented their initial findings to CCBWQA at the July 15, 2021 Board Meeting, which was followed by a field trip that included a stop on Cherry Creek near the Aurora water lines to observe existing conditions. Muller has now completed the two reports (linked above). Muller's scope of work includes two workshops (up to 4 hours each) to help CCBWQA digest the information in the reports, get input and direction from the TAC and Board and help CCBWQA determine its next steps. The workshop is expected to inform some upcoming projects (Alternatives Analysis on Cherry Creek from Reservoir to Lake View Drive and Piney Creek Reaches 1 and 2) in CCBWQA's Capital Improvement Project.

Rich provided further explanation in a [summary report](#) and noted several pictures, maps, and tables including a note on future budget implications.

Rich recommends accepting the reports and organizing a workshop to give direction to next steps.

Director Anderson moved to accept the Stream and Water Quality Assessment and Baseline Channel Monitoring Reports and authorized that a workshop be scheduled to seek input and direction from the TAC and Board to determine CCBWQA's next steps on Cherry and Piney Creeks within CCSP. Seconded by Director Sharpe. The motion carried.

g. Keep Colorado Wild Pass

Jason Trujillo and Bill Ruzzo provided an [update](#) on the Keep Colorado Wild (KCW) state parks pass. Prior to the KCW park pass, CPW collected a \$1 daily fee or \$3 annual CCBWQA fee that were provided to CCBWQA for water quality projects in the state park. As a result of the KCW program and associated change to how park passes will be issued with car registrations, there will be an impact on fees that CCBWQA will receive. Historically, the portion of the park entry fee collected for CCBWQA has resulted in \$5-6 million since CPW started collecting a fee for CCBWQA. CCBWQA has funded projects twice that amount in the park.

To address the projected loss in funds, Jason Trujillo explained that the park operations will revert back to the old method of issuing a sticker for the CCBWQA fee. For vehicles registered with the KCW program, users will need to purchase a \$3 sticker for each vehicle. For vehicles opting out of the KCW program, the regular CCBWQA fee applies, which is the \$1 (daily) or the \$3 (annual) fee as currently established to support CCBWQA projects.

CPW's specific request was for approval from the CCBWQA on the new sticker process in order to move forward with purchase of stickers to support the program. CPW intends to use \$450 from the fund to purchase color-coded annual stickers for the next few years.

Director Ruzzo moved to approve CPW to work with its chosen third party vendor to purchase and print stickers that show that an individual has purchased a daily or annual pass for CCSP water quality purposes and for CCBWQA to reimburse CPW for the associated costs. Seconded by Director Sharpe. The motion carried.

6. Discussion (15 minutes)

a. Workshops for 2023

i. Cherry Creek in CCSP Muller Report and BMP Effectiveness Workshop

a. March 16, 2023 8:30-11:30 am at SEMSWA (with lunch provided after)

Regular Board meeting and then workshop

Calendar invitation to follow.

ii. Watershed Plan

a. September 21, 8:30-11:30 am at SEMSWA (with lunch provided after)

Feedback on requests for inclusions, progress, and outline for update to Watershed Plan.

Calendar invitation to follow.

7. Presentations

None

8. Board Member Items

Director Rivero - There is a private property owner in southern Douglas County (Cherry Creek Headwaters) that is experiencing significant erosion in Cherry Creek which includes sediment building up under a bridge. Director Rivero was contacted by the property owner and is looking for guidance on how to move forward on this.

Discussion included that Douglas County is the best place to start and it is unlikely that this falls within CCBWQA's purview. To better understand the issue, it was recommended that Director Rivero identify the location on a map (drop a pin) and take pictures of the issue/site to bring back to CCBWQA in 2023.

9. Updates

a. Technical Manager

CCBWQA staff recommends renewing our membership to NALMS and CLRMA as a routine administrative cost. Director Lewis requested that this be brought to the Board for approval in January.

b. Cherry Creek Stewardship Partners Update and [Events](#)

- i. Winter Solstice Tour - December 17th from 9:30 am-11:00 am. See [website](#) for details.
- ii. Audubon Christmas Bird Count - January 1st at 8:30 am. Details can be found [here](#).
- iii. Hawk Walk - January 28th from 9:00 am-12:00 pm. See [website](#) for details.
- iv. Annual Cherry Creek Watershed Conference - Considering August 23rd or 24th, 2023.

c. TAC

No other updates other than the 2023 incoming chair is John Erickson and vice chair is Lisa Knerr.

d. Contract Staff (see enclosed memos)

i. PAPM (Borchardt)

a. LUR Monthly Summary

b. CIP, Maintenance, and Operations Status Report

ii. [Water Quality](#) (Stewart)

Erin is actively working on the annual monitoring report and will have a presentation with the details from the report at the January board meeting.

iii. Regulatory (DiToro)

No update

e. Legal

No update

f. Other

No other updates

10. Executive Session pursuant to Section 24-6-402(4) C.R.S., if necessary.

No executive session was held.

11. Adjournment

There being no further business to come before the Board, Director Lewis moved to adjourn the meeting at 11:20 am.

Cherry Creek Basin Water Quality Authority
Schedule of Cash Position
December 31, 2022
as of January 13, 2023

	General Fund	Pollution Abatement Fund	Enterprise Fund	Total
<u>1st Bank - Checking Account</u>				
Balance as of 12/31/22	\$ 31,345.65	\$ 22,582.47	\$ 6,235.63	\$ 60,163.75
Subsequent activities:				
01/03/23 VISA - Adobe	(248.88)	-	-	(248.88)
01/04/23 VISA - GetStreamline Web	(200.00)	-	-	(200.00)
<i>Anticipated Activities</i>				
<i>Monthly Transfer for AP</i>	108,000.00	207,000.00	10,000.00	325,000.00
<i>Bill.com Open Invoices</i>	(113,714.25)	(199,254.87)	(5,289.13)	(318,258.25)
<i>Anticipated balance</i>	<u>\$ 25,182.52</u>	<u>\$ 30,327.60</u>	<u>\$ 10,946.50</u>	<u>\$ 66,456.62</u>
<u>ColoTrust General - (8001)</u>				
Balance as of 12/31/22	\$ 858,140.06	\$ 2,308,216.64	\$ 1,536,061.08	\$ 4,702,417.77
Subsequent activities:				
01/13/23 Ptax Arapahoe (Dec)	5,493.46	-	-	5,493.46
01/13/23 Ptax Douglas (Dec)	9,631.95	-	-	9,631.95
Dev Checks to date (2022 Rev-in AR)	-	-	11,763.68	11,763.68
<i>Anticipated Activities</i>				
<i>Monthly Transfer for AP</i>	(108,000.00)	(207,000.00)	(10,000.00)	(325,000.00)
<i>Anticipated balance</i>	<u>\$ 765,265.47</u>	<u>\$ 2,101,216.64</u>	<u>\$ 1,537,824.76</u>	<u>\$ 4,404,306.86</u>
<u>ColoTrust Pollution Abatement - (8002)</u>				
Balance as of 12/31/22	\$ -	\$ 54,399.83	\$ -	\$ 54,399.83
<i>Anticipated balance</i>	<u>\$ -</u>	<u>\$ 54,399.83</u>	<u>\$ -</u>	<u>\$ 54,399.83</u>
<u>CSAFE - Savings Account</u>				
Balance as of 12/31/22	\$ 859,161.30	\$ 42,246.04	\$ 355,976.40	\$ 1,257,383.74
<i>Anticipated balance</i>	<u>\$ 859,161.30</u>	<u>\$ 42,246.04</u>	<u>\$ 355,976.40</u>	<u>\$ 1,257,383.74</u>
<i>Total funds available as of date above</i>	<u>\$ 1,649,609.29</u>	<u>\$ 2,228,190.11</u>	<u>\$ 1,904,747.66</u>	<u>\$ 5,782,547.05</u>

Effective monthly yield (as of 12/31/2022)

1st Bank - 0.2%* if Balance >\$20,000
ColoTrust Plus - 4.2999%
CSAFE - 4.15%

**Cherry Creek Basin Water Quality Authority
Unpaid Claims as of 01/13/2023**

Date	Vendor	Invoice #	Account Description	Amount
12/31/2022	CH2M Hill - Jacobs Engineering	D3150300-039	117803 - Stream Reclamation - CC 12-Mile Park	240.00
12/31/2022	CliftonLarsonAllen LLP	3537763	107000 - Accounting	3,966.18
12/31/2022	Cockrel Ela Glesne Greher & Ruhland, P.C.	6045.001Dec22	407735 - Special Studies/Projects - Bow Tie	292.50
11/30/2022	Cockrel Ela Glesne Greher & Ruhland, P.C.	6045.001Nov22	407735 - Special Studies/Projects - Bow Tie	27.00
12/31/2022	Collins Cole Flynn Winn & Ulmer, PLLC	2891	107460 - Legal services	12,258.00
11/30/2022	Collins Cole Flynn Winn & Ulmer, PLLC	2779	107460 - Legal services	9,301.12
11/30/2022	Davis Graham & Stubbs LLP	842430	107050 - Regulatory Support	480.00
11/30/2022	Davis Graham & Stubbs LLP	842431	107050 - Regulatory Support	645.00
12/31/2022	Hydros Consulting Inc.	523-005	117440 - Management/administration	330.00
12/27/2022	Hydros Consulting Inc.	523-004	117440 - Management/administration	286.00
12/31/2022	Leonard Rice Engineers	21746	107000-107999 - General Fund various accounts	76,792.20
12/21/2022	Mile High Flood District	INV02900	117888 - CC Arapahoe (R 3-4)	145,000.00
12/20/2022	Muller Engineering Company	35778	407720 - Reservoir to 12-Mile Park Study	1,134.75
11/26/2022	Muller Engineering Company	35621	407720 - Reservoir to 12-Mile Park Study	788.00
11/26/2022	Muller Engineering Company	35619	407720 - Reservoir to 12-Mile Park Study	1,624.13
12/31/2022	Pinpoint Systems Inc.	9762	107481 - Office expense	502.50
11/30/2022	Pinpoint Systems Inc.	9733	107481 - Office expense	648.75
12/31/2022	R2R Engineers, Inc.	2022-14	117440 - Management/administration	23,662.50
11/30/2022	RESPEC	INV-1122-1072	117721 - PAPS - Undesignated	820.00
12/31/2022	RESPEC	INV-1222-1215	117728 - Reservoir Shoreline Stabilization - East Shade Shelte	4,796.38
11/30/2022	RESPEC	INV-1122-1071	117728 - Reservoir Shoreline Stabilization - East Shade Shelte	5,692.50
12/31/2022	RG and Associates LLC	152862	107000-107999 - General Fund various accounts	1,840.00
11/30/2022	RG and Associates LLC	152811	107445 - TAC coordination	1,396.00
12/25/2022	Valerie Endyk	12	107000-107999 - General Fund various accounts	4,556.25
12/31/2022	Wright Water Engineers, Inc.	65553	107050 - Regulatory Support	1,328.25
12/31/2022	Wright Water Engineers, Inc.	65553	117440 - Management/administration	18,427.49
12/31/2022	Wright Water Engineers, Inc.	65554	407736 - Special Studies/Projects: BMP Effectiveness	1,422.75
12/30/2022	*Xcel Energy	810743184	117701 - Utilities - Reservoir Destratification	-

Total Claims \$ 318,258.25

General Fund \$ 113,714.25

Pollution Abatement Fund 199,254.87

Enterprise Fund 5,289.13

Total Claims by Funding Source \$ 318,258.25

* by vendor

CHERRY CREEK BASIN WATER QUALITY AUTHORITY

RESOLUTION 2023-1-1

ARAPAHOE AND DOUGLAS COUNTIES, COLORADO

A RESOLUTION REAFFIRMING THE DATE, TIME, AND LOCATION FOR THE REGULAR MEETINGS OF THE BOARD OF DIRECTORS OF THE CHERRY CREEK BASIN WATER QUALITY AUTHORITY AND AUTHORIZING POSTING PUBLIC NOTICE OF AUTHORITY MEETINGS ONLINE IN COMPLIANCE WITH THE OPEN MEETINGS LAW AND REAFFIRMING THE NEWSPAPERS TO USE WHEN NOTICE IS REQUIRED BY PUBLICATION

WHEREAS, pursuant to Section 25-8.5-109, C.R.S., the Authority is required to designate a schedule for regular meetings, indicating the dates, time and location of said meetings; and

WHEREAS, pursuant to Section 24-6-402(2)(c)(I), C.R.S., meetings of the Board at which the adoption of any proposed policy, position, resolution, regulation, or formal action is to occur, or at which a majority or quorum of the Board is in attendance, or is expected to be in attendance, shall be held only after full and timely notice of the meeting as given to the public; and

WHEREAS, Section 24-6-402(2)(c)(I), C.R.S., further requires that the Board annually designate one or more places where notice of Board meetings together with a meeting agenda, when available, shall be posted at least 24 hours prior to the convening of such meeting for the purpose of complying with the notice provisions of the Colorado Open Meetings Law; and

WHEREAS, pursuant to Section 24-6-402(2)(c)(III), C.R.S., the Authority is authorized to post full and timely notice of its meetings no less twenty-four hours prior to the holding of the meeting on the public website of the Authority; and

WHEREAS, the Authority's website is accessible at no charge to the public; and

WHEREAS, the Authority has provided the address of its website to the Department of Local Affairs for inclusion in the inventory maintained pursuant to Section 24-32-116, C.R.S.; and

WHEREAS, the Authority will retain one physical location within the Authority's boundaries designated for posting notice no less than twenty-four hours prior to a meeting if the Authority is unable to post a notice online in the event of an exigent or

emergency circumstance such as a power outage or interruption in internet service that prevents the public from accessing the notice online; and

NOW, THEREFORE, BE IT RESOLVED BY the Board of Directors of the Cherry Creek Basin Water Quality Authority, Arapahoe and Douglas Counties, Colorado:

1. **Regular Meetings.** It is hereby declared that the Board will meet regularly during calendar year 2023 on the 3rd Thursday of each month at 9:00 a.m. Meetings will be held virtually and in the offices of the Southeast Metro Stormwater Authority, located at 7437 South Fairplay Street, Centennial, Colorado 80112, unless said offices are closed due to Covid-19 concerns or other reasons, or at such other location as hereinafter designated by the Board.

2. **Special Meetings.** Special meetings of the Board may be held as often as the needs of the Authority require, upon the call of the Chair or upon the request of two Board members. The Authority shall inform all Board members five calendar days before each special meeting and shall post by notice online as provided herein at least twenty-four hours prior to said meeting.

2.1 **Informal Meetings.** Notice of any informal meeting such as study sessions, subcommittee meetings, or any meetings of three (3) or more Board members will be given to all members at least seventy-two (72) hours in advance of such meeting unless such informal meeting was set and authorized by the Board at a Regular or Special Meeting. Public notice of the meeting will also be posted on the District's website at least twenty-four (24) hours in advance of the meeting in accordance with Section 24-6-402(2)(c), C.R.S.

3. **Location for Posting Meeting Notices Online.** As of the effective date of this Resolution and pursuant to Section 24-6-402(2)(c)(III), C.R.S., the Authority's designated posting location for posting a public meeting (regular, special, and study sessions) shall be on the Authority's website, accessible online at the following address: <https://www.cherrycreekbasin.org>

4. **Designated Exigent/Emergency Circumstance Posting Location.** In the event of an exigent or emergency circumstance, such as a power outage or an interruption in internet service that prevents the public from accessing the online designated posting location or prevents the Authority from posting a notice at the online designated posting location, the Authority will post notice of public meetings at least twenty-four hours prior to the meeting at the following physical location within the Authority:

Offices of SEMSWA, 7437 South Fairplay Street, Centennial, CO 80012

5. **Bylaws, Rules and Regulations and Prior Resolutions.** This Resolution shall supersede any contrary provision contained in the Authority’s Bylaws and/or Rules and Regulations and/or as set forth in any prior authority resolution.

6. **Representative Authorized to Post.** Any member of the Authority, Board of Directors, or any designee of the Board, including the Authority’s Manager, is hereby authorized to post notice of Authority meetings as authorized herein.

7. **Newspapers for Publication of Notices.** The designated newspapers for publication are hereby reaffirmed to be *The (Greenwood) Villager* and *The Douglas County News Press*.

8. **Severability.** If any part, section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid, such invalidity will not affect the validity of the remaining provisions.

9. **Effective Date.** This Resolution shall take effect and be enforced immediately upon its approval by the Board.

ADOPTED this ____ day of January 2023.

**CHERRY CREEK BASIN WATER
QUALITY AUTHORITY**

By: _____
Joshua Rivero, Chair

Attest:

John A. McCarty, Secretary/Treasurer



MEMORANDUM

To: CCBWQA Board of Directors
From: Erin Stewart, LRE Water, and Jane Clary, Wright Water Engineers/ CCBWQA Technical Manager
Date: January 10, 2023
Subject: CCBWQA Colorado Lake and Reservoir Management Agency (CLRMA) and North American Lake Management Society (NALMS) Membership

Background:

The Colorado Lake and Reservoir Management Agency (CLRMA) and North American Lake Management Society (NALMS) are non-profit organizations that operate to provide education, support, and lake management information to the public. The CCBWQA has been a member of these organizations in the past.

CLRMA

The Colorado Lake and Reservoir Management Agency (CLRMA) is a local organization made up of local professionals, municipalities, government, water and wastewater providers, universities and students, and watershed organizations. More information can be found on their website, www.clrma.org. The group organizes multiple local educational and networking events including two annual conferences, lake monitoring events and group outings. A few years ago one of these events was hosted at the Cherry Creek marina.

The group facilitates information sharing and education about local and national lake and reservoir management news and activities and is a great way to learn about the activities and options about other groups in the state.

NALMS

The North American Lake Management Society (NALMS) is a national organization made up of lake and reservoir groups, research institutions, state and federal agencies, and private industry members. See below from the NALMS website. <https://www.nalms.org/>

The NALMS "mission is a simple, but powerful one: to forge partnerships among citizens, scientists, and professionals to foster the management and protection of lakes and reservoirs ... for today and tomorrow. NALMS is not focused on professionals, academic researchers, or any smaller interest group alone; rather, NALMS is a melting pot, welcoming anyone interested in lakes.

NALMS goals are:

- 1. To promote the exchange of information on aspects of managing lakes and their watersheds.*
- 2. To promote public awareness of lake ecosystems.*
- 3. To encourage public support for promoting management of lakes and their watersheds.*
- 4. To provide guidance to agencies involved in management activities for lakes and their*

watersheds.

5. *To boost the professional status of those engaged in managing lakes and their watersheds.*
6. *To identify needs and encourage research on lake ecology and watershed management.”*

NALMS hosts an annual national conference where industry leaders present and share information on local and national water quality and lake and reservoir management issues and research. In addition, the group hosts a bi-annual conference focused on water quality monitoring, emerging issues, new technologies, public outreach and education.

Budget: A discounted joint membership for CLRMA/ NALMS through CLRMA for \$85/annually which supports the organizations. CLRMA sends a monthly newsletter with local events and news and NALMS sends a quarterly publication with more detailed information, research, and industry news.

Recommendation: The CCBWQA board approves the continuation of its membership in CLRMA/ NALMS.

January 19, 2023

Board of Directors
Cherry Creek Basin Water Quality Authority
P.O. Box 3166
Centennial, CO 80161

Re: 2023 Letter of Engagement

Dear Board Members:

I am pleased that the Board of Directors (“Board”) of the Cherry Creek Basin Water Quality Authority (the “Client”) desires to continue the retention of Collins Cole Flynn Winn & Ulmer, PLLC, a Colorado professional limited liability company (the “Law Firm”), as the Client’s general counsel for 2023. This letter is intended to outline the terms governing our service to the Client.

1. Scope of Services.

The Law Firm will advise the Client on all Client-related matters referred to the Law Firm by the Client. We will take our direction from the Board of Directors (“Board”) and the President and/or Secretary of the Board, or such other person as is designated by the Board to be its representative and spokesperson for purposes of communication with the Law Firm. We do not represent (i) any person or entity (except the Client itself); (ii) individual members of the Board; or (iii) employees or agents of the Client (collectively, the “Other Persons”), and all services are provided only for the benefit of the Client and not for the Other Persons. The Law Firm owes professional responsibilities only to the Client itself. In all matters involving the Client, such Other Persons should retain their own legal counsel.

2. Designation of Attorneys and Assistants.

I will serve as the Attorney primarily responsible for the legal services rendered to the Client. Other qualified Attorneys and paralegals may perform services for the Client under my supervision in order to most effectively provide a particular service or to minimize costs. A listing of the other attorneys in the firm and their hourly billing rates is attached hereto as Exhibit A.

3. Term.

Our engagement shall continue effective January 1, 2023 upon the Board’s approval of this engagement letter and will remain in effect through December 31, 2023, unless terminated by either party, with or without cause, upon 30 days prior written notice to the other party.

4. Compensation.

The Law Firm shall provide to the Client a monthly billing statement detailing the services rendered and the amount of time spent in performance thereof. The Client shall pay for the total time of all attorneys, paralegals and law clerks at the current rates in effect for the services rendered.

Secretarial and legal assistance services are not routinely billed to the Client, but out-of-the-ordinary use of a secretarial or legal assistance person's time may be billed in the attorney's reasonable discretion. Paralegals and law clerks are utilized when their skills are commensurate with a particular project, so as to minimize the costs billed to the Client. The attorney supervises the work product of associate attorneys, paralegals and law clerks.

The Client shall pay for Services within thirty days of the date of the invoice. The Law Firm shall not be obligated to perform any Services if payment of fees is sixty days overdue.

5. Expenses.

Expenses for which the Law Firm will or will not receive reimbursement are as follows, along with the rates for such reimbursement:

(a) Mileage.

No charge, unless lengthy travel distance.

(b) Out-of-Town Travel.

Expenses at cost without mark-up. Travel time by attorneys and staff will be billed at current billing rates. Trips will be coordinated with other clients, to the extent possible, to minimize travel costs.

(c) Long-Distance Telephone Service.

No charge.

(d) Teleconferencing.

Billed at cost without mark-up.

(e) Computer Expenses.

No charge, except for computer research, Lexis/Nexis or other special costs; billed at actual cost without mark-up.

(f) Photocopies.

No charge for in-house copying, unless large volume of copying. Outside copying and printing billed at actual cost without mark-up.

(g) Postage.

No charge for usual first-class mailings, such as mailings to the Client, courts, counsel of record and other consultants. Mass mailings, such as election notices, and overnight and special delivery mailings billed at actual cost without mark-up.

(h) Couriers.

Courier service will be used on an as-needed basis with the cost thereof being billed to the Client without mark-up.

(i) Other Reimbursables.

Other reimbursables include our payment of filing fees, costs for service of process and related services, expert witness fees (only as pre-authorized by the Client), court reporter fees for transcript of testimony, court reporter appearance fees, county clerk and recorder's fees for recording of documents, title company's fees for reports of title, publication fees, election materials and other related expenses. All such reimbursables will be billed to the Client at cost without mark-up.

(j) Other Expenses.

Certain services and expenses not otherwise documented herein (e.g., private investigator, special counsel, etc.) may become necessary under certain circumstances. To the extent that such services are required, the Law Firm will first obtain authorization from the Client before incurring such costs. As such expenses are incurred, they will be billed to the Client.

6. Potential Conflict of Interest.

I am not aware of any potential conflict of interest that may stem from my ongoing representation of other clients.

7. Communications between Law Firm and Client.

Written and oral communication between the Law Firm and the Client on the Client's matters shall be made using all current forms of technology including mail, courier, email, POTS, VoIP and cellular telephone, and other electronic means of communication as such technology becomes available. The security of such means of communication, particularly electronic means such as e-mail and cellular telephone cannot be guaranteed, and therefore a risk exists that privileges such as the attorney-client privilege may be waived if a communication is inadvertently received by persons other than the Client. If the Client desires to avoid the risk of inadvertent disclosure by any particular means of communication, the Client must contact the Law Firm and instruct the Law Firm as to any unacceptable means of communication for Client matters.

