



**MAY 2015 MEETING AGENDA**

RMWEA/RMSAWWA Joint Water Reuse Committee / WaterReuse Colorado

**May 7, 2015 at 1:00 pm**

**Plum Creek Water Reclamation Authority**

4255 N US Highway 85, Castle Rock, CO 80108

Call in number 888-809-4012, Passcode 7641593#

**Attendees:**

Dave Takeda	MSK Consulting
Damian Higham	Denver Water
John Rehring	Carollo Engineers
Tara Kelley	Colorado Springs Utilities
Martha Hahn	Plum Creek Water Recl.

Richard Leger	Aurora Water
Laura Belanger	Western Resource Adv.
Kerri Hickenbottom	CSM (scholarship recip)
Liz Bell	CSM (scholarship recip)

**Phone Participants:**

Steve Ravel	HMM
John Whitler	WRF
Liz Lemonds	CDPHE

Jennifer Gelmini	MWH
Maureen Egan	CDPHE
Jodi Villa	Kennedy Jenks

**NOTE: The July 9th Meeting Time Has Been Changed to 2 PM:** Meeting Location: City of Aurora, Aurora Room. The WRCO meeting will be followed by the Annual Awards Ceremony (cocktail hour) at an Aurora location (TBD). Please [Save the Date and Plan to Attend.](#)

1. **WRCO Presentation Schedule - 2014 Scholarship winners' presentations** - Scholarship winners Liz Bell and Kerri Hickenbottom of the Colorado School of Mines provided interesting and informative presentations on their research (attached).
2. **CDPHE-WQCD Items**
  - a. Regulation 84 Updates
    - i. Update on possible new uses effort/WQF workgroup (Damian) – Denver Water is working on edible crops w/CDPHE and will be also talking with agricultural organizations. The timing of adding new use(s) would likely follow the 2016 triennial review with a May 2016 Informational Hearing. Tara asked if there are additional uses of interest beyond edible crops. No one was aware of any ongoing efforts but Damian asked that we think about if there are other uses we want to take on during the triennial review such as toilet and urinal flushing, decorative fountains, and recreational impoundments.

- b. Graywater Non-Traditional Uses Update (Tara) – The rulemaking hearing was completed and approved a few weeks ago with the regulations (Reg 86) adopted as drafted. However, indoor toilet and urinal flushing can't occur until the Colorado Plumbing Board (PB) adopts the relevant International Plumbing Code (IPC) graywater regulations and the PB has stated they aren't certain they will. This means that subsurface irrigation is really the only use that could currently be implemented, assuming all other things (e.g. local ordinances) are put in place. Damian noted that Denver is working on such an ordinance. Similar to Regulation 84, there may be interest in adding new uses to Reg 86 in the future.
- c. Other Items – CDPHE initiatives update: Liz said that they plan on reissuing NOAs this summer along with some modified spill reporting. The compliance plan is moving slowly along. Regarding the movement of reuse water from the hydrostatic permit system to the individual permit system, Damian noted that Denver Water is finding that the limits associated with the permit are achievable for the most part.

### 3. Subcommittee Updates

- a. Scholarships (Tanja) – Dave informed the group that the scholarship announcements went out a few weeks ago and are due June 30. We're looking for 1-2 more people to be on the review committee. Contact Tanja directly if you're willing to screen applications at [trauch-williams@carollo.com](mailto:trauch-williams@carollo.com). Scholarship winners will be announced at the RMSAWWA/RMWEA Joint Annual Conference in September.
- b. Website (Steve) – We've been working on getting our membership and email lists up to date, both of which can be found on the website. If you see anything that needs to be changed, let Steve know.
- c. Education/Outreach/Public Relations:
  - i. Managing Salinity documents (Richard) – No update. It's being internally reviewed and updated prior to going out to peer review.
  - ii. Inter-organizational activities (Laura) – No update but we've done some work and will continue moving it along.
- d. Annual Awards (Abbey) – The announcement was sent out about a month ago with submissions due on May 15, however we decided to extend that deadline until the end of the month (Friday, May 29). Dave will resend the announcement because we haven't received any nominations yet. If anyone has ideas as to how to better promote the awards, please share them with Dave. We are currently planning to hold the awards ceremony the afternoon/early evening of July 9<sup>th</sup> in Aurora. The WRCO meeting will be pushed back to start at 2 pm with a cocktail awards event afterwards. A location will be selected and an agenda established offline. Plaques will be presented and winners may be asked to give a short presentation. Richard will talk to Abbey to keep this moving.
- e. Industrial Reuse Committee (Abbey) – No update.
- f. Potable Reuse (Dave) –
  - i. Potable Reuse Guidelines Update (John) – John provided an update on a National Water Research Institute (NWRI) expert panel that is developing a framework for

regulations, providing an overview, and identifying issues that need to be addressed. A draft report may be available next month.

