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Final Minutes of Meeting No. 7
CSA/ICC B805 Joint Technical Committee on Rainwater Collection
System Design and Installation
Tuesday-Thursday, June 23-25, 2015
 CSA Group, 5060 Spectrum Way, Mississauga, ON, Canada
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Action Items		
No.	Action, Person Responsible	Status, Due Date
AI.7.1	Develop a generic system diagram to show generic flow of systems from collection to output. Many exist she will find a few to look at.	Ongoing
AI.7.2	Shawn will check for duplication on NSF 61, some of the duplication is intentional but it may appear more times than necessary in the document	Reviewed, no changes proposed. Complete



AI.7.3	Need operations section in document or delete "operations" from the scope. Should include ongoing monitoring and maintenance of system and follow up on Water Safety Plan after the system is installed.	Confirm change to scope with committee. Ongoing.
AI.7.4	Penh will provide a pretty image to illustrate particle sizes and micron measurements for filtration to go in annex.	Complete
AI.7.5	Judy will look into monitoring UVT	Complete

Name	Affiliation	Day 1		Day 2		Day 3	
		Pres	Abs	Pres	Abs	Pres	Abs
Voting members							
Alf Durnie (Co-Chair)	Alberta Municipal Affairs, Edmonton, AB	✓		✓		✓	
Philip F. Parisi (Co-Chair)	Jaros Baum & Bolles Consulting Engineers, New York, NY	✓		✓		✓	
Dave Cantrell	Public Health-Seattle & King County, Seattle, WA	✓		✓		✓	
Chris Despins	Credit Valley Conservation, Mississauga, ON		✓		✓		✓
Pieter DeVries	UV Dynamics, London, ON	✓		✓		✓	
Justin DeWitt	Illinois Department of Public Health, Springfield, IL		✓		✓		✓
Duncan Ellison	Cheffell Associates, Rockland, ON	✓		✓		✓	
Khosrow Farahbakhsh	University of Guelph, Guelph, ON		✓		✓		✓
Russell Jackson	RainHarvest Systems, Cumming, GA	✓		✓		✓	
Judy MacDonald	Health Canada, Ottawa, ON	✓		✓		✓	
Ken Nentwig	Canadian Association for Rainwater Management (CANARM), Victoria, BC	✓			✓		✓
Robert M. O'Donnell	Aquanomix, LLC, Davidson, NC	✓		✓		✓	
Doug Pushard	HarvestH2o.com, Santa Fe, NM		✓		✓		✓
Joe Rogers	Ontario Ministry of Municipal Affairs and Housing, Toronto, ON	✓		✓		✓	
Nancy Springer	Butte County Dept. of Development Services, Oroville, CA		✓		✓		✓
Penh Tov	Interpump Supply Ltd., Fergus, ON	✓		✓		✓	
Troy Vassos	Water Treatment Group, Golder Associates Ltd, Burnaby, BC		✓		✓		✓
Mike Warren	Watertronics, Hartland, WI		✓		✓		✓



Alternates							
Associates							
Nick Ashbolt	University of Alberta, Edmonton, AB	✓		✓		✓	
Jeffrey M. Hugo	National Fire Sprinkler Association, Essexville, MI		✓		✓		✓
Linda Maley	Atlantis Water Management, Vancouver, BC		✓	✓			✓
Robert Rubin	North Carolina State University, Pittsboro, NC		✓	✓			✓
Dana Schmidt	Steel Tank Institute, Lake Zurich, IL		✓	✓			✓
Guests							
Denis Lye	US Environmental Protection Agency, Cincinnati, OH		✓		✓		✓
Shawn Strausbaugh	Arlington County, Arlington, VA		✓		✓		✓
CSA/ICC Staff							
Shawn Martin	ICC, Pittsburgh, PA	✓		✓		✓	
Paul Gulletson	CSA Group, Toronto, ON	✓		✓		✓	
Maria Woodbury	ICC	✓		✓		✓	

Notes:

(1) T indicates participation via teleconference and web conference.

M.7.0 Call to Order

Co-chairs Alf Durnie and Phil Parisi welcomed the committee members and associates and called the meeting to order at 9:00 AM EDT. Members introduced themselves and housekeeping comments were made.