8. Cloud Services.

During and/or after termination of our engagement we may use cloud services. Where we do so, or where we use a subcontractor to provide cloud services, we will ensure an appropriate level of security.

9. Disclaimer of Warranties.

There can be no warranties as to the success of any matter undertaken by the Law Firm in the representation of the Client. All expressions made by the Law Firm relative thereto are solely matters of the Law Firm's opinion.

10. Power of Attorney to Execute Documents.

The Client grants to the Law Firm the power to execute documents connected with the representation of the Client, which have been generally approved by the Client, including pleadings, applications, protests, contracts, commercial papers, settlement agreements and releases, verifications, dismissals, orders, and all other documents associated with the services provided hereunder.

11. Document Retention/Destruction.

Files created and compiled by the Law Firm for work on Client matters, including correspondence, pleadings, research and any other documents prepared by the Law Firm, will not be retained indefinitely. Law Firm will retain files for sixty days following conclusion of a matter or conclusion of representation, at which time Client may retrieve the file(s), so long as the Client has paid all fees and costs, or the file(s) may be disposed of at the discretion of the Law Firm, except that we will not destroy (i) original documents entrusted to us for continued representation as part of our services; and (ii) any documents that the Client is obligated by law to retain.

12. Entire Agreement.

The terms herein represent the entire agreement of the parties concerning the representation of the Client by the Law Firm. The agreement represented by this letter may not be amended or modified except in writing and signed by both parties hereto.

**Collins Cole Flynn Winn & Ulmer, PLLC,
a professional limited liability company**

**Cherry Creek Basin Water Quality
Authority**



By: Timothy J. Flynn

Joshua Rivero, President

BILLING RATES

Effective 1/2023

<u>Name</u>	<u>2023 Rates</u>
James P. Collins, Partner	\$450
Robert G. Cole, Partner	\$415
Timothy J. Flynn, Partner	\$415
Kathryn G. Winn, Partner	\$400
Allison C. Ulmer, Partner	\$400
Bart W. Miller, Of Counsel	\$315
Peggy Rupp, Paralegal	\$240
Crystal Schott, Paralegal	\$235

AGREEMENT
FOR
PROFESSIONAL INFORMATION TECHNOLOGY SERVICES

THIS AGREEMENT FOR TECHNICAL PROFESSIONAL INFORMATION TECHNOLOGY SERVICES (“Agreement”) is entered into as of the 19th day of January 2023, to be effective as of January 1, 2023, between the **CHERRY CREEK BASIN WATER QUALITY AUTHORITY**, a quasi-municipal corporation and political subdivision of the State of Colorado (“Authority”), whose address is P.O. Box 3166, Centennial, Colorado 80161, telephone number, 303-718-6636 and **PINPOINT SYSTEMS, INC.** (“PSI”), whose address is 4505 South Broadway, Englewood, Colorado 80113, telephone number, 303-761-5227. Consultant and Authority may hereinafter singularly be referred to as a “Party” and collectively as the “Parties.”

1. **Description of Services.** Effective January 1, 2023, PSI shall provide the following services (collectively, the "Services"): Computer network consulting including management, maintenance, upgrades, and replacement as needed for system access and growth of Authority operations. This shall apply to and include servers, network infrastructure (switches, routers, Internet access, firewalls, Cloud resources, etc.), personal computer workstations, Internet-aware devices, equipment diagnostic and minor repairs, software consulting and related project management. PSI may, in fulfilling its obligations under this Agreement, use independent contractors to expedite work and respond to Authority's needs. Whenever said independent contractors are involved, PSI will provide appropriate supervision arranged on a case-by-case basis with Authority approval. Hardware repair needs will be reviewed on a case-by-case basis and generally shall be repaired by subcontractor(s) arranged by PSI on Authority's behalf with direct payment by Authority to said subcontractor(s). Software development generally shall be handled in the same manner. Due to the degree of variables out of Authority or PSI's control, no performance guarantees are herein given. However, PSI will respond Monday through Friday between the hours of 8:00 AM to 5:00 PM, Mountain Time excluding Authority and PSI holidays, making every effort to address critical issues within four (4) business hours and to work on system needs continually until resolved. PSI will provide service for identified mission critical applications on holidays and weekends. PSI will also perform software upgrades and preventative maintenance during off-peak hours. Authority agrees to make all resources available to assist PSI in maintaining systems and resolving system issues including thorough description of issues, remote access to servers and Cloud resources, system reboots and physical entry to any work location with after business hour access if requested by PSI. PSI will provide cost estimates when requested for each repair or service requested by Authority. PSI will provide staff training as requested by Authority management to maximize efficient use of all resources.

2. **Payment for Services.** Authority will pay PSI for the Services based on PSI's current rates. For calendar year 2023, PSI's rate shall be \$195.00 per hour. PSI reserves the right to charge more for holiday and weekend services, particularly if said Services are needed more than once a month. PSI shall send monthly invoices to Authority for the Services which are due within thirty (30) days of receipt. These invoices will include a log detailing the hours worked each day along with Services provided. Authority shall also pay for hardware and software purchases from PSI. Authority shall have the right to refuse to pay all or a portion of any invoice that is inconsistent with this Agreement. Authority may delay payment until it can verify the accuracy of an invoice, obtain releases or waivers with respect to Services covered in the invoice, or resolve a dispute with PSI regarding an invoice.

3. **Duration and Renewal.** Subject to the provisions of this paragraph and paragraphs 11 and 12 below, this Agreement is initially for one (1) year and shall be automatically extended on a year-to-year basis unless sixty (60) days prior to the expiration date of such Term either Party gives written notice to the other Party of non-renewal. Either Party may terminate this Agreement at any time by giving sixty (60) days written notice.

4. **Relationship of Parties and Limitation of Liability.** PSI agrees to carry \$1,000,000 Commercial General Liability Insurance. It is understood by the Parties that PSI is an independent contractor with respect to Authority, and not an employee of Authority. PSI shall not be liable for lost profits, lost savings or other direct, indirect, incidental, or consequential damages arising out of this Agreement or Services provided pursuant this Agreement even if advised of the possibility of such damages. Authority agrees that unless covered by PSI's insurance, in no event shall PSI be liable for more than the current fees for the last thirty (30) days charged under this Agreement.

In addition to Commercial General Liability Insurance shall carry Workers' Compensation Insurance to cover liabilities under the laws of the State of Colorado in connection with the Services performed pursuant to this Agreement.

PSI shall also carry Automobile Liability Insurance to include owned, non-owned and hired vehicles used in the performance of Services under this Agreement. Such insurance shall be in an amount satisfactory to Authority.

Prior to commencing any Services under this Agreement, PSI shall provide Authority a Certificate of Insurance evidencing the coverages required by this Agreement as well as the amounts of coverage for the respective types of coverage required. The required Commercial General Liability and Automobile policies shall name Authority as an additional insured for coverage only, with no premium payment obligation.

5. **Work Product Ownership.** Any copyrightable works, products, or other information (collectively, the "Work Product") developed in whole or in part by PSI in connection with the Services shall be the exclusive property of Authority. Upon request, PSI

shall sign documents necessary to confirm or perfect the exclusive ownership of Authority to the Work Product.

6. **Confidentiality.** PSI will not at any time or in any manner, either directly or indirectly, use for the personal benefit of PSI, or divulge, disclose, or communicate in any manner any information that is proprietary to Authority other than is required to supervise subcontractors strictly on a need-to-know basis. PSI will protect such information and treat it as strictly confidential. This provision shall continue to be effective after the termination of this Agreement.

7. **Injuries.** PSI acknowledges PSI's obligation to obtain appropriate insurance coverage for the benefit of PSI (and PSI's employees, if any). PSI waives any rights to recovery from Authority for any injuries that PSI (and/or PSI's employees) may sustain while performing Services under this Agreement unless said injuries are clearly a result of Authority's negligence.

8. **Entire Agreement.** This Agreement contains the entire agreement between the Parties and there are no other promises or conditions in any other agreement whether oral or written.

9. **Severability.** If any provision of this Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision of this Agreement is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

10. **General.** Neither Party may transfer this Agreement without the prior written consent of the other Party. Any attempt to assign any rights, duties, or obligations of this Agreement without such consent shall render it null and void. This Agreement shall be governed by the laws of the State of Colorado.

11. **No Multiple Fiscal Year Obligations.** No provision of this Agreement shall be construed or interpreted as creating an indebtedness or a multiple fiscal year direct or indirect debt, or other multiple year financial obligation whatsoever of Authority within the meaning of any constitutional or statutory debt limitation provision, including, without limitation, Article XI, §§ 1, 2 and 6, and Article X, § 20 of the Colorado Constitution. This Agreement shall not directly or indirectly obligate Authority to make any payments beyond the funds legally available to it for the then current fiscal year. No provision of this Agreement shall be construed to pledge or create a lien on any class or source of monies of Authority, nor shall any provision of this Agreement restrict or limit the discretion of Authority in the budgeting and appropriating its funds.

12. **Termination for Convenience.** Authority reserves the full right to terminate or suspend, for any reason or no reason, all or a portion of the Services under this Agreement

by giving sixty (60) days written notice to PSI. Upon termination or suspension of Services, PSI shall immediately deliver to Authority any documents then in existence, that have been prepared by PSI and/or which are Authority's property. If any portion of the Services shall be terminated or suspended, Authority shall pay PSI equitably for all Services properly performed pursuant to this Agreement up to and including the date of termination or suspension, as the case may be.

IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate original as of the date set forth above. This Agreement must have the signature of an authorized person of Consultant on both original copies

AUTHORITY:

CHERRY CREEK BASIN WATER QUALITY AUTHORITY, a quasi-municipal corporation and political subdivision of the State of Colorado

By: _____
Joshua Rivero, Chair

Attest:

John A. McCarty, Secretary/Treasurer

Approved as to Form:

Timothy J. Flynn, General Counsel
Cherry Creek Basin Water Quality Authority

This Agreement is accepted by:

PINPOINT SYSTEMS, INC.

By: _____
Jeff R. Warren, Vice President

By execution, signer certifies that he or she is authorized to accept and bind Consultant to the terms of this Agreement.

CONSULTANT AGREEMENT

FOR

SITE SPECIFIC STANDARDS – CHERRY CREEK RESERVOIR

THIS CONSULTANT AGREEMENT FOR SITE SPECIFIC STANDARDS – CHERRY CREEK RESERVOIR (“Agreement”) is entered into as of the _____ day of _____, 2023, to be effective as of January 1, 2023 (“Effective Date”), between the **CHERRY CREEK BASIN WATER QUALITY AUTHORITY**, a quasi-municipal corporation and political subdivision of the State of Colorado (“Authority”), whose address is P.O. Box 3166, Centennial, CO 80161 and **HYDROS CONSULTING, INC.**, a Colorado corporation (“Consultant”) whose address is 1731 15th Street, Suite 103, Boulder, Colorado 80302, telephone number (303) 284-1841. Consultant and Authority may hereinafter singularly be referred to as a “Party” and collectively as the “Parties.”

RECITALS

WHEREAS, the Authority was established for the purpose of preserving and protecting the water quality in the Cherry Creek Reservoir (“Reservoir”) and the Cherry Creek Watershed (“Watershed”); and

WHEREAS, the Water Quality Control Division in the Department of Public Health and Environment for the State of Colorado is proposing Table Value Standard for Total Nitrogen (“TN”) and Total Phosphorus (“TP”) that would be applicable statewide; and

WHEREAS, the Reservoir is unique, and the Authority believes that it would be appropriate for the Water Quality Control Commission of the State of Colorado (“Commission”) to adopt site specific standards for TN and TP for the Reservoir; and

WHEREAS, Consultant has provided a proposal to Authority outlining an approach, schedule, and budget to develop site specific standards for TN and TP for the Reservoir that will support the attainment of a site-specific standard for chlorophyll a for the Reservoir; and

WHEREAS, Authority desires to enter into a contract with Consultant whereby Consultant will provide to Authority such Services in accordance with Consultant’s Technical Memorandum dated September 26, 2022, and revised November 17, 2022, a copy of which is attached hereto as **Exhibit A** (“Proposal”); and

WHEREAS, Consultant represents that it has the personnel and expertise necessary to perform such services for Authority in a competent and timely manner.

NOW, THEREFORE, in consideration of the promises set forth herein, Authority and Consultant agree as follows:

1. **Scope of Services.** Consultant agrees to perform the services described in the Proposal for the purpose of assisting the Authority in the development of site specific standards for TN and TP that will support a site specific chlorophyll “a” standard for the Reservoir (“Scope of Services”), together with all necessary labor, materials, scheduling, procurement and related work and services as may be necessary or reasonably inferable from the Scope of Services to complete the totality of the obligations imposed upon the Consultant by this Agreement (herein collectively the “Services”). The Services will be performed in accordance with this Agreement, including the Scope of Services; provided, however, that in an event of a conflict or inconsistency between the terms and provisions of the Scope of Services and the text of this Agreement, the text of this Agreement shall control.

2. **Notice to Proceed.** As of the Effective Date and provided Authority has received satisfactory certificates of insurance as required by Paragraph 16 below, Consultant is hereby authorized to provide the Services when requested to do so by the Authority’s Technical Manager.

3. **Completion Date.** Consultant shall give this Agreement and the Services to be performed hereunder such priority as is necessary to cause the Services to be timely and promptly performed generally in accordance with the time periods and milestone dates set forth in the Scope of Services. At any time during the Term of this Agreement Authority may request and Consultant shall, within twenty (20) days of such request, submit for Authority’s approval a written schedule for the completion of the various tasks which comprise the Services. Unless delayed by acts or the failure to act of Authority or other causes beyond the control of Consultant, and without extending any deadline established in this Agreement, all Services required under this Agreement shall be entirely completed to Authority’s reasonable satisfaction and all deliverables as set forth in the Scope of Services shall be delivered to Authority no later than two (2) weeks after final comments on the Draft Technical Memorandum are delivered to Consultant by Authority, but in no event later than December 31, 2023; provided, however, the final Technical Memorandum may not be delivered until early 2024, depending upon when Authority provides its comments.

3.1 **Deliverables.** Without in anyway limiting the deliverables as described in the Scope of Services, Consultant shall provide the Authority with an electronic and up to five hard copies of all final product documents and reports prepared by Consultant pursuant to this Agreement. In addition, all deliverables shall comply with such reasonable requirements as the Authority’s Technical Manager may establish from time to time provided those requirements are communicated in writing to Consultant no later than twenty (20) days following the execution of this Agreement by both Parties.

4. **Responsibility for Services.** The Authority shall not supervise the work of Consultant or instruct the Consultant on how to perform the Services. Consultant shall be fully responsible for the professional quality, technical accuracy, timely completion, and coordination of Services including all work and reports that are a part thereof, whether such work is performed directly by Consultant or by any subconsultant or subcontractor hired by

Consultant and approved Authority in accordance with Paragraph 12 below. Without additional compensation and without limiting Authority's remedies, Consultant shall promptly remedy and correct any errors, omissions, or other deficiencies in the Services. Consultant warrants that all Services provided under this Agreement shall be performed with competence and in accordance with the standard of care of Consultant's profession prevailing in Colorado.

5. **Compensation.** Authority will compensate Consultant in accordance with Consultant's hourly rates and reimbursable costs, if any, as set forth on Exhibit B and in accordance with Consultant's anticipated cost per Task as set forth in the Scope of Services. The total amount of compensation that Consultant may receive under this Agreement for the Services will not exceed \$87,755.00 without the express prior written consent of the Authority, unless Optional Task 5 is requested by the Authority. If Optional Task 5 is requested by the Authority, the total amount of compensation that Consultant may receive under this Agreement shall not exceed \$97,775.00.

The per Task limit for each of the Tasks set forth in the Scope of Services (page 4 of 4) shall not be exceeded by ten percent (10%) without the Authority's prior written consent. Authority will not compensate Consultant for preparing or responding to Authority's questions regarding Consultant's invoices. If Consultant is requested to perform any work that is not expressly described in the Scope of Services or that will cause the estimated time to perform any work described in the Scope of Services to be increased, Consultant will immediately notify Authority in writing and will not perform such work until authorized to do so in writing by Authority's representative.

The compensation to be paid Consultant under this Agreement is entire and complete and includes any and all reimbursable and other costs as set forth, and only as set forth within the Scope of Services. Consultant further represents and agrees that the reimbursable costs charged to Authority together with any approved subconsultant or approved subcontractor costs are at Consultant's actual cost and will not include any additional mark-up. It is understood and agreed that Consultant will contract with and pay directly all approved subconsultants or approved subcontractors retained by Consultant for the performance of any Services or portion thereof.

5.1 **Rates and Employee Categories.** The Scope of Services sets forth the anticipated amount of compensation to Consultant for each Task that is expected to be performed under this Agreement. The hourly rates the Consultant will bill are set forth on Exhibit B. Consultant agrees that all labor performed hereunder shall be performed for an hourly rate and by the category of the employee as identified in the Scope of Services, except that if any work is performed by an employee whose hourly rate is less than the rate described in the Scope of Services, Authority shall be charged the lesser rate. Further, should any employee's job category or classification change during the term of this Agreement, that change shall not in any way affect or modify the employee's billing rate under this Agreement unless the billing rate has been reduced as a result of such job

reclassification, in which case the reduced billing rate shall be applied for purposes of the invoices prepared and submitted to the Authority.

6. **Method of Payment.** No later than the 25th day of the month Consultant shall provide an invoice for the Services completed through the last day of the preceding month (“Billing Period”). Each invoice shall be submitted only for those Services actually performed during the Billing Period. Consultant shall submit with each invoice such supporting documentation as Authority may reasonably request. Each invoice submitted by Consultant shall constitute a representation to Authority that the Services are completed to the point as represented in the billing invoice. Unless Consultant does not properly perform the Services, invoices will be paid within thirty (30) to forty-five (45) days after receipt. Invoices that are not received by Authority within thirty (30) days after the last day of the Billing Period, shall be deemed inconsistent with this Agreement. Authority shall have the right to refuse to pay all or a portion of any invoice that is inconsistent with this Agreement. Authority may delay payment until it can verify the accuracy of an invoice, obtain releases or waivers with respect to Services covered in the invoice, or resolve a dispute with Consultant regarding an invoice. Further, with regard to any invoice that is submitted by Consultant ninety (90) days or more after the Billing Period, Authority shall have the right to deduct from said invoice all costs and expenses incurred by Authority in reviewing such invoice which are in the Authority’s determination attributable to Consultant’s delay in furnishing the invoice.

7. **Conflict of Interest.** Consultant agrees that it shall not accept any employment during the term of this Agreement that creates a potential conflict of interest or compromises the effectiveness of Consultant or otherwise interferes with the ability of Consultant to perform the Services required by this Agreement.

8. **Records and Audits.** Consultant shall at all times maintain a system of accounting records in accordance with its normal billing procedures, together with supporting documentation for all work, purchases, Services and billings under this Agreement. Consultant shall make available for audit and reproduction by Authority all records, in whatever form, related to the Services. Consultant shall provide such availability during the term of this Agreement and for two (2) years after final payment. Consultant shall refund to Authority any charges determined by Authority’s audit to be inconsistent with this Agreement.

9. **Confidentiality of Information.** Except as required by law or as is necessary for the performance of the Services, Consultant shall retain in strictest confidence all information furnished by Authority and the results of any reports or studies conducted as a result of this Agreement, along with all supporting work papers and any other substantiating documents. Consultant shall not disclose such information to others without the prior written consent of Authority’s representative. Notwithstanding the foregoing, Consultant shall have no confidentiality obligation with respect to information that: (i) becomes generally available to the public other than as a result of disclosure by Consultant or its agents or employees; (ii) was available to Consultant on a nonconfidential basis prior to its

disclosure by Authority; and (iii) becomes available to Consultant from a third party who is not, to the knowledge of Consultant, bound to retain such information in confidence.

10. **Ownership of Work Product and Documents.** All printed materials and electronic documents produced as a result of the Services performed under this Agreement shall be the sole property of Authority and may not be used, sold or disposed of in any manner without prior written consent of Authority's representative. All documents applicable to each Task identified in the Scope of Work shall be delivered and turned over to Authority as and when such Task is completed provided, however, that under no circumstances shall any printed or electronic material, or other documents produced as a result of the Services performed under this Agreement be retained by Consultant from and after the date Consultant has been paid in full all monies due Consultant hereunder. Notwithstanding the foregoing, Consultant may retain a copy of all printed material, electronic or other documents prepared under this Agreement.

11. **Changes in Services.** The Authority shall have the right to order additions, deletions or changes in the Services at any time, so long as such changes are within the Scope of Services covered by this Agreement. Requests for material changes in the Services may be made by Authority's representative orally or in writing; provided, however, that oral requests shall be confirmed by a written request within ten (10) days after the oral request. If Authority directs Consultant to proceed with a material change, Consultant shall be paid for the change as agreed to by the Parties.

12. **Approval of Subconsultants.** Except as set forth in the Scope of Services, Consultant shall not employ any subconsultant or subcontractor without the prior written approval of Authority's representative nor shall Consultant assign any rights or obligations under this Agreement in whole or in part without the Authority's prior written approval which may be withheld for any reason. Consultant shall be responsible for the coordination, accuracy, and completeness of all Services in accordance with generally accepted principles and practices of Consultant's profession, regardless of whether the Services are performed by Consultant or one or more subconsultants. Consultant shall endeavor to bind each of its approved subcontractors or approved subconsultants, if any, to the terms of this Agreement. In the event that a subconsultant or subcontractor is unwilling or unable to comply with any term or provision of this Agreement, Consultant will inform Authority of the specific term or provision at issue. Authority may accept the lack of compliance to the terms of this Agreement on the part of the subconsultant or subcontractor or may request that a different subconsultant or subcontractor be retained. This Agreement may be terminated by Authority if subcontracted or assigned, either in whole or in part, by the Consultant without the express written consent of Authority's representative.

13. **Independent Contractor.** In the performance of the Services, Consultant shall be, for all purposes, an independent contractor and not an employee or agent of Authority. Consultant and its employees and Subconsultants shall in no way represent themselves to third parties as agents or employees of Authority.

14. **No Unemployment Insurance or Workers' Compensation Benefits.** Consultant agrees that it is not entitled to unemployment insurance or workers' compensation benefits as a result of performance of the Services for Authority. Consultant is required to provide workers' compensation and unemployment insurance benefits for its employees and/or subconsultants as required by law.

15. **Payment of Taxes.** Consultant is solely liable for any federal, state and local income and withholding taxes, unemployment taxes, FICA taxes and workers' compensation payments and premiums applicable to the performance of the Services under this Agreement. Consultant shall indemnify Authority for any liability resulting from nonpayment of such taxes and sums.

16. **Insurance.** It is understood and agreed that Consultant and any and all subconsultants and agents currently have and shall keep in full force and effect the following minimum insurance coverages:

16.1 **Workers' Compensation Insurance.** The Consultant and each subconsultant and each subcontractor, if any, shall carry workers' compensation insurance to cover liability under the laws of the State of Colorado in connection with the Services performed pursuant to this Agreement. Consultant and each subconsultant or subcontractor shall carry separate policies.

16.2 **Commercial General Liability Insurance.** The Consultant and each subconsultant and subcontractor, if any, shall carry commercial general liability insurance, which shall include blanket contractual liability coverage. Such insurance shall be in an amount specified in the Colorado Governmental Immunity Act, § 24-10-101, *et. seq.*, C.R.S., as may be amended from time to time (currently \$387,000 per person, \$1,093,000 per occurrence for bodily injury and property damage).