- g. WRCO Participation in Research (John) – This has been a team effort. We've been talking to various people about a three component project: Charting a path towards DPR in Colorado, Public education, and Increasing awareness of tools available to assess and treatment trains. We've decided to slow down the process to work to address concerns and questions and get CDPHE and others more involved. We met with Colorado Water Conservation Board (CWCB) staff last week and they were very supportive and saw statewide applicability and think the project is in concert with Water Plan and a good use of WSRA funds. We'll spend the next couple of months getting partners and interested parties involved and pursuing support from other basins. This entails a lot of outreach. If anyone is interested in helping with this, it would be greatly appreciated. Let John know and we'll figure out the best way to get you involved.
- h. Membership (Richard) – We have a few new members. Additional outreach to specific utilities was discussed.
- i. Regulations/Local Codes (Tara) – No Update
- j. Reuse Roundtable [Roundup] (Damian) – Regarding the timing of this event, Denver Water is currently thinking it would be better to have the Water Plan out before the Roundup. There are also other initiatives to get broader Water Plan discussions going. Perhaps we could present at Water Congress on January 27 – 29, 2016. Damian also asked the group to think about if there's an ask to be made of legislators and decision makers who attend the Roundup, for example, a potable reuse directive. Richard suggested some legislation regarding how we regulate wastewater, making it a "raw water" resource, similar to as has been done in OR, CA and WA for example. Also we will be trying to generate general support for and education about potable use.

#### 4. Other Business

- a. CWA/SDWA Nexus Workgroup (Damian) – No Update.
- b. State Water Plan (Laura) – We met with CWCB staff in 2014 to provide input on the reuse section of the Colorado Water Plan. The December 2014 draft that was submitted to the Governor incorporated many of our comments and suggestions. We met with CWCB staff again in April to discuss the Water Plan, among other items. We followed that up by submitting a second comment letter (attached) that is supportive of the plan and that includes a few additional recommendations. We'll have another opportunity to provide input when the next draft comes out in July.

#### 5. WRCO Items

- a. Approve March 2015 minutes and financials (Dave) –  
Motion: Richard Leger  
2<sup>nd</sup> Tara Kelley  
The motion passed unanimously
- b. WRCO Treasurer's Report for this Month (Jena) – No financials were available for the meeting. They have since been received and are attached. See list of proposed 2015 expenditures

- c. Tracking of Approved Motions/Actions (Laura) – Dave has created an excel file of planned and approved expenses to track what's outstanding and what has been spent. Laura will go through recent minutes and add a table of other outstanding motions and actions to better track them.

## 6. WRCO Business

- a. Summary of Reuse Presentation at AWRA (John/Tara) – It was lightly attended but was a good presentation of the evolution of reuse in Colorado, Reg. 84 and moving ahead with potable reuse.
- b. DPR Workshop in May 2015 (Dave) – See attached agenda. The workshop will address regulatory, technical, and public perception issues. Currently there are 33 people registered including national and in-state experts, CDPHE, and utilities, among others. Much of the workshop is intended to be topic-driven open discussions among experts and utilities. They are also trying to organize a pre-workshop networking event in Lakewood the evening before.
- c. Social Media Policy (John) – No Update
- d. Update on WRCO archives and Dropbox (Laura) – A work study student has scanned and uploaded all the hard copy files to WRCO's online password protected dropbox archive. The two hard copy binders (with USB drives and CDs in them) have been placed in Western Resource Advocates' Boulder storage unit. If these binders ever need to be accessed, contact Laura or Western Resource Advocate's secretary. WateReuse Association Board Books are also being uploaded to dropbox. Any members who would like to see the national board books or any other archived materials should contact Dave or Laura.
- e. New WRCO pins (Richard) – Richard will get pricing. National doesn't require pins so we'll need to decide if and how many to purchase. In the past they have been used by members and given out at conferences. Per Jodi, we still have 102 of the older pins left.