M.7.1 Quorum

At the time of this meeting, the Joint Technical Committee (JTC) had 18 voting members;

On Day 1, 11 were present at the meeting and therefore minimum quorum requirements (at least 50% of the voting members) were met. A maximum of 11 votes could be cast at the meeting and the minimum number of affirmative votes required for approvals was the greater of:

More than 50% of the voting membership: $1/2 \times 18 = 9 \rightarrow 10$, or
 2/3 of the votes cast: $2/3 \times 11 = 7 \rightarrow 8$ if all votes were cast

On Day 2, 10 were present at the meeting and therefore minimum quorum requirements (at least 50% of the voting members) were met. A maximum of 10 votes could be cast at the meeting and the minimum number of affirmative votes required for approvals was the greater of:

More than 50% of the voting membership: $1/2 \times 18 = 9 \rightarrow 10$, or
 2/3 of the votes cast: $2/3 \times 10 = 7 \rightarrow 7$ if all votes were cast



On Day 3, 10 were present at the meeting and therefore minimum quorum requirements (at least 50% of the voting members) were met. A maximum of 10 votes could be cast at the meeting and the minimum number of affirmative votes required for approvals was the greater of:

- More than 50% of the voting membership: $1/2 \times 18 = 9 \rightarrow 10$, or
- 2/3 of the votes cast: $2/3 \times 10 = 7 \rightarrow 7$ if all votes were cast

M.7.2 Review and adoption of agenda for the meeting

The agenda was reviewed. Judy MacDonald moved to adopt the modified agenda for the meeting; Pieter DeVries seconded the motion and it was carried with no opposed or abstaining votes. A copy of the agenda can be found in Appendix B.

M.7.3 Review and adoption of minutes from Meeting #6

The committee reviewed the minutes from Meeting No. 6 held on February 10-11, 2015 in Vancouver, BC. Corrections to the minutes included:

- Judy did not agree to an action item but brought up an issue for the group to discuss
- M165 – Dates should be 2016
- M612 term Enterovirus should read enterococci
- The meeting was adjourned at 5:00 PM

Judy MacDonald moved to adopt the minutes with corrections of Meeting No. 6; Dave Cantrell seconded the motion and it was carried with no opposed or abstaining votes.

M.7.4 Membership review

At the time of this meeting, the JTC matrix was balanced; therefore, the committee could make formal, binding decisions and cast votes. The following table shows the JTC matrix and membership by category:

CSA/ICC B805 JTC Voting Matrix		
General/Regulatory Interest (G)	Producer Interest (PI)	User Interest (UI)
Min: 6, Max: 6	Min: 6, Max: 6	Min: 6, Max: 6
1) Dave Cantrell	1) Russell Jackson	1) Chris Despins
2) Justin DeWitt	2) Ken Nentwig	2) Duncan Ellison
3) Alf Durnie	3) Robert M. O'Donnell	3) Khosrow Farahbakhsh
4) Judy MacDonald	4) Ms. Penh Tov	4) Philip F. Parisi
5) Joe Rogers	5) Pieter DeVries	5) Doug Pushard
6) Nancy Springer	6) Mike Warren	6) Troy Vassos



Associates	Nick Ashbolt, Jeffrey M. Hugo, Linda Maley, Robert Rubin, Dana Schmidt
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M.7.4.1 Membership changes since the last meeting

Dana Schmidt of Steel Tank Institute was added to the committee roster as an associate member.

M.7.5 Review of Schedule

The co-chairs then led a discussion of the overall project schedule and next meetings.

- Feb 10-11, 2015: **Meeting #6 (face-to-face)** to develop draft and work on content for Public Review.
- June 23-25, 2015: **Meeting #7 (face-to-face)** to finalize content for Public Review.
- July 2015: Release draft for Public Review and Comment – round 1 (60 days)
- Sep/Oct 2015: **Meeting #8 (face-to-face)** to review and resolve PR 1 comments
- Nov 2015: Release draft for Public Review and Comment – round 2* (45 days)
- Dec/Jan 2016: **Meeting #9** (teleconference) to review and resolve PR 2 comments
- Feb 2016: Comprehensive edit formatting of the draft by CSA Editorial Services
- Mar 2016: 30-day ballot to approve the standard
- Apr 2016: **Meeting #10** to resolve ballot
- May 2016: Draft submitted to CSA Editorial Services for final production
- June 2016: Publication

**Note: ICC’s ANSI process requires any changes to the draft to be posted to public review until no further comments are received. It is anticipated that at least two rounds of public review will be required.*

M.7.6 Report on outstanding action items

Shawn Martin provided a brief update on the outstanding action items as reported below.