16.3 **Automobile Liability Insurance.** The Consultant and each subconsultant and subcontractor, if any, shall carry automobile liability insurance to include owned, non-owned and hired vehicles used in the performance of Services under this Agreement. Such insurance shall be in the amounts specified in the Colorado Governmental Immunity Act § 24-10-101, *et. seq.*, C.R.S., as it may be amended from time to time (currently \$387,000 per person, \$1,093,000 per occurrence for bodily injury and property damage).

16.4 **Professional Liability Insurance.** Consultant and each subconsultant and subcontractor, if any, shall carry professional liability insurance in the amount of \$1,000,000 per claim and aggregate limit, unless an alternate amount is agreed to in writing by the Authority.

If not already provided, within fifteen days after the date of this Agreement, Consultant shall provide the Authority a certificate of insurance evidencing the insurance policies required by paragraphs 16.1, 16.2, 16.3 and 16.4 as well as the amounts of coverage

for the respective types of insurance required. The required commercial general liability and automobile liability policies shall: (i) name the Authority as an additional insured for coverage only, with no premium payment obligation; (ii) provide that coverage for the Authority shall not be impaired Consultants or any subcontractor's failure to comply with any of the terms or conditions of the policy. Authority and each subcontractor shall provide certificates of insurance (and renewals thereof) identifying this Agreement and demonstrating that the required coverages have been obtained. The Consultant shall not allow any subcontractor, agent or employee to commence work on any Services until appropriate certificates of insurance have been obtained and approved by the Authority, or the Authority has modified or waived the insurance coverage requirements. The coverages specified in each certificate of insurance shall not be terminate, reduced or modified without providing at least thirty (30) days prior written notice to the Authority.

17. **Compliance with Laws.** In performing this Agreement, Consultant shall comply with all applicable laws, rules and regulations, including but not limited to all federal, state and local laws.

18. **Communications.** It is understood by Authority and Consultant that successful progress under this Agreement requires frequent, concise, and documented communication between the Party's representatives. Authority hereby designates Bill Ruzzo and Jane Clary, each of whom individually or together shall have authority to give information to and receive information from Consultant. Authority may change its designated representative or name additional representatives from time to time.

Consultant hereby designates Christine Hawley, Principal Environmental Engineer, Owner/Partner of Hydros Consulting, Inc., as its representative who shall give information to and receive information from Authority. Consultant may change its designated representative only with the prior written approval of Authority. Each designated representative shall have full authority to not only accept and receive information but also to accept notices, give approvals and to fully represent its respective Party for all purposes under this Agreement.

19. **Liability.** Consultant agrees to pay any damages and costs for any liability or claim of whatsoever kind or nature arising in any way out of this Agreement, to the extent caused by any negligent or wrongful act or omission of the Consultant, Subconsultants, or Consultant's and Subconsultants' officers, agents, or employees. This Paragraph 19 shall survive termination of this Agreement.

Notwithstanding anything to the contrary elsewhere in this Agreement, Consultant's liability to Authority shall not exceed the amount of \$250,000.00. This capped liability provision shall apply to: (i) direct claims by Authority against Consultant; (ii) Consultant's obligation to defend, indemnify and hold harmless for third party claims; and (iii) Authority's access to Consultant's insurance coverage as an additional insured.

20. **Acceptance Not a Waiver.** The Authority's approval of studies, drawings, designs, plans, specifications, reports, computer programs and other work or material shall not in any way relieve Consultant of responsibility for the technical accuracy of the Services. The Authority's approval or acceptance of, or payment for, any Services shall not be construed to operate as a waiver of any rights under this Agreement, or of any cause of action arising out of the performance of this Agreement.

21. **Termination or Suspension.** The Authority reserves the exclusive right to terminate or suspend all or a portion of the Services under this Agreement by giving fourteen (14) days written notice to the Consultant. If any portion of the Services shall be terminated or suspended, the Authority shall pay the Consultant equitably for all services properly performed pursuant to this Agreement. If the work is suspended and the Consultant is not given an order to resume work within sixty (60) days from the Effective Date of the suspension, this Agreement will be considered terminated. Upon termination, the Consultant shall immediately deliver to the Board any documents then in existence, that have been prepared by the Consultant pursuant to this Agreement.

22. **Default.** Each and every term and condition of this Agreement shall be deemed to be a material element of this Agreement. In the event either Party shall fail or refuse to perform according to the material terms of this Agreement, such Party may be declared in default by the other Party by a written notice.

23. **Remedies.** In the event a Party has been declared in default, such defaulting Party shall be allowed a period of fifteen (15) days within which to correct or commence correcting the default. In the event that the default has not been corrected or begun to be corrected, or the defaulting Party has ceased to pursue the correction with due diligence, the Party declaring default may elect to (i) terminate this Agreement and seek damages; (ii) treat the Agreement as continuing and require specific performance; or (iii) avail itself of any other remedy at law or in equity. In the event Consultant fails or neglects to perform the Services in accordance with this Agreement, the Authority may elect to correct such deficiencies and charge Consultant for the full cost of the corrections.

24. **Term.** Unless sooner terminated in accordance with the provisions of paragraph 21 above, this Agreement shall remain in effect until the Services are fully performed, at which time the Agreement shall terminate and be of no further force and effect, except as to those provisions which expressly survive termination, including but not limited to Paragraphs 8, 9, 10, and 19.

25. **Force Majeure.** The Parties shall not be responsible for any failure or delay in the performance of any obligations under this Agreement caused by acts of God, flood, fire, war or public enemy or the failure of Authority to furnish timely information or to approve or disapprove Consultant's instruments of service within a reasonable period of time.

26. **Assignment.** Subject to the provisions of Paragraph 12, this Agreement shall bind and inure to the benefit of the Parties and their respective successors and assigns.

27. **No Third-Party Beneficiaries.** This Agreement is intended to benefit only the Parties and neither subconsultants, subcontractors nor suppliers of Consultant nor any other person or entity is intended by the Parties to be a third-party beneficiary of this Agreement.

28. **Governing Law.** This Agreement shall be governed by and construed under the laws of the State of Colorado.

29. **Notice.** All notices required or given under this Agreement shall be in writing and shall be deemed effective: (i) when delivered personally to the other Party; or (ii) seven (7) days after being deposited in the United States mail, first-class postage prepaid, properly addressed as follows; or (iii) when sent by facsimile transmission and receipt is confirmed by return facsimile transmission.

If to Consultant:

Jean Marie Boyer, Ph.D., P.E., Principal
HYDROS Consulting, Inc.
1731 15th Street, Suite 103
Boulder, Colorado 80302

If to Authority:

Jane Clary, Technical Manager
Post Office Box 3166
Centennial, Colorado 80161

With a copy to:

Timothy J. Flynn
Collins Cole Flynn Winn & Ulmer, PLLC
165 South Union Boulevard, Suite 785
Lakewood, Colorado 80228-1556

Or such other persons or addresses as the Parties may designate in writing.

30. **Governmental Immunity.** The Parties understand and agree that the Authority is relying upon, and has not waived, the monetary limitations of \$387,000 per person, \$1,093,000 per occurrence, and all other rights, immunities and protections provided by the Colorado Governmental Immunity Act § 24-10-101 *et. seq.*, C.R.S., as it may be amended from time to time.

31. **Entire Agreement.** This Agreement constitutes the entire agreement between the Authority and Consultant and replaces all prior written or oral agreements and understandings. It may be altered, amended, or repealed only by a duly executed written instrument.

32. **Effective Date.** This Agreement shall become effective as of March 15, 2018, once it is signed by an appropriate representative of each Party.

IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate original as of the date set forth above. This Agreement must have the signature of an authorized person of Consultant on both original copies.

**AUTHORITY:
CHERRY CREEK BASIN WATER
QUALITY AUTHORITY**

By: _____
Joshua Rivero, Chairman of the Board

Attest:

John A. McCarty, Secretary/Treasurer

Approved as to Form:

Timothy J. Flynn, General Counsel
Cherry Creek Basin Water Quality Authority

This Agreement is accepted by:

HYDROS CONSULTING, INC.,
a Colorado Corporation

By: _____
Jean Marie Boyer, Ph.D., P.E., Principal

Attest:

John Carron, Secretary

By execution, signer certifies that he or she is authorized to accept and bind Consultant to the terms of this Agreement.



TECHNICAL MEMORANDUM

TO: Jane Clary, Cherry Creek Basin Water Quality Authority (CCBWQA) Technical Manager
FROM: Christine Hawley, Hydros Consulting Inc.
SUBJECT: Development of Site-Specific Standard Values for TN and TP in Cherry Creek Reservoir
DATE: September 26, 2022 (with minor revision, November 17, 2022)

The Water Quality Control Division (WQCD) has proposed table value standards (TVS) for total nitrogen (TN) and total phosphorus (TP) in a proponent's pre-hearing statement (PPHS; WQCD, 2022) for the November 2022 Rulemaking Hearing (RMH). This includes TN and TP standards that would be applicable to Cherry Creek Reservoir (CCR) if adopted. The November 2022 RMH has since been delayed to April 2023 by the Water Quality Control Commission (WQCC, 2022) in response to stakeholder concerns. At this time, it is unclear whether the currently proposed TN and TP standards will be modified prior to the April 2023 RMH.

At the request of CCBWQA, Hydros reviewed the WQCD methodology behind the currently-proposed TN and TP standards in the context of CCR (Hydros, 2022). Several concerns regarding overall methodology and data issues were noted. Additionally, it was determined that the proposed standards would not be appropriate for CCR. Further, it was recommended that CCBWQA move forward with efforts to develop site-specific standards for TN and TP for proposal at the next South Platte Basin RMH, currently scheduled to occur in 2025.

This memorandum summarizes the proposed approach, schedule, and budget to develop site-specific TN and TP standards for Cherry Creek Reservoir. Briefly, standard development is expected to be based on analysis of observed CCR data and use of the existing reservoir water-quality model. The scope of work (SOW) is scheduled for completion in 2023, with delivery of a draft technical memorandum summarizing findings and recommendations for next steps by December 31, 2023. There are two decision points built into the schedule to provide opportunities for CCBWQA to revise/refine the approach or discontinue the effort entirely based on information that will become available or be developed during 2023. The anticipated time and materials budget is \$87,755. An optional task for up to \$5,000, subject to CCBWQA approval, is also included to cover CCBWQA-requested participation by Hydros in any currently-unanticipated relevant meetings/communications. Finally, in addition, an as-needed budget for other Hydros support in 2023 is included, as requested. Descriptions of the proposed approach, schedule, and budget are provided in the following sections.

1 Approach

The objective of this effort is to develop reasonable and defensible site-specific standards for TP and TN in Cherry Creek Reservoir that support efforts to attain the site-specific chlorophyll *a* standard. The proposed TN and TP standards will be defined to reflect site-specific chlorophyll *a* response, to the extent reasonably possible.

To meet this objective, four tasks (plus one optional task and one as-needed task) are proposed, as follows:

Task 1. Review Results of April 2023 Hearing

The current WQCD-proposed TN and TP standards for lakes may or may not be modified by WQCD for the April 10, 2023 RMH. Hydros will follow those developments closely, considering implications for CCR. If revised TN and TP standards are proposed by WQCD for the April 2023 RMH, Hydros will evaluate the reasonable applicability of those values to CCR. Following the April 2023 RMH, Hydros will brief CCBWQA and discuss whether Tasks 2 through 4 are still needed or whether any modifications to the SOW may be needed. This is the first (of two) decision point in this SOW. For scheduling, it is anticipated that this coordination and any resulting change of direction for the SOW will be resolved by May 15, 2023.

Task 2. Technical Analysis to Develop Site-Specific Standard Recommendations

A technical approach will be developed and implemented to generate recommended site-specific nutrient standards. This effort will make primary use of the extensive CCR observed dataset. Additionally, the existing mechanistic, hydrodynamic, water-quality model of the reservoir will be used in this process. It is anticipated that the model will be useful to support quantitative consideration of complexities introduced by the strong nitrogen limitation at CCR. This includes modeling to evaluate the effects of reducing phosphorus to levels that show phosphorus limitation. This also includes evaluating concerns about inadvertently exacerbating the dominance of nitrogen-fixing cyanobacteria if nutrient targets lead to inappropriate modification of the nutrient balance in the reservoir.

In consideration of this SOW, it is important to understand that any appropriate site-specific TN and TP standards developed for CCR are likely to be at values that will be routinely exceeded in the reservoir (particularly for TP). In other words, the eventual site-specific TN and TP standards will not eliminate regulatory nutrient concerns for CCR. The nutrient standards should be set to reflect the Chl *a* standard, and CCR fails to meet the 18 µg/L Chl *a* standard in most years. Therefore, it follows that CCR would likely fail to meet appropriate nutrient standards in most years. The TN and TP standard values will ultimately be relevant to discharge permits as well as to eventual targeted, TMDL-based load reductions, so they should be developed based on a scientifically-defensible, site-specific analysis.

Task 3. Coordinate with WQCD and CCBWQA during Technical Analysis

If possible, the CCR site-specific standard development effort should be coordinated with the WQCD between now and the 2025 South Platte Basin RMH, keeping the WQCD staff apprised of the planned approach and findings. Ideally such coordination will allow WQCD to support the eventual site-specific standard proposal as it is brought to the WQCC at the 2025 RMH. For this SOW, two meetings with WQCD are envisioned following the April 2023 RMH. The first meeting with WQCD will be an informational meeting to share the planned general approach and schedule and to seek any initial reactions or recommendations. This first meeting will likely take place when Hydros is well into Task 2,

and no major changes to the approach are expected. The purpose of the second meeting with WQCD will be to present draft findings and planned values for the site-specific proposal. It is envisioned that each of those meetings will be preceded by internal coordination meetings between Hydros and CCBWQA. The meeting between Hydros and CCBWQA that precedes the second meeting with WQCD will serve as the second decision point in this SOW. At that meeting, Hydros will present the proposed site-specific standard recommendations to CCBWQA, and CCBWQA may decide whether or not to proceed with those recommendations. For budgeting purposes, it is assumed that all meetings will be remote.

Task 4. Prepare Technical Memorandum Summarizing Findings and Recommended Standards
A technical memorandum summarizing the objective, approach, findings, and recommended site-specific nutrient standards will be prepared and provided to CCBWQA. The draft technical memorandum will be delivered electronically by the close of business on December 16, 2023. A final technical memorandum will be provided to CCBWQA within two weeks of receiving comments. It is assumed for budgeting purposes that required edits will be minimal and revisions will require no more than 8 hours. Note that this SOW does not include development of a site-specific standards proposal for the 2025 RMH or time for Hydros participation in the 2025 RMH. It is assumed that any such additional support will be included in a subsequent SOW.

Optional Task. Additional Meetings/Communications as Directed by CCBWQA

This optional task is included here recognizing that additional meetings and/or communication needs (beyond what is anticipated in Tasks 1 through 4) may arise to meet the objectives of this SOW in 2023. There is uncertainty regarding how the process will unfold and the need for additional coordination with CCBWQA and/or WQCD is possible. Any activities conducted under this optional task would only occur in response to CCBWQA direction and approval.

As-Needed Hydros Support in 2023

This additional as-needed budget of \$10,000 for calendar year 2023 is included to cover coordination between Hydros and CCBWQA personnel on any relevant topics that may arise in 2023. This may include participation in a brainstorming/planning meeting regarding the future use of models to support design/testing of watershed and/or in-reservoir management projects.

2 Schedule and Budget

The proposed schedule is summarized in Table 1, including key anticipated meetings, CCBWQA decision points, and deliverables. Dates are approximate, recognizing that meetings have yet to be schedule and will likely need some adjustment to accommodate WQCD and CCBWQA schedules. The entire SOW is scheduled to be complete in 2023, though the final technical memorandum may follow in early 2024, depending on the timing of CCBWQA review.

Table 1. Summary of Anticipated Project Timeline

Project Milestone	Target
Hydros Briefing to CCBWQA Following April 2023 RMH	On or before April 24, 2023
CCBWQA Decision-Point to Stop, Proceed, Modify SOW	On or before May 15, 2023
Approach Meeting with WQCD	Mid-September 2023
Draft Findings Meeting with CCBWQA	End of October 2023
CCBWQA Decision-Point to Stop, Proceed, Modify SOW	Mid-November 2023
Draft Findings Meeting with WQCD	Late November 2023
Draft Tech Memo to CCBWQA	December 16, 2023
Final Tech Memo to CCBWQA	Two Weeks after Receiving Comments

The total anticipated budget for this project is \$87,755. The task-by-task cost estimate is summarized in Table 2. This total does not include costs for the optional task (additional meeting participation/communications development, as directed by CCBWQA). The optional task is assumed here to have a not-to-exceed budget of \$5,000, with activities under this task only occurring with approval by CCBWQA. The total in Table 2 also does not include an additional \$10,000 as-needed budget for CCBWQA-requested support from Hydros on any tasks outside of Tasks 1 through 4 in this scope of work that may arise in 2023.

Table 2. Summary of Estimated Cost by Project Task

Project Task	Anticipated Cost
Task 1: Review Results of April 2023 Hearing	\$8,455
Task 2: Technical Analysis	\$45,536
Task 3: Coordinate with WQCD and CCBWQA	\$19,862
Task 4: Tech Memo	\$13,902
Total Cost:	\$87,755*

*Does Not Include Optional Task: Additional Meetings/Communications as Directed by CCBWQA (Optional Task not-to-exceed \$5,000).

3 References

- Hydros. 2022. Applicability of WQCD-Proposed TN and TP Standards to Cherry Creek Reservoir. Technical Memorandum from C. Hawley (Hydros) to J. Clary (CCBWQA). August 8, 2022.
- WQCC. 2022. Procedural Order Regarding Joint Motions to Continue Hearing; In the Matter Concerning the Adoption of Revisions to the Nutrients Management Control Regulation, Regulation #85, and Revisions Pertaining to Lakes Nutrient Criteria in the Basic Standards and Methodologies for Surface Water, Regulation #31. September 7, 2022.
- WQCD. 2022. Prehearing Statement of the Water Quality Control Division to the Colorado Water Quality Control Commission. August 3, 2022.

EXHIBIT B

**Hydros Consulting Inc.
Hourly Rate and Expense Schedule**

Hourly Labor Rates

Name	Title	2023 Hourly Rate
Jean Marie Boyer, PhD, PE	Principal	\$260
John Carron, PhD	Principal	\$260
Christine Hawley, MS	Senior Managing Environmental Engineer	\$234
Steve Setzer, MS, PE	Senior Water Resources Engineer	\$228
Kevin Bierlein, PhD	Environmental Engineer	\$181
Cory McDonald, PhD	Environmental Engineer	\$180
Taylor Adams, MS, PE	Environmental/Water Resources Engineer	\$178
Nick Mander, MS, PE	Water Resources Engineer	\$176
John Craven, MS	Water Resources Engineer	\$173
Karen Tomari	Administrative Support	\$89

Rates valid January 1, 2023 - December 31, 2023.
Expenses billed at cost; mileage at published Federal rate.



EMORANDUM

To: CCBWQA Board of Directors
From: Val Endyk, CCBWQA Administrative Assistant
Jane Clary, Technical Manager
Date: January 13, 2023
Subject: Recognition of Board Members Caryn Johnson and Nancy Sharpe

Issue: Caryn Johnson (Castle Rock, January 2019-December 2022) and Nancy Sharpe (Arapahoe County, 2010-2022) have both concluded their service on the CCBWQA Board. According to the below highlighted sections of Resolution 2022-6-1 approved and adopted by the Board at the May 19th Board meeting,

“Those who serve on the Authority’s Board for at least three consecutive years shall automatically receive a letter of appreciation from the Board acknowledging the years of service and expressing the Authority’s appreciation for the time, effort, and contributions given to the Authority in furtherance of the Authority’s goals and mission.”

Additionally,

“with respect to any member of the Board who serves for more than three years, the Board, on a case-by-case basis, will determine what additional expression of appreciation is appropriate. By way of explanation, those who serve more than three years may receive a plaque that formally expresses the Board’s appreciation for the efforts and contributions of the member. In addition to or in place of a plaque, a donation honoring the Board member may be made to a non-profit or governmental organization that is involved with protecting, preserving, and enhancing water quality in the Cherry Creek Basin or other appropriate watershed within the State of Colorado.”

Recommendation:

The Board would recognize former Board members Caryn Johnson and Nancy Sharpe with the following:

- A letter of appreciation
- A \$250.00 contribution to Cherry State Park for park improvements
- A plaque commemorating their years of dedication to the CCBWQA Board

Suggested Motion:

I move that the Board recognize Nancy Sharpe and Caryn Johnson for their significant contributions to the CCBWQA by a contribution of \$250.00 each to Cherry Creek State Park for park improvements, and with a plaque commemorating their years of dedication to the CCBWQA.



ACTION ITEM MEMORANDUM

To: CCBWQA Board of Directors
From: Richard Borchardt, Pollution Abatement Project Manager
Date: January 22, 2023
Subject: 2022 Reservoir Destratification System (RDS): Operations & Maintenance Annual Report

Request: The Board accepts the 2022 RDS Operations & Maintenance Report.
Project: The 2022 Report highlights the year of Operations & Maintenance for the RDS. Highlights from the 2022 Report include the following.

- The compressor coolers were cleaned on June 14, 2022; however, the compressor had a temperature warning and shutdown on September 2, 2022. For this reason, it is recommended to have Ingersoll Rand (IR) clean compressor coolers at a frequency of about every 2 months during the operating season to minimize the chances of another high temperature shutdown like what happened from September 2-7, 2022. This cleaning can be requested by contacting IR's Technician Supervisor, currently Daniel Ortiz at DOrtiz@irco.com or on his mobile phone 303.598.7069.
- Since there was a delay in knowing that the compressor wasn't running (CCBWQA had to wait until the after the holiday weekend to be contacted by IR of a potential issue), it is recommended that CCBWQA evaluate options to improve communication with IR and consider other options to monitor RDS operations to minimize the length of future lengths shutdowns.
 - IR was contacted to start this evaluation, and they are beta testing providing their Remote Monitoring System (RMS) to their customers. The RMS provides e-mail and notifications and an online platform to IR that identifies maintenance needs of the compressor. The RMS beta test would be included in CCBWQA's PackageCare so there wouldn't be any additional cost; a request to add CCBWQA has been made to IR's Account Manager, currently Jeff Handley at Jeff.Handley@irco.com or on his mobile phone 303.345.4407). If CCBWQA notices an issue through the RMS or site visit, then a call can be placed to 1-800-223-1911 option 1 to IR to request maintenance on the compressor. The standard work hours are Monday through Friday 7:30 am to 4:00 pm (Mountain Time); if maintenance is needed outside of those hours, a recorded message gives instructions for a 24-hour call service that will reach out to the on-call technician. Maintenance during standard work hours is covered under CCBWQA's PackageCare plan, but after-hours work is not covered and is charged at an hourly rate with a 4-hour minimum.
 - If the RMS doesn't meet the information and communication needs of CCBWQA, CCBWQA can look at possibly reviving the previous notification system (SCADA and Mission Control software used with the old compressor) or a new one that provides a call out to a list (consultant staff and manager) and remote monitoring/control option. This option would likely need

further evaluation to determine the scope of work and identification of costs.

- Since there was an 8.8% increase in energy consumption from 2021 to 2022, it is recommended to continue monitoring the annual energy consumption and look for any trends that may point to developing issues or concerns.

TAC Review: TAC accepted the 2022 RDS Operations & Maintenance Report and recommended that a summary of water quality benefits of the RDS be prepared.

Budget: The 2023 budget includes \$123,700 (\$65,000 for Utilities, \$11,000 for PackageCare Service Plan, and \$47,700 for Maintenance) for the RDS.