## 7. WRA/WRRF Items

- a. WateReuse Association (WRA) updates (Richard) – WRA has 462 members and WRF has 89 members. Both WRA and WRF have their own bylaws which have been approved and are now consistently organized. They are still working to align the boards, which will take until 2018. Another change is that new papers and projects will be free to members for first six months after which many will be available free to anyone in order to increase education and website traffic.
- b. Legislative/lobbying effort update (Damian) – Covered under item 3.j.
- c. Research (John) – *WRRF 11-02 Equivalency of Advanced Treatment Trains for Potable Reuse: Treatment Train Toolbox* report is out. It talks about setting log removal goals and provides an excel tool to look at different treatment trains.

- d. Global Connections Map request for funding (Dave) – Richard said the only IPR project in CO is Aurora and it will only get a popup, not a video. Dave tried to touch base with Melissa but hasn't heard back.

#### **8. AWWA/RMWEA/WEF Items**

- a. AWWA Water Reuse Committee Updates (Tara) – No Update
- b. WEF Water Reuse Committee Updates (Frank) – No Update. Richard said the board voted and that all national committees have been dissolved except for the Legislative, Research Advisory (RAC), and Regulation Committees. Others can be formed as needed.

#### **9. Upcoming Activities**

- a. ACE, June 7-10, 2015 - Anaheim, CA
- b. RMSAWWA/RMWEA Joint Annual Conference, September 13-16, 2015 – Loveland, CO
- c. 30th Annual WaterReuse Symposium, September 13-15, 2015 – Seattle, WA
- d. WEFTEC, September 26-30, 2015 – Chicago, IL
- e. Sustaining Colorado Watersheds, October 6-8, 2015 – Beaver Creek, CO
- f. Water Smart Innovations, October 6-10, 2015 – Las Vegas, NV
- g. Water Infrastructure, October 13-16, 2015 – Bethesda, MD
- h. WQTC, November 15-19, 2015 – Salt Lake City, UT
- i. AWRA (National) Annual Conference, Nov 16-19, 2015 – Denver, CO. Abstracts due 5/23 on many topics including reuse

#### **10. Future Meeting Schedule**

July 9 City of Aurora (Aurora Room at **2 PM** Note later time). To be followed by Awards Ceremony in Aurora (location and event details to follow).

September 3	Plum Creek
November 5	City of Aurora
TBD	Strategic Planning



## **WATERREUSE Colorado 2015 Student Scholarship**

WaterReuse Colorado will award up to two (2) scholarships of one thousand five hundred dollars (\$1,500) each to the best applicants among undergraduate or graduate students enrolled in an accredited Colorado university. The purpose of this award is to support full-time students with a focus on water reclamation, water reuse, and/or desalination. The scholarships will be awarded in August 2015 and are for education related expenses. Previous recipients of this scholarship are not eligible.

### **Qualifications for Program:**

- Undergraduate or graduate student
- At least two years of college coursework completed for undergraduates
- Full-time enrollment at a university or college for Fall 2015
- Sincere interest in pursuing a professional career related to water reclamation, water reuse, and/or desalination. Research involvement in these fields and/or professional experience welcomed

### **Selection Criteria:**

- At least one letter of recommendation from a college professor or college advisor  
Letters must be confidential, placed in separate sealed envelopes, and not seen by student
- Personal statement (750-1,000 words max) stating your background, interest and practical experience in the field of wastewater reclamation, water reuse, and/or desalination
- Extracurricular activities, professional involvement, and leadership roles related to your professional field, as applicable
- GPA, submit all undergraduate and graduate (if applicable) college transcripts

### **Instructions:**

- Submit the following documents in one envelope:
  - ✓ Cover letter with contact information
  - ✓ Personal statement and resume
  - ✓ Sealed letter of recommendation (separate envelopes in main envelope)
  - ✓ Transcripts (*Unofficial transcripts will be accepted at time of application for scholarship. The grades will be subject to verification via official transcript if selected for award.*)

- Address the submittal to:  
Mr. David Takeda, P.E.  
WaterReuse Colorado President  
MSK Consulting, LLC  
16576 E. Hialeah Drive  
Centennial, CO 80015

**Scholarship applications  
are due (post-marked) by  
June 30, 2015**

For further questions, please contact Tanja Rauch-Williams at [trauch-williams@carollo.com](mailto:trauch-williams@carollo.com).