Outstanding Action Items		
No.	Action, Person Responsible, Report	Status, Due Date
AI.1.7	<p>Seek participants for task forces from stormwater industry, experts (Justin DeWitt – MWRD, Shawn Martin – NOWRA, EPA)</p> <p>Report: Rob Rubin, Bert Van Duin, Neal Shapiro recruited and participating in task forces. Shawn has Justin Dewitt’s report. Chris reached out to some staff at Credit Valley Conservation but no response yet.</p> <p>Report: No responses from these individuals. Ongoing.</p>	Ongoing



	<p>Report Nov '14: Open</p> <p>Report Dec '14: No report</p> <p>Report Feb '15: Dan Nourian from NDS volunteered to assist in the area of system design for ground-level capture.</p> <p>Report June '15: No report</p>	
AI.4.6	<p>Review appropriate indicator organisms for rainwater with water quality experts (e.g. Dennis Lye, Nick Ashbolt, Robert Rubin and Water Quality TF).</p> <p>Report Dec '14: Open</p> <p>Report Feb '15: Alf Durnie to engage the group to review the water quality criteria drafted to date.</p> <p>Report June '15: Dr. Ashbolt attending to assist with water quality criteria review.</p>	Complete
AI.5.2	<p>Research definitions and diagrams to identify key system components - e.g. "distribution" "plumbing" etc. (Judy)</p> <p>Report Feb '15: Dave Cantrell volunteered to develop first drafts of necessary system component definitions for review.</p> <p>Report June '15: Need to be generic enough, and keeping in mind that some of these will be unknown to some users of the document. Could do a line diagram, very generic to indicate where structures in the system are physically in relation to each other from collection to output. Need to pick a sketch or have one done. Could easily generate one.</p>	Complete
AI.6.1	<p>Joe Rogers and Dave Cantrell agreed to review the language used to specify compliance with standards in both countries and return with recommendations on the terms to use when specifying or not specifying third-party certification.</p>	Complete



	<p>Report June '15: Rogers and Cantrell provided suggested revisions.</p>	
AI.6.2	<p>Shawn Martin and Paul Gulletson to reorder and reorganize the working draft in accordance with the flow of water through the system from the point of capture to the point of delivery. Staff to work to eliminate redundancies as reflected in the notes. Meeting #6 Working Draft to be distributed to Task Forces for use in the interim.</p> <p>Report June '15: Martin and Gulletson reported that task was complete and provided to the committee to review.</p>	Complete
AI.6.3	<p>Dave Cantrell to suggest common terms and definitions (as necessary) for system components associated with rainwater harvesting systems to promote consistency.</p> <p>Report June '15: Dave Cantrell has completed most and anticipates completing the balance during Meeting #7.</p>	Complete
AI.6.4	<p>Dave Cantrell to work with the Tanks Sub-group to develop a consolidated set of prescriptive tank provisions to reside in a separate annex.</p> <p>Report June '15: Dana Schmidt volunteered to lead a group to develop the Annex which was delivered for committee review during Meeting #7.</p>	Complete
AI.6.6	<p>Duncan Ellison to create advisory note for Section 11.1.5 to suggest that some level of pre-treatment occur prior to the tank when there is the potential for elevated water temperatures.</p> <p>Report June '15: Duncan created advisory note for section 11.1.5 to suggest that some level of pre-treatment occur prior to the tank when there is potential for elevated water temperatures. It is now in section 7.2.4.2 with re-numbered document. We may need to move it to treatment section.</p>	Complete



M.7.7 Breakout Sessions Day 1

Two breakout sessions were convened during Day 1 to continue work on the document. The first addressed system design, installation and controls and was headed by Dave Cantrell and Phil Parisi. The second addressed water quality and was headed by Russ Jackson and Penh Tov. The changes developed by each group were recorded in two separate versions of the working draft for merging when the full committee reconvened on Day 2.

M.7.8 Call to Order Day 2 and Opening Remarks

Chairman Alf Durnie called the meeting to order at 8:30 AM on Day 2. After assessing the progress of the two breakout sessions on Day 1, it was agreed to continue to have the groups work separately at the beginning of Day 2. The chairs agreed to monitor progress to determine the appropriate point to reconvene the two groups for consideration of all of the proposed changes by the full committee.

M.7.9 Breakout Sessions Day 2

As with Day 1, the same two breakout sessions were continued during Day 2 to continue work on the document. The System Design Group began work by focusing on tank-specific issues, with the assistance of Dana Schmidt. Ms. Schmidt was unable to attend Day 1, so tank-related discussions were deferred to Day 2. The changes developed by each group were recorded in two separate versions of the working draft for merging when the full committee reconvened.

M.7.10 Wrap Up and Adjournment Day 2

After reviewing progress throughout the day, the chairs elected to continue the work of the Breakout Sessions throughout Day 2, with the full committee reconvening on Day 3.

M.7.11 Call to Order Day 3 and Opening Remarks

Chairs Durnie and Parisi called the meeting to order at 8:30 AM. Overnight, staff worked to combine the working drafts from each of the Breakout Sessions for review by the full committee during Day 3.