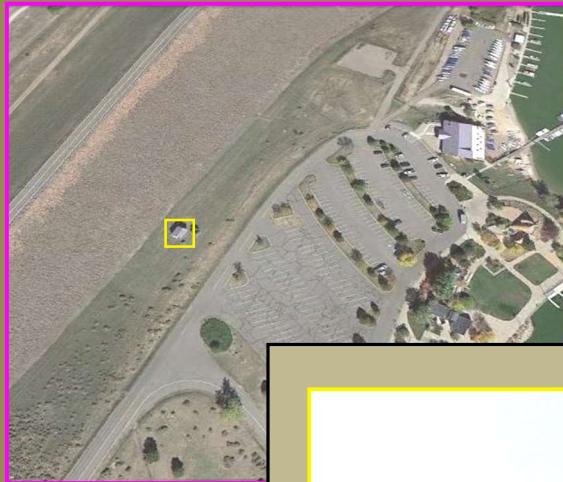
Reports: Included in the Board Packet.

Motion: **I move to accept the 2022 RDS Operations & Maintenance Report.**

Next Steps: Preparation of a summary of water quality benefits of the RDS and report back to TAC and Board.

**CHERRY CREEK RESERVOIR
DESTRATIFICATION SYSTEM**

**OPERATION AND MAINTENANCE
ANNUAL REPORT
2022**



Submitted To:

Cherry Creek Basin Water Quality Authority



Prepared By:



5975 S. Quebec Street, Suite 225 | Centennial, CO 80111 | 303.488.7571 | 303.868.5767 cell | r2rengineers.com

Richard "Rich" Borchardt

CHERRY CREEK BASIN WATER QUALITY AUTHORITY RESERVOIR DESTRATIFICATION SYSTEM OPERATION AND MAINTENANCE ANNUAL REPORT 2022

INTRODUCTION:

R2R Engineers is retained under the “Pollution Abatement Project Manager (PAPM)” agreement to operate and coordinate maintenance of the compressor and aeration system commonly referred to as the Cherry Creek Reservoir Destratification System (RDS). The RDS began operation in April 2008.

2022 RDS SEASON SUMMARY:

At their January 20, 2022 meeting, the CCBWQA Board of Directors (Board) adopted a restated amended Policy for the Operation of the RDS (Policy) by resolution 2022-1-2 included in **Appendix A** which:

- adopted the new operation season of about mid-April through about the end of September, and
- optimizes the water quality benefit of a reduced the summer chlorophyll-a average (historically reduced by 0.8 to 4.7 ug/l from 2008-2013¹).

In accordance with this Policy, R2R Engineers started the RDS on April 15, 2022 and shut it down on October 6, 2022.

2022 OPERATION DETAILS/REPAIRS/ MAINTENANCE:

The RDS test start and visual leak check was done on April 4, 2022 from 2:18 to 3:12 pm for 54 minutes with the pressure reducing valve set to a distribution system pressure of 40 psi. Ingersoll Rand replaced the top pressure regulating valve and performed their pre-season start inspection of the compressor on April 4, 2022. Prior to RDS test, leak check, and compressor inspection, an email was sent to CCBWQA representatives, Cherry Creek State Park representatives, and the Marina operator. The manholes were opened and the gage pressures for each of the 5 zones were observed (**Photo 1**). A visual observation was made from the shoreline



¹ Cherry Creek Reservoir Model Documentation - Section 5.2.1; April 2017, Hydros Consulting Inc.



with no leaks apparent; the surface of the reservoir included some waves that were visually masking some of the bubble plumes from the aerators (**Photo 2**).

The 2022 RDS Operations Log in **Appendix B** summarizes the operations and maintenance recorded during the 2022 season. Some of the key highlights are included below.

- The RDS was started for the season on April 15, 2022 at 8:56 am with the pressure reducing valve set to a distribution system pressure of 40 psi.
- The distribution system pressure was stepped up to 50 psi on April 25, 2022 at 2:55 pm.
- The distribution system pressure was stepped up to 55 psi on May 6, 2022 10:29 am.
- On May 10 at 9:55 am, the RDS was shut down at request of Colorado Parks and Wildlife to aid in the search and recovery efforts in the reservoir.
- On May 14, 2022 at 2:32 pm, the RDS was restarted.
- On June 6, 2022, Colorado Parks and Wildlife reported a potential leak in the reservoir.
- On June 7, 2022, LRE Water followed up on the leak report and observed a diffuser head that was creating a larger than normal bubble plume (**Photo 3**) and the other heads in the zone beyond the leak were still working so all zones were left operational.
- On June 14, 2022, Ingersoll Rand performed preventative maintenance which included cleaning of coolers.
- On June 21, 2022, B&RW replaced a blown regulator (**Photo 4**) in head 402 repairing the leak.
- On August 17, 2022, the louvers in both doors to the RDS Building were observed and found free from clogging and debris (**Photo 5**).
- On August 22-23, 2022, B&RW began annual maintenance of the in-lake distribution system.
- On September 6, 2022, Ingersoll Rand informed CCBWQA that they received a message stating temperatures were elevated and that there was a potential ventilation issue. R2R Engineers went out to the site and observed:
 - the louvers in both doors to the RDS Building and found no clogging, and
 - the compressor was shut down and had a warning of High Bearing Oil Temperature on September 2, 2022 at 16:03:46 (**Photo 6**).

Ingersoll Rand was informed of findings and they scheduled a technician for September 7, 2022.

- Ingersoll Rand performed preventative maintenance on September 7, 2022, which included cleaning of coolers, and the compressor was placed back into service.
- On September 14, 2022, the Marina reported a visible leak in the Reservoir.
- On September 15, 2022, LRE Water confirmed leak with large bubble plume and no heads beyond leak were running, they shut down Zone 1 so that remaining zones could still operate.

- On September 20, 2022, B&RW initiated repairs and found the line separated with a large gap between ends. B&RW tried unsuccessfully to pull lines closer together. B&RW capped the end of line so the first few heads in Zone 1 could operate until a larger repair could be made.
- On September 27, 2022, B&RW finished the repair of Zone 1 by disassembling the disconnected section, moving it back into place, and reassembling, thus reconnecting it. Zone 1 was fully returned to service.
- On October 4-5, 2022, B&RW finished annual maintenance of the in-lake distribution system.
- The RDS was shut down for the season on October 6, 2022 at 2:14 pm.



Photo 3



Photo 4

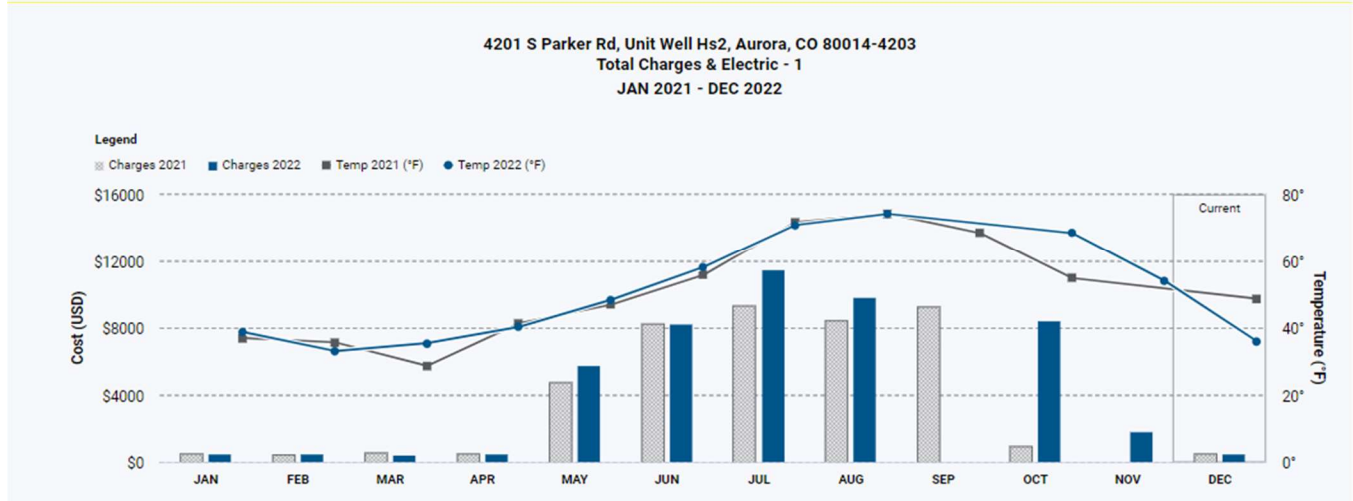
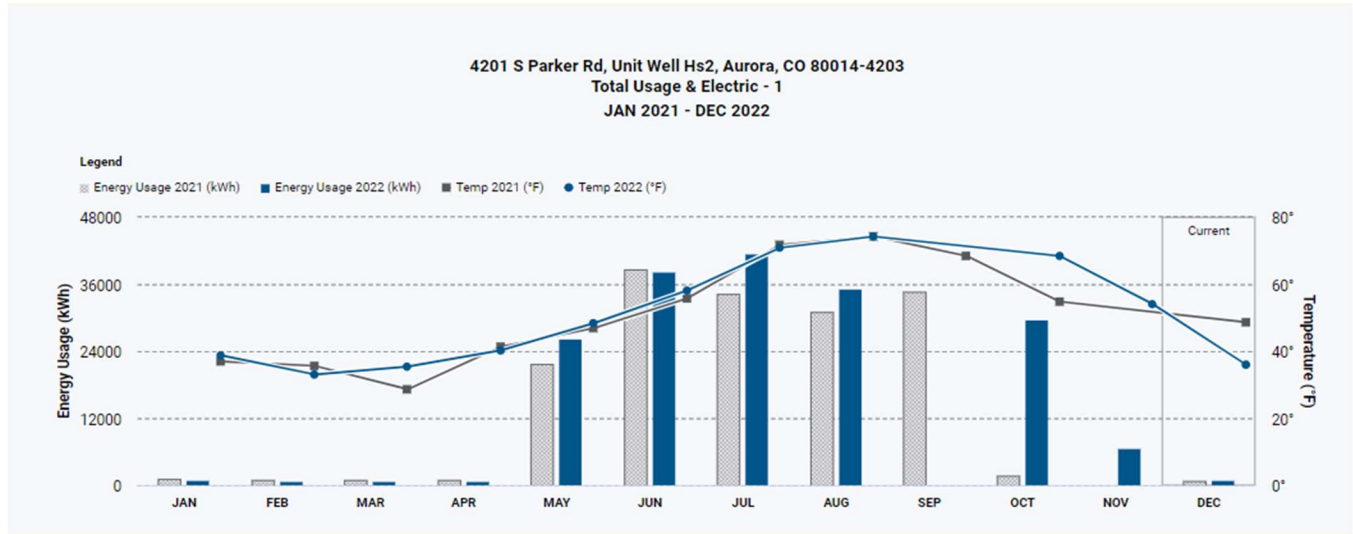


Photo 5



Photo 6

2022 ELECTRICAL USAGE AND CHARGES:



Xcel Energy changed its reporting this year² and now provides two graphs and corresponding monthly data for the 2022 electrical usage and charges (see graphs above and corresponding monthly data in **Appendix C**). These graphs show the previous year for comparison as well. Note that there is information missing for November 2021 and September 2022, which is likely a result of the meter not being read. The charges are actual dollars billed and have not been adjusted for inflation. When the corresponding data is summarized, the total electrical usage for 2022 was 181720 kWh at a cost of \$48,088.50 compared with 2021 that used 166880 kWh at a cost of \$43,623.15. The energy use of the RDS increased in 2022, while the 2022 season was longer (comparing stop dates of 10/6/22 versus 10/1/22) there were other shut down periods in 2022 (for 4 days May 10-14, 2022 and 5 days September 2-7, 2022) that would offset the longer season operation of 5 days. There isn't a readily apparent reason for this 8.8% increase, and it may be a result of different weather patterns and reservoir conditions (i.e., depth and temperature of water). It is recommended that the energy use be monitored going forward to determine whether there are any developing performance issues with the RDS.

² Xcel CCBWQA Account Data, Public Service Company of Colorado, 2022

RECOMMENDATIONS:

The following recommendations are provided for consideration to improve system operation.

- The compressor coolers were cleaned on June 14, 2022; however, the compressor had a temperature warning and shutdown on September 2, 2022. For this reason, it is recommended to have Ingersoll Rand (IR) clean compressor coolers at a frequency of about every 2 months during the operating season to minimize the chances of another high temperature shutdown like what happened from September 2-7, 2022. This cleaning can be requested by contacting IR's Technician Supervisor, currently Daniel Ortiz at DOrtiz@irco.com or on his mobile phone 303.598.7069.
- Since there was a delay in knowing that the compressor wasn't running (CCBWQA had to wait until the after the holiday weekend to be contacted by IR of a potential issue), it is recommended that CCBWQA evaluate options to improve communication with IR and consider other options to monitor RDS operations to minimize the length of future lengths shutdowns.
 - IR was contacted to start this evaluation, and they are beta testing providing their Remote Monitoring System (RMS) to their customers. The RMS provides e-mail and notifications and an online platform to IR that identifies maintenance needs of the compressor. The RMS beta test would be included in CCBWQA's PackageCare so there wouldn't be any additional cost; a request to add CCBWQA has been made to IR's Account Manager, currently Jeff Handley at Jeff.Handley@irco.com or on his mobile phone 303.345.4407). If CCBWQA notices an issue through the RMS or site visit, then a call can be placed to 1-800-223-1911 option 1 to IR to request maintenance on the compressor. The standard work hours are Monday through Friday 7:30 am to 4:00 pm (Mountain Time); if maintenance is needed outside of those hours, a recorded message gives instructions for a 24-hour call service that will reach out to the on-call technician. Maintenance during standard work hours is covered under CCBWQA's PackageCare plan, but after-hours work is not covered and is charged at an hourly rate with a 4-hour minimum.
 - If the RMS doesn't meet the information and communication needs of CCBWQA, CCBWQA can look at possibly reviving the previous notification system (SCADA and Mission Control software used with the old compressor) or a new one that provides a call out to a list (consultant staff and manager) and remote monitoring/control option. This option would likely need further evaluation to determine the scope of work and identification of costs.
- Since there was an 8.8% increase in energy consumption from 2021 to 2022, it is recommended to continue monitoring the annual energy consumption and look for any trends that may point to developing issues or concerns.

RDS POLICY and HISTORY

For the 2009-2013 operating seasons, the Cherry Creek Basin Water Quality Authority (CCBWQA) annually reviewed the prior year's Reservoir De-stratification System operating policies and procedures in light of reservoir data collected from system operations to determine the system start-up date.

In 2014, data collected during the time period of 2008 through 2013 was further analyzed. The data identified that the de-stratification system provided two primary benefits. One is the reduction in the dominance of blue-green algae as part of the whole algal assemblage, and the second is the reduction in the periods when the reservoir is thermally stratified during the summer.³

The data further suggested that operating the aeration system in early spring did not significantly affect blue-green algae (i.e. cyanobacteria) growth, since the primary cyanobacteria growth period is from June through September when water temperatures are warmer.⁴ Additionally, the aeration system supports de-stratification of the reservoir, thereby reducing the tendency for the reservoir to "turn over," bringing up

³ CCBWQA January 28, 2013. *Compressor Design Basis - Daily Operation*, William P. Ruzzo, P.E., Craig Wolf, GEI.

⁴ GEI, Consultants, Inc. January 2014. *Cherry Creek Reservoir 2013 Water Year Aquatic Biological Nutrient Monitoring Study and Cottonwood Creek Pollutant Reduction Facilities Monitoring*.

anoxic water and higher concentrations of nutrients from the reservoir floor. The data from 2008 through 2013 suggested that the reservoir begins to stratify in late-April to mid-May.

After review of the data, it was concluded that operation of the destratification system, beginning in 2014, shall be modified as follows:

- a. System start-up shall occur between the dates of May 1st and May 10th.
- b. System shutdown shall occur between the dates of November 1st and November 15th.

Additionally, operation of the destratification system shall be limited to those times when ice is not present on the reservoir, except under specific scenarios. This information resulted in "Operation Policy Regarding Ice" policy adopted by the CCBWQA's Board on February 20, 2014 and the "Destratification System Compressor Start-up Procedure" approved by the CCBWQA's Technical Advisory Committee on April 3, 2014 (mentioned here for historical purposes since it has subsequently been updated when the RDS Operations Policy was adopted via resolution 2022-1-2 at the January 20, 2022 Board meeting, see **Appendix A**).

Prior to the start of the 2014 operation of the destratification season, the question surfaced regarding whether the system should be started to allow for reservoir data to be collected with the destratification system in non-operational mode. This would provide additional water quality data to be collected for the in-progress reservoir modeling effort that was underway. The CCBWQA's Technical Advisory Committee took this question under advisement and recommended to the CCBWQA's Board that the system not operate during the 2014 season. The CCBWQA's Board approved this change in the Destratification Operating Policy such that the system did not operate for the entire 2014 aeration season.

Then in 2015 and again in 2016, the CCBWQA's Technical Advisory Committee (TAC) took the question of whether the destratification system should operate under advisement and in each year recommended to the CCBWQA's Board that the system not operate during the 2015 and 2016 aeration seasons in order to collect additional water quality data with the system turned off. The CCBWQA's Board approved the TAC's recommendation each year.

During each of the three years that the destratification system didn't operate, one or more cyanobacteria blooms were observed within the reservoir. Prior to the start of the 2017 aeration season, the CCBWQA's Technical Advisory Committee (TAC) again took the question of whether the destratification system should operate in 2017. Since the reservoir modeling was complete, TAC recommended the destratification system operate from the first of May through the July 4th weekend to determine if this abbreviated aeration season would prevent a cyanobacteria bloom. The CCBWQA's Board approved TAC's recommendation and the destratification system was started on May 1, 2017. Following the system shutdown on July 1, 2017, the aeration system was operated (exercised) periodically to maintain it in a "ready state".

Again in 2018, TAC reviewed and recommended the same operational procedure for the destratification system, which was approved by the CCBWQA's Board.

In 2019, the TAC and Board approved a similar operation season to 2017 and 2018, with the following modifications:

1. Test runs and startup begin in April to assess and prepare for system operations; and
2. If the system is inoperative for longer than 1 day, a restart procedure be established; and
3. Automated controls be evaluated at a cost of less than \$7,500.

A restart procedure of contacting a group⁵ to review available water quality monitoring data and length of operation to establish a restart protocol.

In 2020, the compressor was replaced in July, see compressor replacement summary in **Appendix D**. The RDS was operated from May 1 through November 16, 2020 to capture the full water quality benefits from the RDS. The compressor operated even through the hottest months of July and August. There were several

⁵ Cherry Creek State Park Manager (Jason Trujillo), Colorado Parks and Wildlife Water Quality Coordinator (Mindi May), Solitude Lake Management Regional Manager (Erin Stewart) and the CCBWQA's Pollution Abatement Project Manager (Rich Borchardt)

algae blooms. One of the worst was a blue-green algae bloom from July 9 to July 14, 2020 resulting in the Marina and Swim Beaches being closed to water contact and warning signs posted. It was recommended that the RDS operation season and policy be updated to include additional data that has been gathered since 2014 (when previous RDS Operations Policy) and the ability of new compressor to operate for a longer season.⁶

In 2021, it was noted in the 2021 RDS Operations and Maintenance Annual Report⁷ to add observation and cleaning, if needed, of louvers in the building doors.

In 2022, the CCBWQA Board of Directors (Board) adopted a restated amended Policy for the Operation of the RDS (Policy) by resolution 2022-1-2 included in **Appendix A** which:

- adopted the new operation season of about mid-April through about the end of September; and
- optimizes the water quality benefit of a reduced the summer chlorophyll-a average (historically reduced by 0.8 to 4.7 ug/l from 2008-2013⁸).

⁶ CCBWQA 2020 RDS Operations and Maintenance Annual Report, R2R Engineers.

⁷ CCBWQA 2021 RDS Operations and Maintenance Annual Report, R2R Engineers

⁸ Cherry Creek Reservoir Model Documentation - Section 5.2.1; April 2017, Hydros Consulting Inc.

APPENDIX A – Resolution 2022-1-2 RDS Operations Season and Policy

CHERRY CREEK BASIN WATER QUALITY AUTHORITY

RESOLUTION 2022-1-2

ARAPAHOE AND DOUGLAS COUNTIES, COLORADO

A RESOLUTION ADOPTING A RESTATED AND AMENDED POLICY FOR THE OPERATION OF THE CHERRY CREEK RESERVOIR DESTRATIFICATION SYSTEM

WHEREAS, the Cherry Creek Basin Water Quality Authority (“Authority”) is authorized by the provisions of Section 25-8.5-110(1)(a), C.R.S., to adopt policies to facilitate the governance and management of the affairs of the Authority and for the execution of the powers vested in the Authority, and for carrying out the provisions of Article 8.5 of Title 25 of the Colorado Revised Statutes; and

WHEREAS, the Authority is statutorily charged with protecting, preserving, and enhancing the water quality of Cherry Creek, the Cherry Creek Reservoir and related Watershed; and

WHEREAS, the Authority has installed and currently operates an aeration system in the Reservoir (“Destratification System”) for the purpose of mixing the water column to reduce the occurrence of thermal stratification; and

WHEREAS, on February 20, 2014, the Authority adopted a Destratification System Operating Policy (“Policy”) which the Authority desires to restate and amend; and

WHEREAS, the Authority’s Technical Advisory Committee has reviewed the proposed Restated and Amended Destratification System Operating Policy and recommends the Board adopt the same.

NOW THEREFORE, BE IT RESOLVED BY the Board of Directors of the Cherry Creek Basin Water Quality Authority, Arapahoe and Douglas Counties, Colorado that:

Section 1. Adoption of Restated and Amended Policy. The Restated and Amended Destratification System Operating Policy attached hereto as **Exhibit A** is hereby adopted.

Section 2. Prior Policies Superseded. The Restated and Amended Policy supersedes all policies previously adopted by the Board that pertain to the operation of the Destratification System including, but not limited to, the Policy adopted on February 20, 2014.

Section 3. No Assumed Duty. The Authority is afforded certain immunities, defenses, and protections from and against tort liability under the Colorado Governmental Immunity Act, Section 24-10-101, *et. seq.*, C.R.S., which the Authority, by the adoption of this Policy, does not waive in whole or in part. The adoption of this Policy and its subsequent implementation shall not give rise to a duty of care on the part of the Authority where none otherwise existed, nor shall the enforcement of or failure to enforce the Policy or any provision contained therein give rise to a duty of care when none otherwise existed.

Section 4. Severability. Should any one or more sections or provisions of this Resolution be judicially declared invalid or unenforceable, such determination shall not affect, impair, or invalidate the remaining provisions of this Resolution, the intention being that the various sections and provisions hereof are severable.

Section 5. Repeal. Any and all resolutions, or part thereof, in conflict or inconsistent herewith, or to the extent of such conflict or inconsistency are hereby repealed; provided, however, that the repeal of any such resolution or part thereof shall not revive any other resolution or part thereof heretofore repealed or superseded.

Section 6. Effective Date. The provisions of this Resolution memorialize the actions taken by the Board at its December 16, 2021, regular meeting and accordingly, shall take effect as of said date.

ADOPTED on the 16th day of December 2021 and **EXECUTED** this 20th day of January, 2022.