*Advocating legislation and regulations which facilitate appropriate water reuse, promoting safe and effective reuse throughout Colorado, and improving public understanding of water reclamation.*

April 30, 2015

James Eklund, Director  
Colorado Water Conservation Board  
1313 Sherman Street  
Denver, CO 80203

Re: WateReuse Colorado Comments on the December 2014 Draft Colorado Water Plan

Dear Director Eklund:

WateReuse Colorado is the state section of the national WateReuse Association. WateReuse Colorado is comprised of a broad range of reuse professionals, including the state's preeminent voices in water reuse – municipal water providers, users of recycled water, engineering consultants, researchers, and others. Our primary objectives include supporting the mission of the WateReuse Association<sup>1</sup>, advocating legislation and regulations that facilitate appropriate water reuse, promoting safe and effective reuse throughout the state, and improving public understanding of water reclamation. As such, we greatly appreciate this opportunity to provide input on the reuse section of the December 2014 draft of Colorado's Water Plan (Water Plan or Plan). We also had the opportunity to provide input on the April 2014 version.

We commend you and your staff for the work you've done to develop a comprehensive and meaningful document to guide the state's water future. Increased reuse is clearly recognized as an important component of a suite of strategies necessary to meet Colorado's current and future water demands. The Plan includes helpful background on water reuse, treatment technologies, regulations, research, existing and planned reuse projects, and what other states are doing on the forefront of reuse. The Water Plan also identifies issues that must be addressed and lays out key conceptual actions to be taken to facilitate additional reuse in Colorado.

Perhaps most noteworthy is the Water Plan's recognition that "Widespread development of potable reuse should be an important facet of closing the future water supply-demand gap." Indirect potable

---

<sup>1</sup> WateReuse Association Mission: To advance the beneficial and efficient uses of high-quality, locally produced, sustainable water sources for the betterment of society and the environment through advocacy, education and outreach, research, and membership.

reuse (IPR) is already being practiced in a few prominent projects in Colorado. While direct potable reuse (DPR) is not in use in Colorado to date, several projects have been implemented or are being implemented in Texas and New Mexico, largely in response to prolonged drought. There is an unequivocal trend toward DPR, with technologies, research, regulatory development, and on-the-ground operational experience all supporting its rapid expansion. Potable reuse addresses many of the limitations of nonpotable reuse (e.g., seasonality of demand, additional networks of distribution piping to construct and operate, etc.). While not without its own challenges, we can clearly envision a day within the Water Plan’s planning timeframe where IPR is greatly expanded and DPR is a commonplace tool for meeting Colorado’s future water needs.

While the Reuse section of the Water Plan is well developed, we believe the following suggestions would further strengthen the document.

#### Identify Specific Steps to Advance Reuse

The Actions identified in the reuse section of the Water Plan are important and we appreciate that they have been included in the Plan. We encourage you to consider if there are places that more specific recommendations for actions and next steps can be identified. For example, under “Research and development of additional reuse options” are there specific next steps that the Plan could begin to outline that would allow for “food crop irrigation, IPR expansion, and DPR projects”? The CWCB and the Water Research Foundation are developing a White Paper and convening a workshop of experts to evaluate DPR’s potential in Colorado. Any specific recommendations that emerge in that document and from the workshop could be useful to include. As another example, is there a specific process, methodology, or model that might be used to “Improve quantification, planning and tracking for potential reuse projects”? For each Action listed, consider if there are more specific steps that could be identified that are appropriate to include in the Plan.

#### New Water Supply Challenges

The Water Plan rightly discusses reuse-specific issues that must be addressed, such as the need to gain public acceptance for direct potable reuse. However a long list of “limitations of reuse” are included under the discussion of the South Platte/Metro Basin BIP section that we believe also apply to other new supplies. These include infrastructure capacities, losses, supply and demand timing, water quality, treatment costs and brine disposal, and regulatory requirements. Additionally, potable reuse is said to require more energy, treatment, operating, and infrastructure costs. Many, if not all, of these limitations must also be addressed for many of the new water supplies available to meet future demands, whether transmountain diversions, agricultural transfers, or other. They are not unique to reuse projects. As a specific example, brine disposal is a challenge for treating many lower-quality sources with reverse osmosis (RO) – as evidenced by several facilities in the state that use RO to treat groundwater supplies for potable use. Also, regarding costs, in some circumstances, direct potable reuse (DPR) projects where a utility captures and treats its own return flows could have lower costs and energy use than other new supply options. Rather than tying these more general limitations as being specific to reuse, the Water Plan could include a more general discussion of “New Supply Limitations”.



## Summary

We thank you and your staff for developing a Colorado Water Plan that recognizes the important role of reuse and that is committed to facilitating additional reuse to help meet our current and future demands. We welcome any questions or comments and would be happy to provide additional information as appropriate.