M.7.12 Day 3 Consensus Committee Session

Participants from each Breakout Session provided the full group with a summary of the results of the discussions from the preceding days. The full committee also reviewed and discussed the general provisions of the document and definitions. Notably, the recommendation was made to further revise the System Sizing Appendix in conjunction with Chris Despina to coordinate with changes made to the body of the document. Phil Parisi offered to review and provide feedback on the appendix. As a result, the committee agreed to omit the System Sizing Appendix from the first Public Review (if approved via letter ballot immediately following the meeting).

Further revisions to the combined working draft were captured in the working draft.

M.7.13 Public Review Balloting Discussion and Straw Poll

Chairman Durnie led a discussion on the next steps for the draft and its readiness for a Public Review. He indicated that he believed that it was now important to seek public feedback on the material developed. If this was to be done, staff would first complete the incorporation of the material developed during the meeting, and format the document for public review. The new version of the draft would be circulated to the committee members along with a ballot to approve the Public Release. Per the ANSI process, notification of the public review would then be provided in the *ANSI Standards Action*. A 60 day public review was recommended to meet the requirements of both ICC and CSA's development processes.

Since all committee members were not present, a formal motion to release the document for Public Review could not be made. However, the chairs asked for a straw poll and discussion to assess level of support for a Public Review release. During the discussion that followed, those present voiced support for a Public Review citing the need for other perspectives on the material and approach taken to date. Several committee members voiced a desire to seek certain sections strengthened and improved, but the consensus was that this could be best accomplished after a Public Review period. Some committee members questioned whether further changes to the document could be proposed after the Public Review. Staff indicated that per both the ICC and CSA processes any committee member can propose a change to the document at any time until the final balloting is completed.

With this information, a straw poll was conducted and the unanimous result among those attending was that a Public Review should be conducted as a next step. Staff was directed to compile and format the document and distribute to the full committee with a letter ballot authorizing the Public Review, to be conducted before the end of the year.

M.7.14 Date and Location of Next Meeting

Selection of the date and location for next meeting was deferred pending the completion of the Public Review ballot, release and compilation of the resulting comments.

M.7.15 Closing remarks and Meeting Adjournment

In closing the chairs thanked the committee members for their hard work. They reiterated the process steps for Public Review:

- Committee members can submit comments or make changes throughout the process. Any changes made outside of public comment will need to be reviewed during a public comment period.
- Any committee member is free to submit public comments if they wish.
- If a committee member does not feel comfortable voting to send the document to public comment it is better to speak up before ballots go out and work through issues rather than to have the vote fail. A failing vote would slow down the process significantly.
- Each public comment will be reviewed and formally acted upon by the full committee in the next meeting.



The meeting adjourned at 4:30 pm EDT on Day 3.



Appendix A

Task Force Open Projects



Open Task Force (TF) Projects — CSA/ICC B805 JTC		
Project No. & Title	Task Force (TF) Members	Mandate, Actions, Status
2014 Projects		
<p><u>RWH-14-01</u></p> <p>Storage sizing</p>	<p>Chris Despins (Chair) Nancy Springer Joe Rogers Penh Tov Russ Jackson Jeff Hugo Justin Dewitt Doug Pushard</p>	<ul style="list-style-type: none"> • Apr 2014: New project to investigate storage sizing. Include firefighting concerns (see Hawaii, p., 45). Sizing for water storage (short/long term, water efficiency target, fire reserve, etc), sizing for stormwater management (volume target, draw-down rate, mass balance). Yield coefficients. Reliability. • June 2014: Action items: Add day tank sizing, Demand calculations (informative), Tank sizing methodologies (informative), System supply calculation (informative) • August 2014: Action items: Add sizing for firefighter reserve, referencing NFPA standards, add provisions for stormwater treatment/storage. • Nov 2014: No update. • Dec 2014: Chris Despins, who was not in attendance, provided an interim draft in advance. He invited comments and plans to submit text for inclusion in the working draft prior to the next meeting. • Feb 2015: Chris Despins to review sizing material as reflected in the latest working draft. • June 2015: Chris Despins provided an updated working draft of the sizing appendix for review.
<p><u>RWH-14-02</u></p> <p>Water quality (source and output)</p>	<p>Russ Jackson (Co-chair) Penh Tov (Co-chair) Mike Warren Rob O'Donnell Pieter Devries Chris Despins Judy MacDonald Dave Cantrell Duncan Ellison</p>	<ul style="list-style-type: none"> • Apr 2014: New project to investigate treated water quality (output), applications, and end use. Categorize by application/use. Data centre cooling, cooling tower makeup, landscape irrigation (surface/subsurface), toilet/urinal flushing, pool/spa fill, hose bibbs, vehicle washing, trap priming, automatic fire sprinklers, clothes washing • June 2014: Merge with Source Water Quality Group, scope revised to include both source and output waters.