**CHERRY CREEK BASIN WATER
QUALITY AUTHORITY**

By: **Joshua Rivero**

Joshua Rivero, Chair

Attest:

John A McCarty

John A. McCarty, Secretary/Treasurer

EXHIBIT A

CHERRY CREEK BASIN WATER QUALITY AUTHORITY

CHERRY CREEK RESERVOIR RESTATED AND AMENDED DESTRATIFICATION SYSTEM OPERATING POLICY

July 19, 2021

(TAC reviewed September 2, 2021; Board reviewed January 20, 2022)

Recommended Operating Season and Start-up Criteria:

In 2020, the Cherry Creek Basin Water Quality Authority (CCBWQA) replaced the compressor to improve the operation of the Reservoir Destratification System (RDS) and to allow for operation from March 1 through November 30. In July 2020; the compressor was replaced, and operation was tested through November 16, 2020.¹ With the new compressor, it appears that the RDS has the capability of operating from ice off through ice on the reservoir.

In 2021, CCBWQA wanted to optimize the water quality benefits of the RDS. CCBWQA reviewed the water quality data from the water quality sampling and thermistor set in the reservoir to evaluate the optimal operating season. For the period of 2016 – 2020²:

- the earliest start of thermal stratification was April 20, 2020 (without RDS Operating); and,
- the latest finish of thermal stratification was October 17, 2020 (RDS was operating) or September 27, 2018 (without RDS Operating).

Considering this information, CCBWQA's Technical Advisory Committee at its September 2, 2021, meeting proposed amending the RDS Operations Policy to include, among other things that the RDS should be operated:

- from about mid-April through at least the end of September; and
- before startup, CCBWQA's System Operator will need to visually verify that ice should be off the reservoir³ and the temperature in the building 38 degrees Fahrenheit; and,
- CCBWQA's System Operator shall then log the detail of the start-up and shut-down procedure in the Cherry Creek Reservoir Destratification Facilities Operation and Maintenance Annual Report.

Start-up Procedure:

CCBWQA's System Operator should perform a leak check after ice off and ahead of Operating Season start date. CCBWQA's System Operator will perform test by:

¹ Cherry Creek Reservoir Destratification System – 2020 Operation and Maintenance Annual Report, R2R Engineers.

² E-mails from Solitude Lake Management on March 25, 2021, and April 14, 2021.

³ Destratification System - Operation Policy Regarding Ice; adopted by the CCBWQA Board on February 20, 2014

1. Notifying Cherry Creek State Park Staff (manager and operations manager), Marina Operator, and Ingersoll Rand's client manager for CCBWQA of leak test and season start date.
2. At distribution manholes, check that valves are configured to send air to all zones.
3. Set Pressure Reducing Valve to 40 psi.
4. Review Compressor discharge pressure is set to a range between 100-110 psi.
5. Start compressor following instructions in compressor manual.
6. Monitor gages on Pressure Reducing Valve and Compressor. Compressor delivers 100-110 psi and Pressure Reducing Valve regulates it to 40 psi going to distribution system.
7. Shutdown compressor if compressor delivers more than 110 psi or output on Pressure Reduction Valve exceeds 40 psi.
8. Check pressure gages at distribution manholes.
9. Visually look for leaks by driving dam road and using binoculars from dam and shoreline or by boat.
10. After test, shut-down RDS and report any leaks.
11. Record leak test date and time.

For season start-up, CCBWQA's System Operator:

1. Follow instructions 2-8 from leak test.
2. Step up of pressure in 2 phases (50 and 55 psi) at least 4 hours apart,
 - a. Check Pressure Reducing Valve output doesn't exceed phase pressure.
 - b. Check pressure gages at distribution manholes.
3. Record start-up date and time.

Shut-down Procedure:

1. Notifying Cherry Creek State Park Staff (manager and operations manager), Marina Operator, and Ingersoll Rand's client manager for CCBWQA of season end date.
2. Turn off Compressor.
3. Monitor gages on Pressure Reducing Valve and Compressor. Pressures should drop.
4. Record shut-down date and time.

CHERRY CREEK BASIN WATER QUALITY AUTHORITY
CHERRY CREEK RESERVOIR DESTRATIFICATION SYSTEM
OPERATIONS POLICY

July 19, 2021 (TAC reviewed September 2, 2021; Board reviewed
January 20, 2022)

Recommended Operating Season and Start-up Criteria:

In 2020, the Cherry Creek Basin Water Quality Authority (CCBWQA) replaced the compressor to improve the operation of the Reservoir Destratification System (RDS) and to allow for operation from March 1 through November 30. In July 2020; the compressor was replaced, and operation was tested through November 16, 2020.¹ With the new compressor, it appears that the RDS has the capability of operating from ice off through ice on the reservoir.

In 2021, CCBWQA wanted to optimize the water quality benefits of the RDS. CCBWQA reviewed the water quality data from the water quality sampling and thermistor set in the reservoir to evaluate the optimal operating season. For the period of 2016 – 2020²:

- the earliest start of thermal stratification was April 20, 2020 (without RDS Operating); and,
- the latest finish of thermal stratification was October 17, 2020 (RDS was operating) or September 27, 2018 (without RDS Operating).

Considering this information, CCBWQA's Technical Advisory Committee at their September 2, 2021 accepted the update the RDS Operations Policy and the RDS should be operated:

- from about mid-April through at least the end of September; and
- before startup, CCBWQA's System Operator will need to visually verify that ice should be off the reservoir³ and the temperature in the building 38 degrees Fahrenheit; and,
- CCBWQA's System Operator shall then log the detail of the start-up and shut-down procedure in the Cherry Creek Reservoir Destratification Facilities Operation and Maintenance Annual Report.

Start-up Procedure:

CCBWQA's System Operator should perform a leak check after ice off and ahead of Operating Season start date. CCBWQA's System Operator will perform test by:

1. Notifying Cherry Creek State Park Staff (manager and operations manager), Marina Operator, and Ingersoll Rand's client manager for CCBWQA of leak test and season start date.
2. At distribution manholes, check that valves are configured to send air to all zones.
3. Set Pressure Reducing Valve to 40 psi.
4. Review Compressor discharge pressure is set to a range between 100-110 psi.
5. Start compressor following instructions in compressor manual.
6. Monitor gages on Pressure Reducing Valve and Compressor. Compressor delivers 100-110 psi and Pressure Reducing Valve regulates it to 40 psi going to distribution system.
7. Shutdown compressor if compressor delivers more than 110 psi or output on Pressure Reduction Valve exceeds 40 psi.
8. Check pressure gages at distribution manholes.
9. Visually look for leaks by driving dam road and using binoculars from dam and shoreline or by boat.
10. After test, shut-down RDS and report any leaks.
11. Record leak test date and time.

For season start-up, CCBWQA's System Operator:

1. Follow instructions 2-8 from leak test.

¹ Cherry Creek Reservoir Destratification System – 2020 Operation and Maintenance Annual Report, R2R Engineers.

² E-mails from Solitude Lake Management on March 25, 2021 and April 14, 2021.

³ Destratification System - Operation Policy Regarding Ice; adopted by the CCBWQA Board on February 20, 2014

2. Step up of pressure in 2 phases (50 and 55 psi) at least 4 hours apart,
 - a. Check Pressure Reducing Valve output doesn't exceed phase pressure.
 - b. Check pressure gages at distribution manholes.
3. Record start-up date and time.

Shut-down Procedure:

1. Notifying Cherry Creek State Park Staff (manager and operations manager), Marina Operator, and Ingersoll Rand's client manager for CCBWQA of season end date.
2. Turn off Compressor.
3. Monitor gages on Pressure Reducing Valve and Compressor. Pressures should drop.
4. Record shut-down date and time.

Signature: 

Email: jrivero@parkeronline.org

Signature: 
John A. McCarty (Jan 30, 2022 16:21 MST)

Email: johnmccarty1972@gmail.com

APPENDIX B - 2022 RDS OPERATIONS LOG

Cherry Creek Basin Water Quality Authority
 2022 Reservoir Destratification System (RDS) Operational Log
 December 23, 2022

Date	Day	Time		Runtime Minutes	System Pressure psi	Comments
		Start	Shutdown			
4/4/2022	Monday					Ingersoll Rand replaced top pressure regulating valve and performed pre-season start inspection
4/4/2022	Monday	2:18 PM	3:12 PM	54	40	No leaks or problems observed
4/15/22	Friday	8:56 AM			40	Season Start
4/25/22	Monday	2:55 PM			50	Stepped up system pressure to 50 psi
5/6/22	Friday	10:29 AM			55	Stepped up system pressure to 55 psi
5/10/22	Tuesday		9:55 AM		55	RDS was shutdown at request of CPW for search and recovery
5/14/22	Saturday	2:32 PM			55	Notified by CPW that RDS could be started
6/6/22	Monday				55	CPW reported possible leak
6/7/22	Tuesday				55	LRE Water confirmed leak and provided coordinates. Other heads still working.
6/14/22	Tuesday				55	Ingersoll Rand performed preventative maintenance which included cleaning of coolers
6/21/22	Tuesday				55	B&RW replaced blown regulator in head 402
8/17/22	Wednesday				55	Observed louvers in both doors were clear
8/22/22	Monday				55	B&RW performed in lake maintenance
8/23/22	Tuesday				55	B&RW performed in lake maintenance
9/2/22	Friday		4:03 PM		55	High Bearing Oil Temperature
9/6/22	Tuesday				55	Ingersoll Rand received message stating temperatures were elevated and that there was a potential ventilation issue. Observed louvers in both doors were clear, noted Compressor Warning of High Bearing Oil Temperature on 9/2/22 at 16:03:46. Informed Ingersoll Rand which scheduled a technician for 9/7/22.
9/7/22	Wednesday				55	Ingersoll Rand performed preventative maintenance which included cleaning of coolers
9/14/22	Wednesday				55	Marina reported possible leak
9/15/22	Thursday				55	LRE Water confirmed leak with large bubble plume and no heads beyond leak were running, they shut down Zone 1 so that remaining zones could still operate
9/20/22	Tuesday				55	B&RW initiated repairs found line separated with large gap between ends. Tried unsuccessfully to pull lines closer together. Capped end of line so the first few heads in Zone 1 could operate until larger repair could be made
9/20/22	Tuesday				55	B&RW initiated repairs and found the line separated with large gap. B&RW tried unsuccessfully to pull lines closer together. B&RW capped the end of line so first few heads in Zone 1 could operate until a larger repair could be made
9/27/22	Tuesday				55	B&RW repaired the gap by disassembling the disconnected section, moving it back into place, and reassembling thus reconnecting it.
10/4/22	Tuesday				55	B&RW performed in lake maintenance
10/5/22	Wednesday				55	B&RW performed in lake maintenance
10/6/22	Thursday		2:14 PM			Season stop

RDS all zones operating with leak in a single head with other heads in zone beyond leak still operating
 RDS operating with one zone shutdown as leak took numerous heads out of service; other zones still operating
 RDS completely shut down

APPENDIX C – XCEL ENERGY INFORMATION

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Total
Energy Usage 2021 (kWh)	1080	920	1000	920	21720	38640	34240	31000	34760	1760		840	166880
Energy Usage 2022 (kWh)	880	800	760	800	26200	38240	41600	35160		29760	6640	880	181720
Temp 2021 (°F)	36.97059	35.63793	28.63333	41.36207	46.90323	55.77419	71.78571	74.31035	68.46667	54.81035		48.65152	
Temp 2022 (°F)	38.76471	33.06667	35.39655	40.25806	48.39655	58.13334	70.9138	74.25		68.46774	54.06452	36	

Missing Informaiton likely due to meter not being read

Increase in Energy Usage (2022 kWh/2021 kWh)= 1.088926174

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Total
Charges 2021	498.99	471.01	572.57	533.73	4759.94	8285.34	9341.35	8468.24	9249.96	952.58		489.44	43623.15
Charges 2022	497.28	481.62	473.83	486.83	5802.56	8276.05	11497.55	9826.91		8420.9	1820.2	504.77	48088.5
Temp 2021 (°F)	36.97059	35.63793	28.63333	41.36207	46.90323	55.77419	71.78571	74.31035	68.46667	54.81035		48.65152	
Temp 2022 (°F)	38.76471	33.06667	35.39655	40.25806	48.39655	58.13334	70.9138	74.25		68.46774	54.06452	36	

Missing Informaiton likely due to meter not being read

APPENDIX D - COMPRESSOR REPLACEMENT SUMMARY

DATE: January 12, 2021

TO: Chuck Reid, CCBWQA Manager

CC: Jacob James, CCBWQA TAC Chairman

FROM: Richard Borchardt, PE & CFM

SUBJECT: Reservoir Destratification System – 2020 Compressor Replacement Project Summary



Background and Purpose:

In April 2008, the Cherry Creek Basin Water Quality Authority (CCBWQA) placed the Reservoir Destratification System (RDS) in service. Shortly after startup the air compressor began shutting down through internal overheating protection. **Figure 1** shows the location of the RDS Compressor Building where the compressor is located.

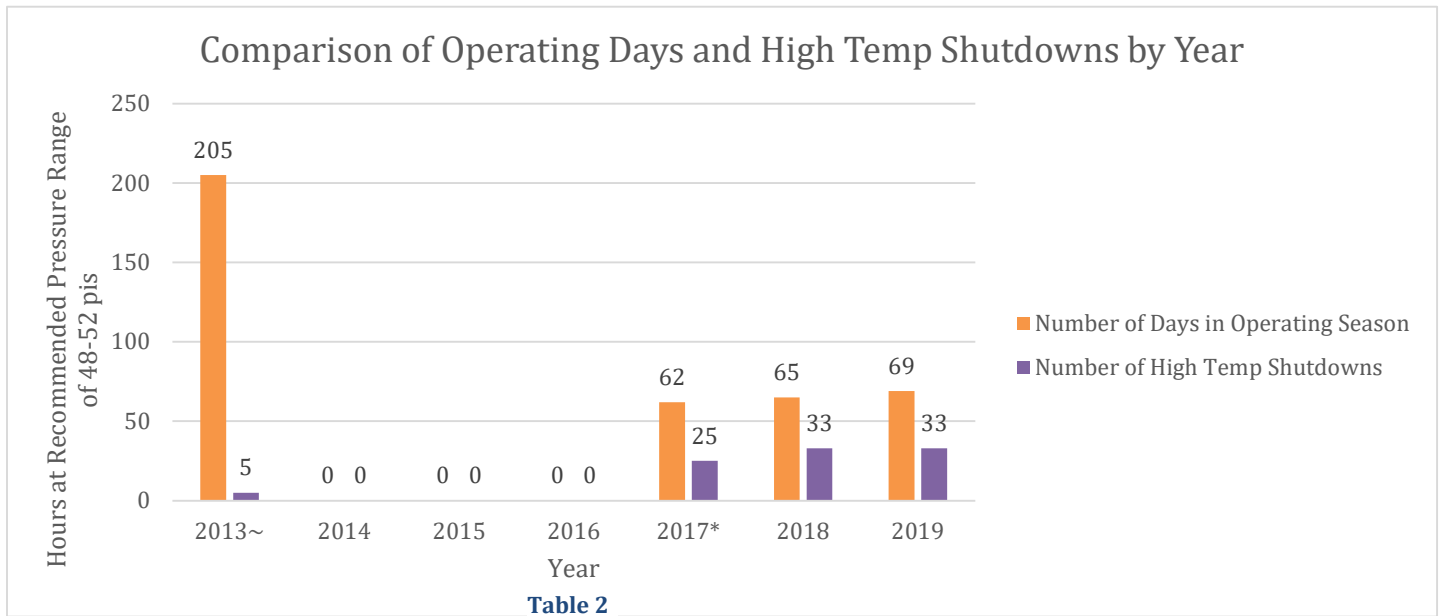
In September 2013, Eaton Energy Solutions (EES) prepared a report evaluating the RDS and providing options to improve operation of the RDS¹. EES provided several options and ultimately concluded that the compressor needed to be replaced to obtain full operation (24 hours a day, 7 days a week, through the operating season of

March 1 to November 30) at the appropriate volume of air 287 cubic feet per minute (cfm) at a pressure of 58 pounds per square inch (psi) on-site. Between 2013 and 2019, certain of EES's recommendations were implemented: replacing the above ground piping and upgrading controls to minimize manual restarts.

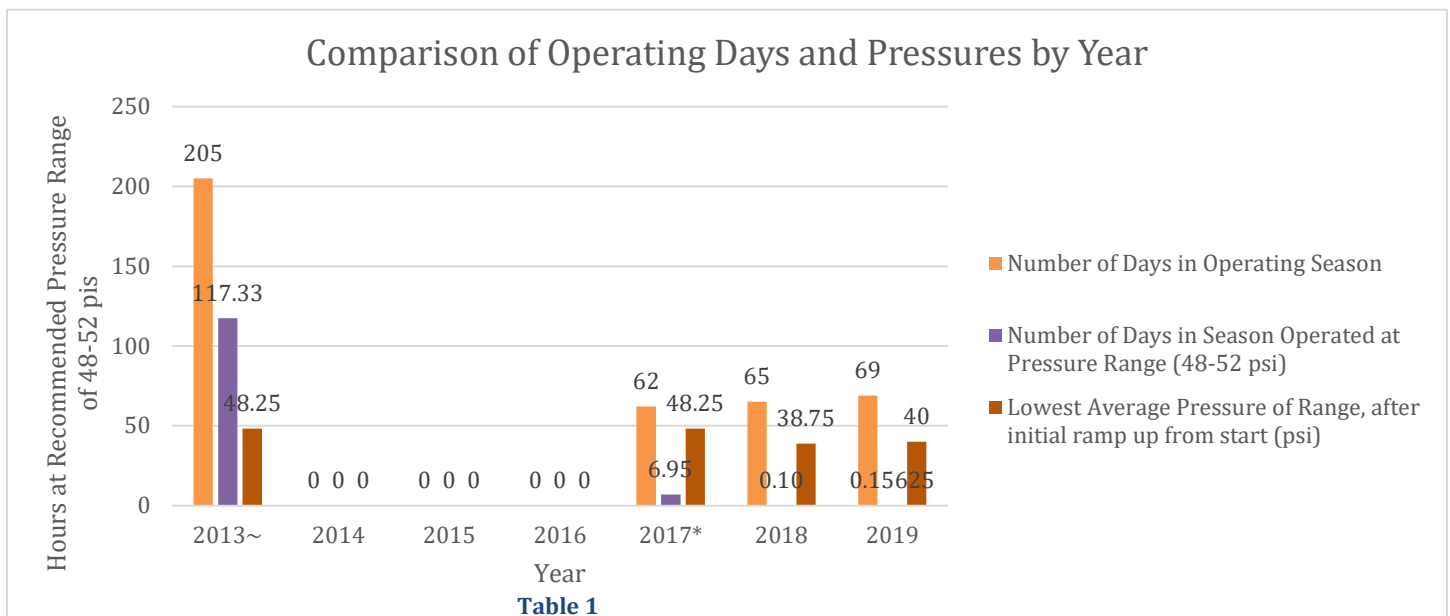
¹ Destratification System Evaluation for Cherry Creek Reservoir in Cherry Creek State Park, Co. Eaton Energy Solutions, Inc. September 27, 2013

Existing Conditions:

After the 2019 operating season, R2R Engineers prepared comparison of operating metrics from 2013 through 2019 (RDS was not operated in 2014 and 2015). These comparisons showed the continual decline operation time and pressure of the RDS. **Table 1** compares the number of days that the RDS was operated and the



corresponding number of high temperature shutdowns that occurred during that period. **Table 2** compares the number of days that the RDS was operated, with the number of days that it was operated at the best achievable pressure range (48-52 psi) with aging compressor, and the lowest average pressure range (pressure that was used to keep compressor running as much as possible). There is an apparent trend from 2018- 2019



of an increased number of high temperature shutdowns (33) with lower than ideal operating pressures (average of pressure ranges of 38.75 in 2018 and 40 in 2019).

Reservoir Destratification System – 2020 Compressor Replacement

January 12, 2021

Page | 3 of 3

R2R Engineers Memorandum

Procurement and Installation:

In 2020, CCBWQA replaced the compressor through a design-build procurement process. The selected bidder, Ingersoll Rand, installed a 100 Horsepower motor compressor capable of delivering 317 cfm at 100 psi on-site (exceeds performance specification), and a variable speed drive. CCBWQA added a receiver tank in the bid alternate to lower the pressure changes and extend the life of the compressor. Pressure regulators were included to allow CCBWQA to adjust pressure to the 58 psi.

Photo 2 shows the old compressor being removed, and **Photo 3** shows the new compressor installed. ²



Photo 2

Water Quality Benefits:

The RDS' water quality benefits include:

- Reduction of approximately 810 pounds of Phosphorus per year³
- Disrupting blue-green algae life cycles as part of the whole algal assemblage, and
- Decreasing periods when the reservoir is thermally stratified during the summer⁴.

The decline in operating time and pressure (over time) has likely impacted these benefits. The compressor replacement restores the original operation parameters and associated water quality benefits.

Summary:

Water Quality Benefit of reduction of ≈ 810 pounds of Phosphorus per season

Total Project Cost = \$314,241⁵

Authority's Share = \$314,241

Engineer/Contractor: Ingersoll Rand



Photo 3

² Full Installation and Inspection Report by RG and Associates available from CCBWQA Manager.

³ CCBWQA 2020 Capital Improvement Program Supporting Data, Board Adopted Version November 21, 2019.

⁴ CCBWQA January 28, 2013. Compressor Design Basis - Daily Operation, William P. Ruzzo, P.E., Craig Wolf, GEI.

⁵ Includes 10-year maintenance plan.



ACTION ITEM MEMORANDUM

To: CCBWQA Board of Directors
From: Richard Borchardt, Pollution Abatement Project Manager
Date: January 22, 2023
Subject: Dove Creek Stream Reclamation Improvements from Otero Avenue to Pond D1 – IGA

Request: The Board approves the Intergovernmental Agreement (IGA) with SEMSWA for the first phase of construction of the Dove Creek Stream Reclamation and an expenditure of \$138,000.

Project/Issue: The design has been completed on Dove Creek from Otero Avenue to Pond D1 located upstream of Broncos Parkway in the City of Centennial. RESPEC is the design engineer. The Project sponsors are CCBWQA and the Southeast Metro Stormwater Authority (SEMSWA) which is the project lead. Dove Creek is a tributary to Cherry Creek. The proposed stream improvements benefit the water quality in Cherry Creek and the Cherry Creek Reservoir by reducing bed and bank erosion and immobilizing Phosphorus in the adjacent soils. It is estimated that this 0.51 mile long-project will immobilize 46 pounds of phosphorus annually. The first phase of construction between Otero Avenue and Chambers Road is scheduled for early 2023 and the attached IGA brings in 2023 funding of \$2,400,000 (\$138,000 CCBWQA and \$2,262,000 SEMSWA) for the construction of the first phase and contingency. The project is currently estimated at \$2,400,000 in the IGA; the table below provides a breakdown of funding by sponsors and shows CCBWQA’s participation is 8.5% which is less than the 25% limit historically used on partner projects. Future IGA(s) is(are) anticipated to bring in construction funding for the second phase of construction. Construction of the second phase between Chambers Road to Pond D-1 just upstream of Broncos Parkway is anticipated in 2024.



	2021	2022		2023		
Funding Source	Engineering Design	Additional Annual Funding	Cumulative Project Funding	Project Sponsor %	Additional Annual Funding	Cumulative Project Funding
SEMSWA	\$100,000	\$200,000	\$300,000	91.5%	\$2,262,000	\$2,562,000
CCBWQA	\$25,000	\$75,000	\$100,000	8.5%	\$138,000	\$238,000
Total	\$125,000	\$275,000	\$400,000	100.0%	\$2,400,000	\$2,800,000

Budget: CCBWQA’s 2023 Budget includes \$138,000 for this Project.

Motion: I move to approve the Intergovernmental Agreement with SEMSWA for funding the construction of Phase 1 of the Dove Creek Stream Reclamation Improvements for an amount not to exceed \$138,000.