Again thank you for this opportunity and for your leadership in developing a Water Plan to guide Colorado's future.

Sincerely,

A handwritten signature in blue ink, appearing to read "David Takeda".

David Takeda, P.E.  
President

12:01 PM  
05/08/15  
Accrual Basis

**WaterReuse Association**  
**WaterReuse CO Income Statement**  
January 1 through May 8, 2015

	<u>Jan 1 - May 8, 15</u>
<b>Income</b>	
4050 · Membership	
4300 · MEMBERSHIP DUES	
4311 · 30% of WaterReuse CO Dues	13,583.97
<b>Total 4300 · MEMBERSHIP DUES</b>	<u>13,583.97</u>
4325 · State Section Membership	
4325.60 · Colorado	2,500.00
<b>Total 4325 · State Section Membership</b>	<u>2,500.00</u>
<b>Total 4050 · Membership</b>	<u>16,083.97</u>
<b>Total Income</b>	<u>16,083.97</u>
<b>Gross Profit</b>	16,083.97
<b>Expense</b>	
5300 · SECTION EXPENSES	
5800 · WaterReuse CO Expenses	
5800.10 · Board Meeting	277.80
5800.25 · Membership Credit Card Fees	86.94
<b>Total 5800 · WaterReuse CO Expenses</b>	<u>364.74</u>
<b>Total 5300 · SECTION EXPENSES</b>	<u>364.74</u>
<b>Total Expense</b>	<u>364.74</u>
<b>Net Income</b>	<u><u>15,719.23</u></u>

12:09 PM  
05/08/15  
Accrual Basis

**WaterReuse Association**  
**WaterReuse CO - Balance Sheet**  
As of May 8, 2015

	<u>May 8, 15</u>
<b>ASSETS</b>	
<b>Current Assets</b>	
<b>Cash</b>	
Cash	67,171.40
<b>Total Cash</b>	<u>67,171.40</u>
<b>Total Current Assets</b>	<u>67,171.40</u>
<b>TOTAL ASSETS</b>	<u><u>67,171.40</u></u>
<b>LIABILITIES &amp; EQUITY</b>	
<b>Equity</b>	
3210 · WaterReuse CO Reserves	51,452.17
Net Income	15,719.23
<b>Total Equity</b>	<u>67,171.40</u>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<u><u>67,171.40</u></u>



# Colorado Direct Potable Reuse Workshop

## May 27, 2015

AWWA Lynn Laskey Center  
6666 West Quincy Avenue, Denver, CO, 80235

### Agenda

#### Objectives and Goals

1. Review and discuss DPR issues for Colorado using the CO DPR White Paper
2. Identify short and long-term actions for DPR implementation in Colorado, including the recommendations provided in the CO DPR White Paper

8:30-9:00 - Registration and Breakfast (provided)

9:00-9:45 - Introductions and Opening Remarks - Cynthia Lane (AWWA)

- Colorado Water Conservation Board - Kevin Reidy
- WERF - Theresa Connor
- WRF - Frank Blaha
- WRCO - Dave Takeda

9:45-10:15 - CO DPR White Paper Overview

10:15-10:30 - Break

10:30-12:00 - Technical Issues Related to DPR (Introductory presentation on each issue, followed by utility experiences, and group discussion)

#### Discussion Topics

- Treatment Technology
- Brine Disposal
- Utility Operations (utility operator qualifications and certifications)
- Water Quality Monitoring
- Updates to the white paper

12:00 - 1:00 - Lunch (provided)



#### 1:00 - 2:30 - DPR Regulatory Issues

- Current Regulatory Frameworks
- DPR Framework for State (WEF/AWWA/WRRF/NWRI)
  
- Discussion Topics
  - o DPR Approach in Colorado
    - Would utilities implement DPR if there was a regulatory framework?
    - Could DPR be implemented in a severe drought situation in the future?
    - What lessons learned have been experienced in other areas that could apply to Colorado?
    - Updates to white paper

#### 2:30-2:45 - Break

#### 2:45-4:00 - DPR Public Perception Issues

- Discussion Topics
  - o What concerns do we expect from the general public in Colorado?
  - o How will utilities need to engage public officials?
  - o Will individual utilities be responsible for all public outreach, or will there be a collaborative approach amongst utilities and possibly the state?
  - o Updates to white paper

#### 4:00 - 4:30 - Recommendations and Wrap Up

- What are the next steps for DPR in Colorado?
- Did the discussions today identify issues that need immediate or short-term follow up?