Open Task Force (TF) Projects — CSA/ICC B805 JTC		
Project No. & Title	Task Force (TF) Members	Mandate, Actions, Status
	Wayne Galliher Ken Nentwig Robert Rubin Nancy Springer Khosrow Farahbakhsh Linda Maley Troy Vassos	<ul style="list-style-type: none"> • August 2014: Refine usage tiers, combining evaporative cooling with non-potable, human contact applications. Review use of e. Coli as an indicator microorganism, seek input from microbiologists on criteria for usage tiers. • Nov 2014: Review usage tiers with water quality. • Dec 2014: Russ Jackson indicated the task force would take into account the feedback received at the ARCSA conference and would meet again soon to get back on track. There is the Water Safety Plan approach, different inputs on thresholds. Boiling those ideas into single document is the challenge. If we do this, it may make what we've already done irrelevant. • Feb 2015: Alf Durnie and Task Force to review water quality threshold levels in 11.1.3 with water quality experts. • June 2015: Group to continue work during the breakout sessions in the meeting to further develop and incorporate Water Safety Plan.
<u>RWH-14-04</u> Control systems and design	Doug Pushard (Chair) Mike Warren Pieter Devries Ken Nentwig Chris Despina Rob O'Donnell	<ul style="list-style-type: none"> • Apr 2014: New project to investigate control systems and design. Include safety, listings • June 2014: The task force met and developed a draft framework for the section. The group also focused on a definition for control. The TC discussed controls for fire suppression systems, which the task force will look into further in their work. • August 2014: Action items: Convert approach to code text and locate appropriate provisions for each. • Nov 2014: Action items: Draft provisions for Section 10,



Open Task Force (TF) Projects — CSA/ICC B805 JTC		
Project No. & Title	Task Force (TF) Members	Mandate, Actions, Status
		<p>establish approach for residential vs. commercial.</p> <ul style="list-style-type: none"> • Dec 2014: Task force continues to refine the point-of-use water quality criteria and is investigating a prescriptive set of criteria to use as an alternate for smaller residential systems. • Feb 2015: Task force to consolidate and simplify controls provisions with more emphasis on performance requirements. Additional information needed on ozone disinfection system controls. • June 2015: No report.
<p><u>RWH-14-06</u></p> <p>System components design and materials and Tanks Subgroup</p>	<p>Dave Cantrell (Chair) Alf Durnie Judy MacDonald Phil Parisi Joe Rogers Shawn Strausbaugh <i>Dan Nourian</i> Dana Schmidt (Chair) <i>Mark Falgatter</i></p>	<ul style="list-style-type: none"> • Apr 2014: Outlined, but not started. • June 2014: New project to address collection systems, piping, tanks, etc. Merge in backflow and cross-connection control. • August 2014: Action items: Continue to review language, incorporating information from other sources. Setup sub-groups to address specific issues such as tanks as needed. Review and refine committee feedback from Meeting #3. • Nov 2014: Action items: Continue to review, revise and draft language. Initiate work of new sub-groups (the working group on tanks led by Dana Schmidt was activated). • Dec 2014: Task force continues to develop and refine the text for system components based on committee feedback and resource documents. Sub-group for tanks headed by Dana Schmidt is working to develop text specific to tanks using CSA B126 and IPC material to begin. • Feb 2015: Revision and consolidation of tank materials for placement in a separate annex. Create generic



Open Task Force (TF) Projects — CSA/ICC B805 JTC		
Project No. & Title	Task Force (TF) Members	Mandate, Actions, Status
		<p>system component terms for consistent usage throughout the document. Develop consistent terminology for the indication of third-party certification vs. conformance for first party.</p> <ul style="list-style-type: none"> June 2015: Proposed revisions to be discussed and completed during Breakout Sessions.

CSA/ICC B805 Joint Technical Committee on Rainwater Collection System
Design and Installation (IS-RCSDI)
Draft Minutes of Meeting No. 7; held on February 10-11, 2015
Issued:
CSA File: B227-23
ICC File:



Appendix B

Agenda for the Meeting

CSA/ICC B805 Joint Technical Committee on Rainwater Collection System
Design and Installation (IS-RCSDI)
Draft Minutes of Meeting No. 7; held on February 10-11, 2015
Issued:
CSA File: B227-23
ICC File:



Appendix C

Committee Member Coordinates