Photo of Dove Creek downstream of Chambers Road (Courtesy of Molly Trujillo)



Photo of Dove Creek upstream of Chambers Road (Courtesy of Molly Trujillo)

**INTERGOVERNMENTAL AGREEMENT FOR FUNDING
THE CONSTRUCTION OF DOVE CREEK STREAM
RECLAMATION IMPROVEMENTS – PHASE 1**

THIS INTERGOVERNMENTAL AGREEMENT FOR FUNDING THE CONSTRUCTION OF DOVE CREEK STREAM RECLAMATION IMPROVEMENTS – PHASE 1 (“Agreement”) is made and entered into this ____ day of _____, 2023 by and between the **CHERRY CREEK BASIN WATER QUALITY AUTHORITY**, a quasi-municipal corporation and political subdivision of the State of Colorado (“Authority”) and **SOUTHEAST METRO STORMWATER AUTHORITY**, a quasi-municipal corporation and political subdivision of the State of Colorado (“SEMSWA”), individually a “Party” and collectively the “Parties”.

RECITALS

WHEREAS, Authority entered into that certain Intergovernmental Agreement for Funding the Design of Dove Creek Stream Reclamation Improvements dated May 28, 2021, as amended by a First Amendment dated April 21, 2022 (“Design Funding Agreement”), pursuant to which SEMSWA contributed \$300,000 and the Authority contributed \$100,000 to the design of the Project as hereinafter defined; and

WHEREAS, Dove Creek is tributary to Cherry Creek and pursuant to the Design Funding Agreement, the Parties agree to cooperate in funding the design and construction of that portion of Dove Creek that extends south from East Otero Avenue to Dove Creek Pond D1 (“Project”); and

WHEREAS, design of the Project is nearing completion and the Parties desire to cooperate in funding the construction of Phase 1 of the Project, which is located between Otero Avenue on the south and Chambers Road on the North and which is estimated to cost \$2,800,000 including design costs of \$400,000 (“Phase 1”); and

WHEREAS, based upon the Project’s water quality features and the benefits to be derived from the Project, including Phase 1, the Authority budgeted \$138,000 for construction of Phase 1 of the Project in the Authority’s 2023 Capital Improvement Project Budget; and

WHEREAS, the Design Funding Agreement contemplated that the Parties would fund the construction of the Project and budget the appropriate funds therefore in future years; and

WHEREAS, the Authority has ranked the Project, including Phase 1, high in priority based upon the criteria established by the Authority’s Technical Advisory Committee for water pollution abatement projects as confirmed by the Authority’s Stream Reclamation, Water Quality and Benefit Evaluation – Interim Stream Report, dated June 16, 2011; and

WHEREAS, the water quality features of the Project affect both the design and construction costs for the Project, including Phase 1; and

WHEREAS, the Parties desire to cooperate in funding the construction of the Project, including Phase 1, and for that purpose, desire to enter into this Agreement as hereinafter set forth.

NOW, THEREFORE, in consideration of the covenants and mutual agreements herein contained, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. **Purpose.** The purpose of this Agreement is to provide for the Parties to jointly fund the construction of Phase 1, and establish dates regarding the construction of Phase 1, as well as their expectations regarding the funding and construction of the balance of the Project.

2. **Construction of Phase 1**

2.1 **Construction.** Subject to paragraph 2.2 below, with input from the Authority, Phase I will be constructed by a contractor recommended and selected by SEMSWA and Authority. Except as provided in this Agreement, all matters relating to the construction of Phase I, including the Water Quality Component thereof, shall be at the discretion of SEMSWA. SEMSWA shall use its best efforts to award a contract for the construction of Phase I no later than March 31, 2023, and to cause Phase I, including the Water Quality Component thereof, to be constructed and accepted, for ownership and maintenance purposes, by either the Mile High Flood District or SEMSWA, as applicable on or before December 31, 2024.

2.2 **Construction Costs.** Before SEMSWA awards construction of Phase I, SEMSWA shall submit to the Authority a summary of construction costs received for Phase I, together with SEMSWA's recommendation to award a contract for the construction of Phase I. The Authority shall have the right to review the construction costs and will notify SEMSWA of any objections to SEMSWA's recommendation within five (5) days of receipt of the construction costs and SEMSWA's recommendation. SEMSWA will consider any objections raised by the Authority, but SEMSWA may award a contract to any construction contractor as to which the Authority has objected and not withdrawn that objection only after consultation with and consideration of the objections of the Authority. SEMSWA will require that the construction contractor ("Contractor") provide a performance and payment bond for Phase I, in the full amount of the construction contract price and to name the Authority as an additional obligee on said performance and payment bond.

If the construction costs for any reason are not acceptable to either SEMSWA or the Authority, and SEMSWA does not award a contract for construction of Phase I, the funds

paid by the Authority to SEMSWA, under paragraph 3.1 below, shall be returned to the Authority as soon as reasonably practical and this Agreement shall be considered null and void.

2.3 Construction in Accordance with Approved Plans. SEMSWA shall cause Phase I to be constructed in accordance with the construction plans as approved by Mile High Flood District, if applicable, SEMSWA, and the Authority.

2.4 Reports. SEMSWA shall provide to the Authority periodic updates and written reports concerning construction of Phase I. Unless otherwise agreed, said periodic reports shall be provided to the Authority no less frequently than monthly.

2.5 Meetings. At any time and in particular, following receipt of any periodic report, the Authority shall have the right to request a meeting with SEMSWA to review any Authority concerns or obtain any additional information that SEMSWA has concerning Phase I. If the Authority has concerns, SEMSWA agrees that it will address those concerns as soon as practical, but in no event later than twenty (20) days from the date such concerns are raised by the Authority and delivered in writing to SEMSWA. In the event that the Authority's concerns are not addressed to the Authority's satisfaction, the Authority shall have a right to appeal to the SEMSWA's engineer who shall render a decision within ten (10) days from the date of the appeal. The decision of the SEMSWA's engineer shall be final.

2.6 Change Orders. In addition to the provisions set forth in paragraph 4 below, in the event there is a proposed change order for Phase I regarding a stream reclamation and water quality enhancement component of Phase I, the Authority must approve the proposed change order, if as a result of the change order the Authority would be obligated to contribute funds for Phase I in excess of the \$138,000 agreed upon herein.

If the Authority's representative agrees that the change order is appropriate, the Authority's Board of Directors will be asked to approve, but shall be under no obligation to approve, an amendment to this Agreement increasing the Authority's contribution for Phase I. The Authority shall have no obligation to contribute funds to Phase I excess of the \$138,000 authorized herein unless an appropriate written amendment to this Agreement is executed by the Parties hereto.

If the Authority refuses to contribute funds in excess of the \$138,000 for a change order regarding a stream reclamation and water quality enhancement component of Phase I, SEMSWA may either pay for the change order itself or not implement the change order.

3. Parties Contributions

Party	Design Cost	Construction Cost	% Share of Construction Cost	% Share of Total Cost
SEMSWA	\$300,000	\$2,262,000	94.25%	91.50%
Authority	\$100,000	\$138,000	5.75%	8.50%
Total:	\$400,000	\$2,400,000	100%	100%

3.1 Payment of Authority Funds. From funds appropriated by the Authority for calendar year 2023, the Authority shall contribute \$138,000 ("Authority's Funds") for construction of Phase I. The Authority's Funds shall be paid to SEMSWA within thirty (30) days after this Agreement is executed by both Parties and upon receipt of an invoice from SEMSWA to the Authority for said amount. The Authority's Funds shall be used exclusively for Phase I, and only in accordance with the terms and provisions of this Agreement.

4. Use of Funds and Disbursements

4.1 Use of Funds. Unless otherwise agreed to in writing by the Authority, the Authority's Funds shall be used solely for the stream reclamation and water quality enhancement component of Phase I.

4.2 Disbursement of Authority Funds. The Authority requires and SEMSWA agrees that it shall provide the Authority with a copy of each pay application for Phase I so that the Authority can review each pay application. It is agreed that the Authority's Funds will be disbursed gradually over the construction of Phase I and not used entirely at the outset of Phase I.

4.3 Percentage of Pay Application. The contract awarded by SEMSWA is for the construction of stream reclamation improvements that are entirely water quality related. The Authority's portion of each pay application shall not exceed 5.75% of the pay application and the Authority's maximum contribution of \$138,000.

4.3.1 Approval of Pay Applications. A copy of each application for payment submitted by the Contractor with respect to Phase I shall be provided to the Authority's representative, who shall have five (5) business days to review and approve the same. Failure of the Authority's representative to object to any pay application within said five (5) day period shall be deemed approval of the pay application. Once a pay application has been approved it shall be funded, in part, from the Authority's Funds in accordance with the provisions of paragraph 4.3 above.

If the Authority's representative objects to all or any portion of a pay application, the Authority and SEMSWA shall immediately meet to discuss the same and resolve the issue. The Authority shall have the right to provide all input it deems relevant to any pay application and the Authority's objections shall be given due consideration by SEMSWA. If the Authority is not satisfied or still objects to a pay application after SEMSWA has made a determination, SEMSWA shall have the right to proceed with the pay application.

4.4 Monthly Accounting. SEMSWA shall provide a monthly accounting to the Authority, showing the amount and for what purposes the Authority's Funds were spent on Phase I. The accounting to be furnished to the Authority hereunder shall describe, in as much detail as the Authority reasonably requires, how SEMSWA spent the Authority's Funds. Upon completion of the Water Quality Component of the Project, SEMSWA shall also provide the Authority with a final accounting of the Project's expenditures, which shall include, in detail, all the costs and expenses incurred by SEMSWA in connection with the construction of Phase I.

5. **Ownership and Maintenance of Phase I.**

5.1 Phase I Site. SEMSWA agrees that it shall construct Phase I on real property that SEMSWA has obtained easements for and has the ability to access Phase I for maintenance purposes.

5.2 Ownership and Maintenance of Phase I. Upon completion and acceptance of Phase I by SEMSWA, SEMSWA shall own, operate and maintain the same or shall make arrangements for Phase I to be owned, operated, and maintained by Mile High Flood District or another appropriate governmental entity, as determined by SEMSWA.

5.3 Access of Authority to Phase I. At such time as construction of Phase I is initiated, SEMSWA agrees that the Authority shall have a right of access to Phase I for observation of construction activities and any subsequent general operation and maintenance, to the extent that the Authority deems such access advisable.

6. **Construction of Phase II**

5.1 Construction of Phase II. The remaining portion of the Project referred to herein as "Phase II" is anticipated to occur in 2024. At such time as the construction plans are finalized and contingent upon the availability of funds, the Parties anticipate amending this Agreement to provide for their joint cooperation with respect to the funding of Phase II.

7. **Miscellaneous.**

7.1 Governing Law. The Parties agree this Agreement shall be governed by and construed in accordance with the laws of the State of Colorado.

7.2 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the Parties and their successors, assigns, and legal representatives.

7.3 ThirdPartyBeneficiary. It is specifically agreed between the Parties

executing this Agreement that it is not intended by any of the provisions of any part of this Agreement to create a third-party beneficiary hereunder, or to authorize anyone not a party to this Agreement to maintain any claim under this Agreement. The duties, obligations and responsibilities of the Parties to this Agreement with respect to third parties shall remain as imposed by law.

7.4 Entire Agreement; Amendments. This Agreement, including its exhibits, contains the entire understanding of the Parties with respect to this subject matter. This Agreement supersedes all prior agreements and understandings between the Parties with respect to its subject matter. This Agreement may be amended only by a written instrument duly executed by the Parties or their respective successors or assigns.

7.5 Notice and Communications. Any notice pursuant to the terms and conditions of this Agreement shall be in writing and delivered personally, or sent by certified mail, return receipt requested, or sent by a recognized overnight mail or courier services, with delivery receipt requested, to the following addresses (or to such other address as may from time to time be specified in writing by the Parties):

If to Authority: Richard Borchardt, Capital Projects Manager
Cherry Creek Basin Water Quality Authority
P.O. Box 3166
Centennial, CO 80161

with a copy to: Timothy J. Flynn, Esq.
Collins Cole Flynn Winn & Ulmer, PLLC
165 South Union Boulevard, Suite 785
Lakewood, CO 80228

If to SEMSWA: Dan Olsen, Executive Director
Southeast Metro Storm Water Authority
7437 South Fairplay Street
Centennial, CO 80112

with a copy to: Edward J. Krisor, Esq.
3900 South Wadsworth Boulevard, Suite 320
Lakewood, CO 80235

Notices shall be effective when received by the party to whom addressed.

7.6 Binding Representative. In regard to all project documents and communications, including but not limited to, change orders, pay applications and

construction contract amendments, the Authority designates Richard Borchardt, or his designee as its representative with power to bind the Authority subject to the limitations set forth in Paragraph 3; provided, however, the Authority's representative shall have no Authority to amend this Agreement.

7.7 Default/Remedies. In the event of a breach or default of this Agreement by any Party, the non-defaulting party shall be entitled to exercise all remedies available at law or in equity, specifically including suits for specific performance and/or monetary damages. In the event of any litigation, arbitration or other proceeding to enforce the terms, covenants or conditions hereof, the prevailing party in such litigation, arbitration or other proceeding shall be entitled to obtain as part of its judgment or award its costs and reasonable attorneys' fees.

7.8 Force Majeure. Wherever there is provided in this Agreement a time limitation for performance by the Parties for any obligations related to the construction of Phase I, the time provided for shall be extended for as long as and to the extent that the delay is due to an act of God, strikes, labor disputes, inability to obtain labor or materials or reasonable substitutes, fire or other casualty and other causes beyond the control of the Parties.

7.9 Counterpart Execution. This Agreement may be executed in counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument.

7.10 Governmental Immunity. Nothing herein shall be construed as a waiver of the rights and privileges of Authority or SEMSWA pursuant to the Colorado Governmental Immunity Act, §§ 24-10-101, et seq., C.R.S., as amended from time to time.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year first above written.

SOUTHEAST METRO STORM WATER
AUTHORITY

By: _____
_____, Executive Director

Attest:

_____, Secretary

CHERRY CREEK BASIN WATER QUALITY
AUTHORITY

By: _____
Josh Rivero, Chair

Attest:

John McCarty, Secretary



ACTION ITEM MEMORANDUM

To: CCBWQA Board of Directors
From: Jessica DiToro, PE, LRE Water and Jane Clary, Wright Water Engineers
Date: January 19, 2023
Subject: Lake Nutrients WQCC Rulemaking Hearing Rebuttal Statement

Request: That the CCBWQA Board of Directors approve the Lake Nutrients Criteria Rulemaking Hearing (RMH) Rebuttal Statement (Rebuttal) and authorize submittal to the Water Quality Control Commission (WQCC).

Issue: On December 21, 2022, all parties to the Lake Nutrients Criteria RMH submitted their [Responsive Prehearing Statements \(RPHSs\)](#) to the WQCC. Staff reviewed the RPHSs for discussion regarding Cherry Creek Reservoir and/or requests for delayed effective dates/site-specific standards. The only entity that specifically discussed Cherry Creek Reservoir was the EPA. EPA strongly supports the Water Quality Control Division's (WQCD) proposed approach of applying both TN and TP table value standards to Cherry Creek Reservoir at the April RMH but requested that the WQCD rerun these values using the 18 µg/L chlorophyll-a standard rather than the 20 µg/L table value standard. This would result in lower TN and TP standards than the values proposed by the WQCD.

The next deadline for the RMH is submittal of the Rebuttal on February 15, 2023. This allows for one additional TAC meeting (February) between the January 19, 2023 Board meeting and the Rebuttal due date. See Attachment 1 for the RMH schedule overlaid with the CCBWQA meeting schedule. To address this potential timing constraint, at the last CCBWQA Board meeting on December 15, 2022, the Board approved formation of a Regulation 38 RMH Subcommittee with the delegated authority to make decisions during time-constrained hearing deadlines and/or to make minor edits to hearing documents for the Lake Nutrients Criteria RMH that are substantively consistent with prior direction provided by the Board and TAC.

On December 28, 2022, Technical Manager, Jane Clary, and Tim Flynn met with the Regulation 38 RMH Subcommittee¹ to discuss the RPHSs and request direction for developing a Rebuttal statement. The direction from the Subcommittee was that developing a Rebuttal is appropriate and that it should: 1) respond to EPA's RPHS and 2) include discussion that emphasizes Cherry Creek's and CCBWQA's uniqueness (statutory-uniqueness and reservoir/data-uniqueness relative to other Colorado reservoirs). Additionally, the Subcommittee directed Staff to maintain this narrow focus and not to comment on concerns raised by other parties related to the WQCD's methodology and/or model. Staff has drafted a Rebuttal statement per the Subcommittee's direction, and it is included as Attachment 2 to this action item memorandum.

On January 5, 2023, Staff presented the draft Rebuttal to the TAC. The TAC voted in support of recommending that the CCBWQA Board approve the Rebuttal as drafted by Staff based on the Regulation 38 RMH Board Subcommittee's December 28, 2022 direction. On January 10, 2023, Jane Clary emailed the Regulation 38 RMH Board Subcommittee the draft Rebuttal requesting feedback before incorporation into the January 19, 2023 Board packet. Forthcoming comments from the Board Subcommittee received after the packet distribution, will be integrated as redline and discussed at the Board meeting, if needed.

Budget: Participation in this RMH effort is covered under the current CCBWQA regulatory budget for fiscal year 2023.

¹ Josh Rivero, Topher Lewis, John McCarty, John Woodling and Bill Ruzzo. Member Louis Tovar was absent.

Motion: The CCBWQA Board of Directors moves to approve the Lake Nutrients Criteria Rulemaking Hearing Rebuttal Statement prepared by legal counsel and to submit the Statement to the Water Quality Control Commission.

Next Steps: Staff will continue to engage with the WQCD, CPW, EPA, and other parties, as appropriate. If the Board approves the associated motion, Davis Graham and Stubbs will submit the Rebuttal by February 15, 2023. If the Board does not approve the associated motion, Staff will work to address the Board's concerns with the Rebuttal, engage with the Regulation 38 RMH Board Subcommittee, and bring the updated Rebuttal to the TAC at the February 2, 2023 meeting. Staff will then work with the Regulation 38 RMH Subcommittee to finalize the Rebuttal for submission.

Attachment 1

Lakes Nutrients Criteria (Regulations 31-38) RMH Schedule + CCBWQA Meeting Schedule

Event	Date	Activity
Nutrient Town Hall	May 2 nd	Proposed criteria released by WQCD
May TAC	May 5 th	1 st discussion related to draft criteria at TAC level
May Board	May 19 th	1 st discussion related to draft criteria at Board level
June TAC	June 2 nd	2 nd discussion related to draft criteria at TAC level
June Board	June 16 th	2 nd discussion related to draft criteria at Board level
July TAC	July 7 th	3 rd discussion related to draft criteria at TAC level – Motion for Party Status
July Board	July 21 st	3 rd discussion related to draft criteria at Board level – Motion for Party Status
PPHS	August 3 rd	Review WQCD's PPHS
August TAC	August 4 th	4 th discussion related to draft criteria at TAC level – Motion for RPHS
Party Status Requests	August 17 th	Submit Party Status Request
August Board	August 18 th	4 th discussion related to draft criteria at Board level – Motion for RPHS
September TAC	September 1 st	5 th discussion related to draft criteria at TAC level – Discuss Rebuttal
September Board	September 15 th	5 th discussion related to draft criteria at Board level – Motion for Rebuttal if needed
Supplemental PPHS	October 5 th	Review WQCD's Supplemental PPHS
October TAC	October 6 th	6 th discussion related to draft criteria at TAC level – Update on status
October Board	October 20 th	6 th discussion related to draft criteria at Board level – Update on status
November TAC	November 3 rd	7 th discussion related to draft criteria at TAC level – Discuss RPHS
November Board	November 17 th	7 th discussion related to draft criteria at Board level – Motion for RPHS
December TAC	December 1 st	8 th discussion related to draft criteria at TAC level – Discuss Board Subcommittee
December Board	December 15 th	8 th discussion related to draft criteria at Board level – Motion for Board Subcommittee
RPHS	December 21 st	Submit Supplemental RPHS – TBD + Review other parties' RPHSs
January TAC	January 5 th	9 th discussion related to draft criteria at TAC level – Discuss Rebuttals
January Board	January 19th	9th discussion related to draft criteria at Board level – Motion for Rebuttals(?)
February TAC	February 2nd	10th discussion related to draft criteria at TAC level – Update on status
Rebuttals	February 15th	Submit Rebuttal Statement – TBD + Review other parties' Rebuttals

Attachment 1

February Board	February 16 th	10 th discussion related to draft criteria at Board level – Update on status
Motions	February 22 nd	TBD
Complex Outstanding Issues Index	March 1 st	Review Index
March TAC	March 2 nd	11 th discussion related to draft criteria at TAC level – Discuss RMH Presentation
Prehearing Conference	March 7 th	Participate (virtually) in conference to maintain Party Status
March Board	March 16 th	11 th discussion related to draft criteria at Board level – Motion for RMH Presentation
Negotiation Cutoff	March 16 th	Final negotiations with WQCD and other parties today
Consolidated Proposal	March 30 th	Review Proposal
Cost Benefit Analysis	March 31 st	Review Cost Benefit Analysis
Regulatory Analysis	April 5 th	Review Regulatory Analysis
April TAC	April 6 th	12 th discussion related to draft criteria at TAC level – Update on status
RMH	April 10 th	Participate (virtually) in RMH
April Board	April 20 th	Update on RMH outcome
May TAC	May 4 th	Update on RMH outcome

REBUTTAL STATEMENT OF CHERRY CREEK BASIN WATER QUALITY AUTHORITY

IN THE MATTER OF PROPOSED ADOPTION OF REVISIONS TO THE CLASSIFICATIONS AND NUMERIC STANDARDS FOR SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN, REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN, REGULATION #38 (5 CCR 1002-38)

The Cherry Creek Basin Water Quality Authority (“CCBWQA” or the “Authority”), by and through its counsel, Davis Graham & Stubbs LLP, submits this Rebuttal Statement (“Rebuttal”) for the above captioned matter to the Colorado Water Quality Control Commission (“Commission”).

I. EXECUTIVE SUMMARY

The CCBWQA opposes adoption of the Water Quality Control Division’s (“WQCD” or “Division”) proposal to add table value standards for total phosphorus (TP) and total nitrogen (TN) to Cherry Creek Reservoir (COSPCH02) in April 2023. The reservoir already has a more stringent site-specific chlorophyll- α standard of 18 $\mu\text{g/L}$ in Regulation 38, stringent TP limits (0.05 $\mu\text{g/L}$) for dischargers in Control Regulation 72, robust requirements for stormwater management in Control Regulation 72, and active nonpoint source pollution abatement projects underway. The CCBWQA has collected long-term data suitable for development of site-specific nutrient standards.

The CCBWQA continues to respectfully request that the Commission consider and adopt a delayed effective date of December 31, 2025, for warm lake TP and TN table value standards in Cherry Creek Reservoir (COSPCH02), to allow time for the CCBWQA to utilize its extensive long-term data, supported by linked watershed and reservoir models if needed, to develop appropriate and protective site-specific standards for the Cherry Creek Reservoir for consideration at the June 2025 Regulation 38 Rulemaking Hearing..

II. RESPONSE TO EPA’S RESPONSIVE PREHEARING STATEMENT

In EPA’s Responsive Prehearing Statement (RPHS), EPA requested that the Division “reevaluate the proposed standards for Chatfield Reservoir (TN) and Cherry Creek Reservoir (TN and TP). The proposed values were not calculated from the chlorophyll- α standards that have been established as goals for these two water bodies.” Additionally, EPA provided two pages of discussion regarding Cherry Creek Reservoir in its RPHS 9 (pp. 23 & 24 of EPA’s RPHS). In this Rebuttal, CCBWQA is providing additional information in response to EPA’s general statement, as well as specific technical comments.

Overall Response

CCBWQA has two primary responses to EPA’s overarching comment regarding Cherry Creek Reservoir nutrient standards:

1. CCBWQA agrees with EPA that Cherry Creek’s site-specific chlorophyll- α standard warrants corresponding site-specific (or unique) standards for phosphorus and nitrogen.
2. CCBWQA disagrees with EPA that the Division’s statewide methodology should be applied to Cherry Creek Reservoir because the Division’s methodology does not represent site-specific conditions in

Cherry Creek Reservoir as described in the analysis provided in CCBWQA's RPHS. Adoption of known incorrect standards for the Reservoir is not helpful to CCBWQA in working towards its goal of improving water quality in the Reservoir and could inhibit development of more appropriate standards due to statutory constraints related to CCBWQA's involvement with regulatory processes. *See* C.R.S. 25-8.5-101(2) ("the authority shall expend funds only pertaining to the water quality standards, control regulations, or similar regulations regarding the water quality of Cherry Creek and Cherry Creek reservoir if such expenditures are clearly consistent with improving, protecting, and preserving such water quality.")

Since the submittal of our RPHS, the CCBWQA has completed the following concrete steps towards developing site-specific standards for the Reservoir so that phosphorus and nitrogen standards properly correspond to Cherry Creek Reservoir's site-specific chlorophyll- α standard:

1. Authorized over \$90,000 in the 2023 budget to conduct a technical analysis to develop and propose site-specific standards for TP and TN.
2. Developed a scope of work that outlines the general approach to developing the site-specific standard, including working collaboratively with WQCD and utilizing parts of the WQCD's standards approach that are appropriate for the Reservoir (e.g., growing season averages, allowed once in five-year exceedance).
3. Signed a contract to complete the work with a December 2023 deliverable schedule.
4. Shared the work plan with the WQCD staff and discussed the approach with Colorado Parks and Wildlife.

Additionally, as stated in our RPHS, if the CCBWQA fails to propose appropriate site-specific standards, then CCBWQA's proposed Statement of Basis and Purpose language indicates the Division's Table Value Standards would apply.

Specific Response to Technical Comments Provided by EPA on pp. 23-24

CCBWQA would also like to respond to EPA's comments on pp. 23-24 of their RPHS. We agree with EPA that Cherry Creek Reservoir does not meet its chlorophyll- α standard, is typically nitrogen-limited, and that ongoing work is needed to reduce nutrient loading to the Reservoir and improve conditions in the Reservoir. CCBWQA has planned over \$5 million in work for 2023 specifically for this purpose, with examples of CCBWQA's efforts provided in its RPHS. Additionally, CCBWQA would like to clarify and correct several specific statements made by EPA in its RPHS for purposes of the hearing record:

EPA Responsive Comment #4) "*Summer average TN levels in Cherry Creek Reservoir have been comparatively stable over time. By contrast, it is clear that TP has increased to higher concentrations*"

- CCBWQA's Response: CCBWQA agrees with EPA that the seasonal average TN concentrations have remained within a similar range over time; however, there is a notable reduction in seasonal variability since 2017 (Figure 1). With regard to TP, CCBWQA recognizes that TP concentrations are higher than they were in the 1990s, along with significant year to year variation in TP. CCBWQA also observes that the average seasonal TP concentration in Cherry Creek Reservoir has been notably lower over the last two years. The seasonal TP was 76.8 $\mu\text{g/L}$ in 2021 and 66.2 $\mu\text{g/L}$ in 2022, which were both below the interim standard criteria of 83 $\mu\text{g/L}$. The seasonal TP concentrations have not been this low since 2002.

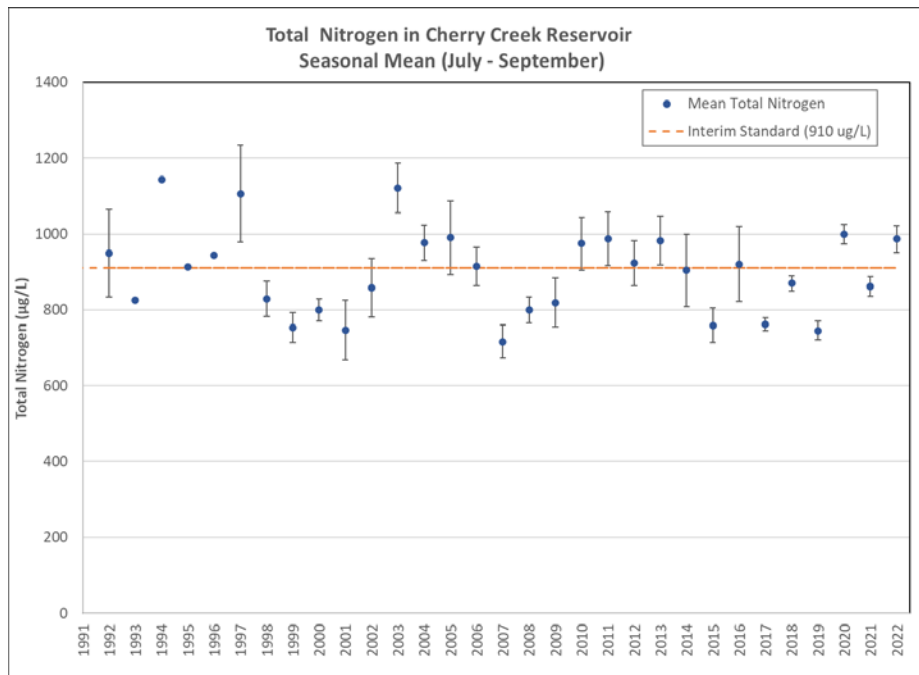


Figure 1. Total Nitrogen in Cherry Creek Reservoir, Seasonal Average, 1992-2022.

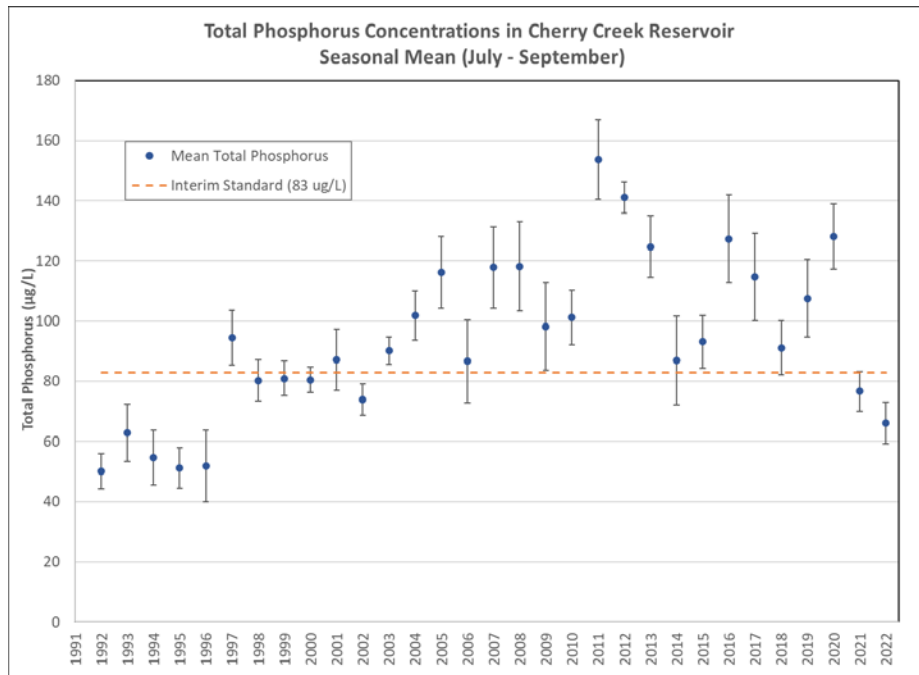


Figure 2. Total Phosphorus in Cherry Creek Reservoir, Seasonal Average, 1992-2022.

EPA Responsive Comment #5) “For example, the 80th percentile concentration was 115 µg/L TP over the most recent 5-year period (2017-2021). By comparison, when a TP standard was first established, the 1985 SBP noted that ‘the adopted standard of 35 µg/L TP (corresponding roughly to 15 µg/L chl a) is higher than the 1982 ambient level of 30 µg/L P but will preserve the quality of the recreational and aquatic uses.’ This comparison shows that TP levels in Cherry Creek Reservoir have increased substantially since 1982.”

- CCBWQA’s Response: The most recent two years that the chlorophyll- α standard was met were in 2015 (16.2 µg/L) and 2019 (16.0 µg/L). In 2015, the seasonal TP concentration was 93.2 µg/L and the seasonal TN concentration was 759.3 µg/L. In 2019, the seasonal TP concentration was 107.6 µg/L and

the seasonal TN concentration was 683.8 µg/L. In both of these years when the chlorophyll- α standard was met, the seasonal TN concentration was below the interim TN criteria of 910 µg/L; however, the seasonal TP concentrations were not below the interim TP criteria of 83 µg/L. This provides examples of how the Cherry Creek Reservoir's chlorophyll- α response to nutrients is unique.

EPA Responsive Comment #6) *“That TP has increased over time could potentially be a signal that, under current conditions, the phytoplankton community is more often limited by N during summer (compared to P). This would be consistent with the Cherry Creek Reservoir nutrient enrichment study results.¹ Thus, the data suggest that it would be appropriate to implement a dual control approach (i.e., to reduce the concentrations of both nutrients).² For example: ‘Nutrient enrichments showed response of phytoplankton biomass to N on all dates. In only one case (14 July 2003) was there also a response to P.’ ‘Concentrations of total soluble P (TSP) were high throughout the growing season in the upper water column of Cherry Creek Reservoir, and soluble reactive P (SRP) was consistently detectable.’”*

- CCBWQA's Response: The Lewis et al. (2008) publication utilized data from a microcosm study completed on only 8 dates in 2003. The CCBWQA has a robust database that includes over 30 years of data. The CCBWQA's Cherry Creek Reservoir dataset demonstrates that even during periods of nitrogen limitation, total algal biovolumes are very high and a significant percentage is composed of cyanobacteria during the summer months. During the last five years (2018-2022), total phytoplankton biovolume averaged almost 3.7M µm³/mL annually and 3.5M µm³/mL seasonally (July through September). Of the total biovolume, cyanobacteria averaged almost 600K µm³/mL (16% of the total) annually and 1.1M µm³/mL (32% of the total) seasonally (July through September).

The Lewis et al. (2008) publication also states:

“One risk of N management could result from an unexpected change in physical conditions that renders N fixation more effective, thus undermining N management. In Cherry Creek Reservoir, for example, greater stability of the water column caused by changes in water management or even climate warming could create more favorable conditions for N fixers.

Cherry Creek Reservoir is an illustration of the importance of nutrient saturation to nutrient management in lakes. Wherever phosphorus saturation is continuous and N fixers are absent, present only sporadically, or of low abundance, suppression of phytoplankton biomass by P management may be feasible in some cases, but quite impractical in others, and typically will involve an initial interval of P suppression that produces no suppression of phytoplankton biomass.”

Cherry Creek Reservoir is a nutrient-enriched environment; therefore, consideration of changes to nutrient dynamics is important to avoid unintended negative impacts. Total inorganic nitrogen (TIN), the form most readily available for uptake by algae, is consistently limited in the Cherry Creek Reservoir during the summer months and during periods of severe cyanobacteria blooms. Ratios of TIN to soluble reactive phosphorus (SRP) demonstrate that Cherry Creek Reservoir has been nitrogen-limited since at least the 1990s, but at the same time, phytoplankton dynamics have shifted. Although nitrogen-fixing species were not present during the 2008 Lewis study, recent microscopic analysis by Phycotech, Inc. of cyanobacteria responsible for the significant blooms in 2016-2021 confirmed the presence of heterocysts. Heterocysts are differentiated cells formed by cyanobacteria specialized for nitrogen-fixation; their presence confirms that nitrogen-fixation by cyanobacteria in Cherry Creek Reservoir is occurring.

¹ Lewis, W.M. Jr., J.F. Saunders, and J.H. McCutchan, Jr. 2008. Application of a nutrient-saturation concept to the control of algae growth in lakes. *Lake and Reservoir Management*. 24:41-46. <https://www.tandfonline.com/doi/abs/10.1080/07438140809354049>

² Downing, J.A., S.B. Watson, and E. McCauley. 2001. Predicting cyanobacteria dominance in lakes. *Canadian Journal of Fisheries and Aquatic Sciences*. 58: 1905–1908. <https://cdnsiencepub.com/doi/10.1139/f01-143>

Due to the presence of nitrogen-fixing cyanobacteria in Cherry Creek Reservoir that have been responsible for multiple severe blooms requiring closure based on toxin production, CCBWQA continues to believe that the most effective nutrient management strategy for Cherry Creek Reservoir should continue to focus on phosphorus management prior to the implementation of nitrogen controls due to the potential of the unintended consequences described by Lewis et al. (2008).

Lastly, based on review of CCBWQA's long-term data set, we would like to clarify that SRP is not "consistently detectable" as EPA claims, and concentrations are demonstrating a decreasing trend over time. Over the last 5 years (2018-2022), concentrations of SRP were below the detection limit (1 µg/L) during approximately 11% of the monitoring events. When comparing the past five years of SRP data to the historical mean (2002-2017), SRP was below the detection limit (2 µg/L³) 4% of the time during the year and 3% during the season (July through September).

III. SUMMARY OF CONCERNS WITH THE ADOPTION OF TABLE VALUE STANDARDS FOR TP & TN IN APRIL 2023

CCBWQA's RPHS describes the reasons that the CCBWQA requests a delayed effective date for the Division's table value standards so that the CCBWQA has time to propose appropriate site-specific standards at the June 2025 Regulation 38 Rulemaking Hearing. These reasons, which are described further in this RPHS, are briefly re-summarized as follows for convenience:

1. The Cherry Creek Reservoir and watershed are unique and complex systems that are not appropriately represented by the stressor-response relationships in the proposed Table Value Standards.
2. Elevated background TP concentrations in the Cherry Creek Basin and extreme N:P ratios in the Cherry Creek Reservoir are well documented unique conditions that warrant site-specific standards.
3. Significant nutrient controls and reductions for point sources are actively occurring in the basin under Control Regulation 72. This includes wastewater treatment plant discharge limits of 0.05 µg/L of total phosphorus and compliance schedules for nitrogen reduction.
4. Advanced stormwater and nonpoint source controls are being implemented in the basin under Control Regulation 72, with stringent stormwater requirements for developments triggered at thresholds well below the statewide 1-acre disturbance threshold.
5. The CCBWQA is actively working towards site-specific standards and better understanding watershed nutrient loading and reservoir dynamics. A budget, contract and initial work plan are complete with a deliverable schedule.
6. Unique statutory constraints exist for CCBWQA that constrain some types of participation in standards revisions. Particularly if either the site-specific phosphorus or nitrogen standards have higher numeric values than proposed by Division, we have significant concerns about perceived backsliding and constraints related to effective participation in the 2025 Regulation 38 Rulemaking Hearing.

Additional discussion of these themes was provided in CCBWQA's RPHS and is not repeated in this Rebuttal Statement.

IV. SUMMARY OF REQUEST

The CCBWQA continues to respectfully request that the Commission consider and adopt a delayed effective date of December 31, 2025, for warm lake TP and TN table value standards in Cherry Creek Reservoir

³ Detection limits prior to 2016 have varied between 2 and 5 µg/L.

(COSPCH02), to allow time for the CCBWQA to utilize its extensive long-term data, supported by linked watershed and reservoir models if needed, to develop appropriate and protective site-specific standards for the Cherry Creek Reservoir for consideration at the June 2025 Regulation 38 Rulemaking Hearing.

V. WITNESSES

The CCBWQA's witnesses were identified in its RPHS and no additional witnesses have been added.

VI. EXHIBITS

The CCBWQA's exhibits were provided in its RPHS. No additional exhibits have been added to this Rebuttal.

VI. RESERVATIONS

The CCBWQA reserves the right to present testimony, witnesses, and exhibits for purposes of the rebuttal statement and at the hearing, to use demonstrative aids at the hearing that contain information provided in any exhibits and testimony supplied by the CCBWQA, to present alternative language to the proposed revisions to Regulation No. 38, to respond to alternate proposals submitted by any party, and to address future changes to any alternate proposals of any party.

Respectfully submitted this 15th day of February 2023.

Davis Graham & Stubbs LLP

By: _____
Andrea M Bronson, Reg. No. 40620
Zach C Miller, Reg. No. 10796

Davis Graham & Stubbs LLP
1550 Seventeenth Street, Suite 500
Denver, CO 80202
Telephone: (303) 892-9400
Facsimile: (303) 893-1379
andrea.bronson@dgsllaw.com
zach.miller@dgsllaw.com

CERTIFICATE OF SERVICE

I, Andrea Bronson, hereby certify that a true and correct copy of the attached Responsive Prehearing Statement of Cherry Creek Basin Water Quality Authority was served by e-mail transmission on the 21st day of December 2022 on the office of the Water Quality Control Commission, addressed to:

Water Quality Control Commission
Attn: Jeremy Neustifter
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

email: cdphe.wqcc@state.co.us

Andrea Bronson

ACTION ITEM MEMORANDUM



To: CCBWQA Board of Directors
From: Jessica DiToro, PE, LRE Water and Jane Clary, WWE
Date: January 19, 2023
Subject: Control Regulation 72 Informational Hearing

Request: That CCBWQA Board of Directors submit the attached letter regarding the Control Regulation 72 (CR 72) rulemaking hearing (RMH) to the Water Quality Control Commission (WQCC).

Issue: In April 2023, the WQCC will hold an Informational Hearing for CR 72. At this hearing, the WQCC will hear from stakeholders regarding issues that they would like to see as part of the scope for the formal RMH that is tentatively set to occur in the latter half of 2023.

In May 2021, the WQCC held a Triennial Review Informational Hearing (TRIH) for CR 72. The CCBWQA, along with a number of other stakeholders, submitted letters to the WQCC recommending items to be included in the formal scope for the future RMH. At the May 2021 TRIH, the WQCC determined that a limited-scope RMH would be set in 2022 to address changes that were needed for the stormwater section of CR 72, section 72.7. An additional informational hearing to determine whether any additional items should be included in the scope was approved by the WQCC, at the CCBWQA's request. The timing for this additional informational hearing was set to occur sometime after the limited-scope Section 72.7 RMH in April of 2022.

CCBWQA Staff has engaged both the TAC and Board on this specific CR 72 regulatory item on a monthly basis since April of 2022 until September of 2022. On September 15, 2022, the CCBWQA Board moved as follows: *"Without precluding further discussion with the WQCD, I move that, at this time, CCBWQA not propose changes to CR 72, but that CCBWQA seek party status if a RMH is scheduled."* This motion passed.

Per the next steps identified in the September 9, 2022 Action Item Memo (AIM) to the Board on this topic, CCBWQA Staff has drafted a letter to the WQCC for the April 2023 CR 72 Informational Hearing stating that the CCBWQA does not intend to be a proponent for the 2023 RMH and will not be bringing any issues forward for inclusion in the CR 72 RMH scope. This letter is attached to this AIM for your review.

At the January 5, 2023 TAC meeting, the TAC *"moved that the CCBWQA TAC recommends that the CCBWQA Board of Directors prepare a letter, a draft of which is attached, to the WQCC."* This motion passed.

Budget: Participation in this RMH effort is covered under the current CCBWQA contractors' budgets for fiscal year 2023.

Motion: The CCBWQA Board of Directors moves to submit the January 19, 2023 letter as drafted by Staff to the Water Quality Control Commission for the Control Regulation 72 Informational Hearing.

Next Steps: If the Board approves the associated motion, Staff will submit the letter to the WQCC. If the Board does not approve the associated motion, Staff will work to address the Board's concerns in an updated letter to be shared with the TAC at the February 2nd meeting and then the Board at the February 16th meeting.

January XX, 2023
Jojo La, Interim Administrator
Water Quality Control Commission
4300 Cherry Creek Drive South
Denver, CO 80246

Re: Cherry Creek Reservoir Control Regulation 72 (CR 72) Water Quality Control Commission (WQCC)
Routine Review Informational Hearing April 10, 2023

Dear Ms. La,

Cherry Creek Basin Water Quality Authority (CCBWQA) is looking forward to participating in the Cherry Creek Reservoir Control Regulation 72 (CR 72) Water Quality Control Commission (WQCC) Routine Review Informational Hearing scheduled for April 10, 2023.

In May 2021, the WQCC held a Triennial Review Informational Hearing (TRIH) for CR 72. At this TRIH, the WQCC set a limited-scope Rulemaking Hearing (RMH) for CR 72 to bring the stormwater section (72.7) of the control regulation in line with the Water Quality Control Division's (WQCD) municipal separate storm sewer (MS4) permits. In April 2022, this limited-scope RMH resulted in extensive changes to Section 72.7 and associated definitions in Section 72.2. This hearing addressed many issues that the CCBWQA had identified in previous communication with the Commission Administrator.

The CCBWQA Board of Directors has determined that it will not propose changes to CR 72 in the forthcoming CR 72 Informational Hearing; however, if changes are proposed by others, CCBWQA will request party status for the CR 72 RMH.

Respectfully,

Joshua Rivero
Chairman of the Board of Directors



MEMORANDUM

To: CCBWQA Board of Directors
From: Val Endyk - CCBWQA Administrative Assistant
Jane Clary - CCBWQA Technical Manager
Date: January 13, 2023
Subject: Land Use Referral Contacts and Process Update

Issue: This memo is to inform the CCBWQA Board of Directors of the communication sent to local agencies informing them of the change to the Authority's land use referral process adopted by the Board and effective January 1, 2023.

The letter is included in the January 19, 2023 Board packet and can be found here:
https://drive.google.com/file/d/1E8cwTPga7FdQtHt07BEbMmBUwseJmsdT/view?usp=share_link

The communication is being tracked in the spreadsheet linked below:
https://docs.google.com/spreadsheets/d/1gYyydi4IxHMHjhIrFr0BxTKQu6_VPHKomcAqB7FimpM/edit?usp=sharing



Cherry Creek Basin Water Quality Authority

cherrycreekbasin.org
303.968.9098
manager@ccbwwqa.org

December 16, 2022

Abe Laydon
Douglas County

Bahman Hatami
Governor's Appointee

Bill Ruzzo
Governor's Appointee

Caryn Johnson
Town of Castle Rock

Christopher Lewis - Vice Chair
Governor's Appointee

John McCarty - Secretary
Governor's Appointee

John Woodling
Governor's Appointee

Joshua Rivero - Chair
Town of Parker

Luis Tovar
Special District Representative

Margaret Medellin
Governor's Appointee

Mike Anderson
City of Lone Tree

Nancy Sharpe
Arapahoe County

Roger Hudson
City of Castle Pines

Stephanie Piko
City of Centennial

Steve Sundberg
City of Aurora

Tom Downing
Governor's Appointee

Tom Stahl
City of Greenwood Village

To: Local Land Development Review Agency
From: Cherry Creek Basin Water Quality Authority
Jane Clary, Technical Manager

Re: Change to Cherry Creek Basin Water Quality Authority Land Use Reviews

The Cherry Creek Basin Water Quality Authority has changed its land use review process, effective January 1, 2023.

Historically, the Authority has conducted technical reviews of proposed development plans for compliance with construction-phase and post-construction stormwater quality requirements described in Regulation 72, the Cherry Creek Basin Control Regulation. Since that time, local governments have progressively become more experienced in ways to minimize the discharge of pollutants during and after development activities, as demonstrated by the minimal number of referrals where the Authority did not recommend approval of projects to the local government. Additionally, recent municipal separate storm sewer system (MS4) permits are more explicit regarding requirements for compliance with Regulation 72. For these reasons, the Authority believes that the local government's review is sufficient to ensure compliance with Regulation 72 requirements. In cases where the local government would like additional review or consultation with the Authority, the Authority's Technical Manager will be available to discuss questions or arrange an independent review if needed.

Effective January 1, 2023, local governments will continue to notify the Authority of proposed development plans by email addressed to LandUseReferral@ccbwwqa.org. The Authority will respond by email or other established electronic system with the following statement:

The Cherry Creek Basin Water Quality Authority (Authority) acknowledges notification from [*local agency*] that the proposed development plans for [*development name or project ID*] have been or will be reviewed by the [*local agency*] for compliance with the applicable Regulation 72 construction and post-construction requirements. Based on the Authority's current policy, the Authority will no longer routinely conduct a technical review and instead the Authority will defer to the [*local agency's*] review and ultimate determination that the proposed development plans comply with Regulation 72.

If a technical review of the proposed development plan is needed, please contact LandUseReferral@ccbwwqa.org. The review may include consultation with the Authority's Technical Manager to address specific questions or to conduct a more detailed Land Use Review, if warranted.

We welcome input from local agencies if refinements to this process are needed as experience is gained with this revised referral process. **Additionally, we request a reply email confirming your receipt of this email and understanding of the new land use review process for the Authority.**



MEMORANDUM

To: CCBWQA Board of Directors
 From: Val Endyk - CCBWQA Administrative Assistant
 Jane Clary - CCBWQA Technical Manager
 Date: January 10, 2023
 Subject: Board Appointees to the Technical Advisory Committee (TAC)

CCBWQA TAC Member Update

Board Appointees for 2023 - approved at the December 15, 2022 Board Meeting

Updates since the December 15, 2022 Board Meeting

Alex Mestdagh	Town of Parker
Ann Woods	City of Greenwood Village
Ashely Byerley	SEMSWA - Representing Centennial
Casey Davenhill	Board Appointee, Cherry Creek Stewardship Partners
David Van Dellen	Town of Castle Rock
Jacob James	City of Lone Tree
Jason Trujillo	Board Appointee, Cherry Creek State Park
Jeremiah Unger <ul style="list-style-type: none"> • Tripp Minges - Alternate • Joshua Giovannetti - Alternate 	Board Appointee, CDOT
Jim Watt	Board Appointee, Mile High Flood District
Jon Erickson	2023 TAC Chair, Board Appointee, Colorado Parks and Wildlife
Joseph Marencik	City of Castle Pines
Lisa Knerr	2023 Vice Chair, Arapahoe County
Rebecca Tejada	Board Appointee, Special Districts, Parker Water and Sanitation
Rick Goncalves	Board Appointee, RG Engineers
Ryan Adrian	Douglas County
Sherry Scaggiari	City of Aurora
Wanda DeVargas	Board Appointee, E-470
Joe Maxwell is our current contact. USACE	US Army Corps of Engineers

intends to have their Natural Resource Specialist participate on the TAC. That position should be on board mid/late January.	
Steve Chevalier	Arapahoe County Health
Caitlin Gappa	Douglas County Health

CHERRY CREEK BASIN WATER QUALITY AUTHORITY
2023 Capital Project Status Report
January 13, 2023

RESERVOIR PROJECTS

1. East Shade Shelters Phase III and Tower Loop Phase II Shoreline Stabilization (CCB-17.5 and CCB-17.7)
 - a. Description: These projects were identified in 2014 through the annual inspection. The Tower Loop Phase II connects to the Phase I project and extends shoreline protection 570 feet to the southeast towards Dixon Grove. The East Shade Shelters Phase III starts on the north end of the Shade Structure and goes 400-feet to the south.
 - b. Status: Consultant selection is scheduled for the 1st quarter. A consultant selection committee will be set in February (1/29/21). At the February TAC meeting Jason Trujillo, Jon Erickson, Lanae Raymond, Bill Ruzzo were interested in serving on the consultant selection committee (2/11/21). This selection committee was discussed at the 3/18/21 Board Meeting, and no further members were added. The Request for Proposals (RFP) has been posted on BidNet and Proposals are due 04/21/21 (3/25/21). The pre-proposal meeting was held on 4/7/21. 5 proposals were received on 4/28/21; the selection committee is reviewing them. Interviews were held and a selection is being brought to the May Board meeting (5/14/21). Board authorized negotiations with RESPEC (5/27/21). Agreement has been executed with RESPEC (10/15/21). Field Survey of project areas and topographic mapping is underway (12/30/21). A design kickoff meeting was held on 4/22/22. A design sprint workshop was held on 7/12/22 which included a site visit and evaluation of alternatives. RESPEC is developing a recommended alternative (9/8/22). RESPEC provided updated project costs for budgeting (10/13/22). The 30% submittal was received on 11/16/22 and is under review.

STREAM RECLAMATION PROJECTS

1. Cherry Creek Stream Reclamation at Arapahoe Road aka Reaches 3 and 4 (CCB-5.14C)
 - a. Description: This project continues the work on Cherry Creek by CCBWQA, MHFD, and local partners. It ties into the previous stream reclamation projects of Cherry Creek Eco Park to Soccer Fields (CCB-5.14A) and Cherry Creek at Valley Country Club (CCB-5.14B). The 5,167 Linear Feet of stream reclamation reduces bed and bank erosion immobilizing approximately 88 pounds of phosphorus annually. The project is anticipated to be funded over several years and likely be broken into phases.
 - b. Status: In 2021, an IGA was executed between CCBWQA, MHFD, City of Aurora, and SEMSWA to begin this work. IGA Amendment that brings in 2022 funding is under review (5/13/22). Board authorized IGA Amendment for 2022 funding on 7/21/22 (8/12/22). IGA Amendment has been revised to show Aurora's lower participation; CCBWQA's participation was lowered accordingly to meet 25% partner project level; revised IGA Amendment received TAC recommendation and is being taken to Board for their consideration in October (10/13/22). Board authorized the IGA Amendment for 2022 funding at their 10/22/22 meeting.
2. Cherry Creek Stream Reclamation – Upstream of Scott Road (CCB-5.17)
 - a. Description: Design and construction of stream reclamation is in partnership with Douglas County and MHFD. It improves 4,100 feet of Cherry Creek and is located upstream of Scott Road.
 - b. Status: IGA was approved by the Board at their April 2020 meeting. Muller had been selected as consultant, and design scope of work is being prepared. Kickoff meeting was held on 12/11/20; a follow-up field visit will be scheduled for early 2021. Site visit was held on 1/29/21. Conceptual design is complete, negotiations are underway to contract for 60% design (4/8/21). Muller is working on alternatives (4/30/21). Muller is working on preliminary design and an IGA Amendment to bring in additional 2021 funding from Douglas County is

being brought to the Board in October (10/15/21); IGA Amendment has been executed (11/11/21). Muller is preparing 60% Design Submittal (1/28/22). Muller submitted 60% Design on 2/2/22; comments have been provided on 60% Design Submittal (3/10/22). IGA Amendment bringing in 2022 funding is scheduled for TAC and Board consideration in June (5/27/22). IGA Amendment was authorized at the June 16th Board Meeting (6/30/22).

3. Cherry Creek Stream Reclamation at Dransfeldt (CCB-5.17.1B)
 - a. Description: Design and construction of stream reclamation is in partnership with Town of Parker and MHFD. It improves 2,400 feet of Cherry Creek near the future location of Dransfeldt bridge which is just downstream of the Cherry Creek at KOA project.
 - b. Status: Initial scoping has begun, and a partners meeting was held on 1/30/21. IGA is scheduled for CCBWQA's May TAC and Board meetings (4/30/21). IGA was approved by all parties and has been executed (6/25/21). Muller Engineering has submitted their Draft Scope of Work for Design Services, and the project sponsors have reviewed it (7/8/21). Design kickoff meeting was held on 10/14/21. Alternatives are being evaluated (12/9/21). Pre-submittal meeting for the 404 permit is being scheduled (12/30/21). CLOMR is being prepared for project (3/10/22) and was submitted to FEMA on 3/31/22. CEI was selected for as project partner to provide contractor input during the design (5/27/22). CLOMR is under review by FEMA (8/12/22).
4. McMurdo Gulch Priority 3 Stream Reclamation (CCB-7.2)
 - a. Description: The design and construction of stream reclamation is in partnership with Castle Rock. Castle Rock is the lead agency. This phase continues the work from the previous phase. Muller Engineering is the design consultant.
 - b. Status: Board authorized IGA for Priority 3 at their May 19,2022 meeting. Muller submitted their 30% deliverable on 10/31/22, review comments were returned on 11/8/22. *Easements needed for projects have been identified (1/23/22).*
5. Lone Tree Creek in Cherry Creek State Park (CCB-21.1)
 - a. Description: This project includes a trail connection to Cherry Creek State Park and includes 570 linear feet of stream reclamation on Lone Tree Creek from the State Park Boundary to the Windmill Creek Loop Trail. The City of Centennial is the project lead. CCBWQA participation is for the stream reclamation only.
 - b. Status: 95% submittal is under review (5/13/22); review comments have been returned (5/27/22). Project funding was brought to TAC at their 7/7/22 meeting, during drafting of IGA it was discovered that future maintenance of stream reclamation should be considered, project will be brought back to TAC at an upcoming meeting for maintenance discussion and recommendation (8/12/22). A stakeholder meeting was held on 9/29/22 to discuss maintenance. A stakeholder meeting was held on 11/2/22 to discuss findings from CCBWQA's site visit and findings included in Wright Water Engineers report. The Board supports CCBWQA's partnering with Centennial at their 11/17/22 meeting.
6. Happy Canyon Creek – County Line to Confluence with Cherry Creek (CCB-22.1)
 - a. Description: The design and construction are in partnership with Southeast Metro Stormwater Authority and MHFD and includes 2,500 feet of stream reclamation. The Authority's water quality component share for design and construction is estimated to be \$325,000. The total project cost is estimated at \$1,300,000.
 - b. Status: IGA is scheduled for June TAC and Board meetings (5/27/21). IGA has been approved and executed by all parties (7/29/21). Jacobs has been selected as design consultant and project scoping is underway; limits have been extended upstream to the County Line and sediment capture area and transport will be included with the project (10/15/21). Jacobs has submitted their scope of work and fee for design which is under review by project sponsors (11/11/21). Project sponsors have completed a review of Jacobs' fee and scope of work and the agreement is being routed for signatures (1/28/22). IGA Amendment to bring in 2022 funding is in process (3/10/22). A project kickoff meeting was held on 3/28/2022. A site visit was performed on 4/12/22 to document existing conditions

and identify sediment source/transport/deposition areas. Project Team is preparing a sampling plan for bank and bed materials to determine phosphorous content (5/13/22). The project team met on 5/24/22 to discuss project goals and Jacobs is progressing through the study. Jacobs and ERC are working on sediment transport analysis and model (6/30/22). The results from the sediment transport model were presented at the 8/23/22 progress meeting and an upstream sediment capture area just south of the JWPP was included in the alternatives analysis (8/26/22). The alternative analysis report is expected to be completed before the end of 2022 (10/13/22). Lab results from stream soil samples were sent to Jacobs so that they include phosphorus reduction in the alternatives analysis report; a groundwater investigation is needed to inform sediment capture facility and stream reclamation alternatives, scoping and negotiations are in progress (11/11/22). *Groundwater scope of work has been reviewed and approved by project sponsors (1/13/23).*

7. Happy Canyon Creek - Upstream of I-25 (CCB-22.2)

- a. Description: The design and construction are in partnership with Douglas County, City of Lone Tree, and MHFD and includes 2,500 feet of stream reclamation. The Authority's water quality component share for design and construction is estimated to be \$500,000. The total project cost is estimated at \$2,000,000.
- b. Status: Douglas County, City of Lone Tree, and MHFD have initially funded and selected Muller Engineering as the design engineer. Design has started and a progress meeting was held on 1/27/21. Design is progressing (2/11/21). Muller has submitted 60% Design Deliverables (5/27/21). IGA for 2021 Funding is being brought to Board in September (9/9/21). 2021 IGA Amendment has been executed (11/11/21). Coordination with CDOT and easement acquisitions are on-going (1/13/22). Board authorized 2022 funding and IGA Amendment at their June 16th meeting (6/30/22). The project received environmental clearance from CDOT (8/12/22). The 90% design submittal is scheduled for delivery by end of September (8/26/22). The 90% design submittal is being reviewed (10/13/22). Comments were provided on 90% submittal (11/11/22). Muller completed the 100% design submittal on 11/22/22. *CDOT permit was issued and pre-construction meeting was held on 1/10/23; construction start is scheduled for 1/30/23 pending execution of easement documents from Surrey Ridge which has agreed to terms and easement language.*

8. Dove Creek - Otero to Chambers Rd. (CCB-23.1)

- a. Description: The design and construction are in partnership with Southeast Metro Stormwater Authority (SEMSWA) and with Mile High Flood District (MHFD) being a key stakeholder; it includes 1,300 feet of stream reclamation. The Authority's water quality component share for design and construction is estimated to be \$175,000. The total project cost is estimated at \$700,000.
- b. Status: SEMSWA is drafting the Intergovernmental Agreement to bring in the 2021 funding for the project (3/12/21). RESPEC is the design consultant; two conceptual design alternatives have been prepared and reviewed during meeting on 3/15/21. IGA is scheduled for CCBWQA's May TAC and Board meetings (4/30/21). IGA has been approved and executed by all parties (7/29/21). 30% Design Review Meeting was held on 8/23/21. A Progress meeting is scheduled for 2/26/22 with 60% Plan submittal expected to follow (1/28/22). The 60% Design was submitted on 2/16/2022, comments were provided, and a design review meeting was held on 2/23/2022. IGA Amendment to bring in 2022 funding is in process (3/10/22). Construction costs were prepared by CEI based on 60% submittal (5/13/22). A design progress meeting was held 6/14/22 and 90% design submittal is being prepared (6/30/22). 90% design submittal is expected by the end of July (7/15/22). The 90% design submittal was reviewed, and comments were submitted on 8/22/22. *Construction is anticipated in 2023 (10/13/22).* A progress meeting was held on 11/8/22, project will likely be done in 2 phases, IGA Amendment will be needed early in 2023 so that construction can start ahead of storm season. Dove Creek IGA for construction of Phase 1 is scheduled for TAC and Board in January 2023, construction is expected to start shortly afterwards (12/30/22).

9. Piney Creek from Fraser Street to Confluence with Cherry Creek aka Reaches 1 and 2 (CCB-21.1)

- a. Description: This project includes 2900 liner feet of stream reclamation on Piney Creek. The project partners are SEMSWA and CCBWQA.
- b. Status: Project coordination meeting was held with SEMSWA on 6/29/22. IGA drafted and is being reviewed by SEMSWA (8/12/22). IGA was approved by CCBWQA at the 9/15/22 Board meeting.

10. Mountain and Lake Loop Shoreline Stabilization Phase II (OM 4.6)

- a. Description: This project was identified in through the 2020 annual inspection and design and permitting started in 2021. It adds about 40 feet of shoreline protection where it has eroded leaving a 1-2 foot tall vertical bank.
- b. Status: Construction Plans have been prepared and the GESC was submitted to Arapahoe County for review (1/13/22). Plans are being reviewed by US Army Corps of Engineers for 408 clearance (5/13/22).

CHERRY CREEK BASIN WATER QUALITY AUTHORITY
2023 Operations and Maintenance Status Report
January 13, 2023

OPERATIONS AND MAINTENANCE

1. Reservoir Destratification Operations (OM-7)
 - a. Description: Includes 2023 Annual Operations and Maintenance of the Reservoir Destratification System (RDS).
 - b. Status: No updates for 2023 yet.

2. PRF Weed Control (OM 14.1)
 - a. Description: Includes 2023 weed control from 2022 Annual Observation of Pollution Reduction Facilities (PRFs). For 2023, mechanical weed control is included on the recently completed projects of Cherry Creek 12-mile Phase 3 and East Boat Ramp Phase 2.
 - b. Status: No updates for 2023 yet.

3. PRF Reseeding at CCSP (OM 14.2)
 - a. Description: Includes 2023 routine restoration of PRF vegetation at Cherry Creek State Park (CCSP) from 2022 Annual Observation of Pollution Reduction Facilities (PRFs). For 2023, Cottonwood Creek at Peoria Pond reseeded includes the decompaction of topsoil, seeding, and mulching of the access road along the embankment.
 - b. Status: No updates for 2023 yet.

4. Shop Creek Maintenance (OM WHPP)
 - a. Description: Includes concrete repair and tree removal on drop structure 3 (of the 5 drop structures within CCSP numbered 1 through 5 from upstream to downstream) and control of vegetation growing on the faces of the drop structures.
 - b. Status: No updates for 2023 yet.

Cherry Creek Basin Water Quality Authority							
Land Use Referral Summary							
Prepared:	December 21, 2022						
December has yielded 15 reviews to date down from 26 in November. 9 were commercial, 4 were residential, and 2 were parks and open space land use submittals.							
Dec-22							
Referral Agency	Proposed Development	Type of Land Use	Date Received	Review Deadline	Approx. Dev. Size (acres)	Review Date	Comments
Town of Parker	Tanterra F12	residential	12/2/2022	1/5/2022	28.4	12/15/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the use of water quality pond for post construction BMPs. However the final report for design of these features (by Muller) should be provided for review. Final design shall show the water quality pond will treat the WQCV as required for tier 3 developments. 3. No exceptions taken with the proposed construction BMPs (CBMP plan in the CD Plan Set). Phasing requirements for construction disturbance should be considered for the overall Tanterra Filing 1B development to ensure requirements per CR72 Section 72.7-2.(b)(5)(i)(A.) are being met.
Town of Parker	Tanterra F13	residential	12/2/2022	1/5/2022	26.9	12/15/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the use of water quality pond for post construction BMPs. However the final report for design of these features (by Muller) for Filing 1 B should be provided for review. Final design shall show the water quality pond will treat the WQCV as required for tier 3 developments. 3. No exceptions taken with the proposed construction BMPs (CBMP plan in the CD Plan Set). Phasing requirements for construction disturbance should be considered for the overall Tanterra Filing 1B development to ensure requirements per CR72 Section 72.7-2.(b)(5)(i)(A.) are being met.
Arapahoe County	Dove Valley Business Park Master,	commercial	12/2/2022	12/19/2022	42.7	12/16/2022	1. This project is located in the Cherry Creek Basin and subject to the requirements in the Control Regulation 72. The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. Information about post construction and construction BMPs was not provided in this submittal. These should be provided to meet the requirements of CR72.
Douglas County	Rugers Ranch Subdivision	residential	12/5/2022	1/3/2022	26.0	12/16/2022	1. This project is located in the Cherry Creek Basin and subject to the requirements in the Control Regulation 72. The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. Information about post construction and construction BMPs was not provided in this submittal. These should be provided to meet the requirements of CR72.
SEMSWA	The Garage Den at Dove Valley CDOC	commercial	12/6/2022	12/27/2022	7.4	12/19/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed post construction and construction BMPs. 3. No further referrals to the authority on this project are necessary.
Douglas County	Piney Lake Trails Final Plat	other - parks and open space	12/7/2022	1/4/2022	335.1	12/19/2022	1.A portion of the project is located in the Cherry Creek Basin and subject to the requirements in the Control Regulation 72. The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed post construction BMPs. 3.Construction BMPs were not provided in this submittal, but should be incorporated for development to meet CR72 construction BMP requirements for a Tier 3 development. Phasing requirements for construction disturbance should be shown on the GESC plans to ensure disturbance limit requirements per CR72 Section 72.7-2.(b)(5)(i)(A.) are being met.
Town of Parker	Stroh Crossing F1 L7 B10 Daycare	commercial	12/8/2022	1/5/2022	1.5	12/19/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed post construction and construction BMPs. 3. No further referrals to the authority on this project are necessary.
Town of Parker	Vantage Point F1 AMD 2 Replat	residential	12/8/2022	1/10/2022	8.1	12/19/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed subdivision 3. No exceptions taken with the proposed post construction BMPs submitted (SP22-131) for the Grocery pad site. Post construction BMPs will need to be provided for the future retail sites. 4. Construction BMPs were not provided, they should be provided during construction to meet the requirements of CR72.
Town of Parker	Compark Village F4 Tract E - Flex Office	commercial	12/13/2022	1/13/2022	4.0	12/20/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed post construction and construction BMPs. 3. No further referrals to the authority on this project are necessary.
City of Aurora	Prairie Point Golf Course F1	commercial	12/15/2022	12/29/2022	275.0	12/20/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. As noted in the drainage report, a variance was requested to bypass structural water quality for the rear portion of the lots backing Antelope creek. Tier 3 post construction BMPs are still required for these areas; please provide more detail of the acceptable post construction BMPs for the areas and provide supporting calculations. Utilization of existing landscape for runoff reduction BMPs is acceptable provided runoff reduction meets design criteria outlined in the USCDM Vol.3, however more information and supporting calculations needs to be provided. (Also commented on in Master Drainage Report for Kings Point North East RSN #1595659) 3. This site includes development in the stream preservation areas which requires additional post construction BMPs per the CR72. See Section 72.7 (2)(c)(8)(i) of the CR72 for more information regarding the requirements. Please explain what additional BMPs are being provided to meet these requirements.
Town of Parker	Vantage Point F1 AMD 2 L2 - Grocery Store	commercial	12/15/2022	1/17/2022	6.4	12/20/2022	1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed post construction and construction BMPs. 3. No further referrals to the authority on this project are necessary.
SEMSWA	Dove Creek Otero to Chambers Rd	other - parks and open space	12/16/2022	12/29/2022	8.8	12/20/2022	Previously Reviewed 2047,2231,2302 1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs). 2. No exceptions taken with the proposed post construction and construction BMPs.

SEMSWA	Take 5 Oil Change SITE	commercial	12/19/2022	1/3/2022	0.9	12/21/2022	<p>Previously Reviewed 2285 & 2395</p> <p>1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs).</p> <p>2.No exceptions taken with the proposed post construction BMPs</p> <p>3. Construction BMP plan was not included in the submittal for review. Construction BMPs should be implemented to meet the requirements of the permittee.</p>
SEMSWA	RJHS Athletics SITE PLAT	commercial	12/19/2022	1/10/2022	18.0	12/21/2022	<p>Previously Reviewed 2466</p> <p>1.This project is in the Cherry Creek Basin and therefore must follow requirements in the Cherry Creek Basin Water Quality Authority's Control Regulation 72. Control Regulation 72 requires both construction and post-construction Best Management Practices (BMPs). Based on the disturbance area and additional impervious area added, this project would classify as a Tier 3 development and shall provide BMPs meeting the requirements for this designation.</p> <p>2. No exceptions taken with the full spectrum detention and/or raingarden for a proposed post construction BMP.</p> <p>3. However, Basins OS1, OS2, OS3 and OS4 still include the addition of new/added impervious area. Per control regulation 72, new/added impervious area should be treated in a post construction BMP meeting Tier 3 requirements, or the project needs to meet the criteria (and request) an automatic or authorized exclusion to the post construction BMP requirements (See section 72.7-2. (c)(4)).It doesn't appear a specific exclusion has been requested meeting CR72 criteria.</p> <p>4. No exceptions taken with the proposed construction BMPs.</p>
Town of Parker	Parker Auto Plaza F2 AMD 3 L1A B4 - McDonald Audi Service	commercial	12/20/2022	1/20/2022	5.7	12/21/2022	<p>1.The Authority's Control Regulation 72 requires construction and post-construction Best Management Practices (BMPs).</p> <p>2. No exceptions taken with the proposed post construction and construction BMPs.</p> <p>3. No further referrals to the authority on this project are necessary.</p>