

*1:30 P.M. to 3:45 P.M. NL, Monday, June 23rd, 2025
Delta Hotel by Marriott, St. John's, NL*

Committee Attendance:

Pat Mayne (Chair)	Atlantic	Colin Rojahn (abs)	Cleveland Cliffs
Terry Dunn	Atlantic	Jonathon Paton	Warner
Scott MacRae	Armtec	Mike Mounts	Valgroup
Darren Bauman	Armtec	Todd Gray	ACI
Bruce Matheson	Frontier	Derek Niezen	Ironside
Jaclyn Pittman (abs)	E.S. Hubbell	Richard Northcutt	MarMac
Kamran Derayeh	AMD	P.C. Drouin	SDI
Byron Nelson (abs)	Leland	Cameron Hock (abs)	Island Culvert
Dave Watson	Leland	Mike McGough (abs)	NCSPA
Mitchell Swisher (abs)	Cleveland Cliffs	Ray Wilcock	CSPI

Members in Attendance

Marcia Stinson	AMD	Stephen Ryan	Atlantic
Jina Robertshaw	AMD	Ian Kalverda	E.S. Hubbell
Liz Bouchard	Armtec	Mike Williamson	E.S. Hubbell
Roger Leger	Armtec	Sherylynn Smith	Ironside
Glenn Smith	Armtec	Mike Green	Leland
Lorne Stuckey	Armtec	Clément George	TUBAO
Jason Sherwood	Atlantic	Hadrien Le Flanchec	TUBAO
Matt Field	Atlantic		

1. Welcome and Opening Remarks

Pat opened the meeting and welcomed everyone. Attendance was taken and is recorded above.

2. Review Minutes from March 6th, 2025, and Approve

Minutes were sent to all committee members and those in attendance. A motion for approval was made by **Scott MacRae**, second by **Kamran Derayeh** and was carried unanimously.

3. Project List Update

a) CSA G401-24 update



- CSA has confirmed that English and French versions are ready, and errata was accepted.
- Waiting to hear from Ken Phu for posting

i) Section 6.3.1 a) ii) - Polymer repair issue

a) Uncoated surfaces of width up to 50 mm shall be repaired as follows:

- i) plant: outside (external side) of pipe repairs using RanVar TPC-515-7 or Denso Butyl 35 Tape or equivalent;
- ii) plant: inside (internal side) of pipe repairs Denso Butyl 35 Tape or equivalent; and

iii) field: inside/outside of pipe repairs Denso Butyl 35 Tape or equivalent.

The issue in ii) is not stating the word “RanVar TPC-515-7” as stated in i). This was consistent with Technical Bulletin 17 from which it was taken.

Action: Put forward changes to TB 17 and an addendum to G401. Also, there was a question about safety in TB 17 about painting Ranvar inside of the pipe. To be discussed at next TAC meeting.

ii) Section 4.7.3.2.4.1 - Welded Seams

The seam shall be parallel to the corrugations and shall have a continuous weld extending from end to end of each length of pipe. Welding shall be done utilizing ultra-high-frequency resistance shielded metal arc welding (SMAW) or gas metal arc welding equipment. Seams shall be welded in such a manner that they will develop the full strength of the pipe and not affect the shape or nominal diameter of the pipe. Welded seams shall be controlled such that the combined width of weld and adjacent coating burned by **welding does not exceed three times** the metal thickness.

The clause is missing a few words from ASTM A760 (7.6) from which it was taken.

Action: It was agreed to add an addendum to G401 to align with ASTM.

b) EPD's update

- Posted both EPD's to CSPI website
 - AMD's XCarb shows a 45% reduction in carbon footprint
 - NA average is higher than 2018
- Presently updating the carbon calculator to show industry average, XCarb & RCP (pending release)



Greenhouse Gas Emission Results of 1 Metric Ton of Steel versus Concrete

2018 Results	1.5 tons of CO ₂
North American Average	2.1 tons of CO ₂
AMD XCarb	1.0 tons of CO ₂

Discussion:

There was confusion pertaining to comparison to concrete for miles driven and propane tanks used. It was suggested to redo the comparison using just 1 metric tonne of steel versus 1 metric tonne of concrete. Another suggestion was to use water consumption. In addition, there were questions as to why the 2024 North American average EPD contained a higher carbon footprint than what was produced in 2018.

Action: Change the comparison model to simplify and run the EPD's by Stan Lipkowski (cc Kamran) for review.

c) MTO – OPSS for Structural Plate Package

May 7th in St. Catharines – 3 MTO & 5 members.

Discussed our feedback on “OPSS 960 - Construction Specification of Buried Corrugated Steel Structures with Spans Greater than 3.0 m”.

The meeting was successful with most comments and recommendations accepted. Follow up email was sent on May 26th covering 5 o/s issues.

Newest Update

- MTO need about a month to review.
- Planning on a November roll out.
- Standard drawings currently being looked at (arch, box, closed bottom)

Action: Will follow up later this summer with MTO.
Members to supply drawings.

d) MTQ Standards Update

Discussions with Quebec members took place on the following:

- Suppliers versus owners' s consultant designing foundations.
- Height of cover min of 600 mm in Quebec versus 300 mm in CSA, ASTM, OPSS

June Update

We received a response from MTQ pertaining to our email on February 10th pertaining to responsibilities for the geotechnical consultant, structural engineer, manufacturer, & contractor to clear up foundation design confusion.

Discussions underway with Armttec & AIL.

e) BCMOT ½ day seminar

The ½ day seminar was held on April 4th in Coquitlam with the following agenda:

- 9:00 Introduction to CSPI / Industry – Ray CSPI
- 9:30 Structural Design of Corrugated Steel Buried Bridges - Stuart Murphy AIL
- 10:30 Installation & Construction Procedures – Ron Prychitko Armtec
- 11:00 Inspection, Maintenance & Rehabilitation – Ron Prychitko Armtec
- 11:30 Durability & Sustainability – Ray CSPI

Latest Update

- Sent PDF file to Alireza Ahmadnia (Director of Eng)
- Waiting on proprietary design standards (3 – 6m span)

f) Handbook Update

- 2 Year Project
- Member participation
- Chapter by chapter

Meetings held on:

- March 24th
- April 30th
- May 28th
- Work underway on design / HOC / standard references / compaction tables / culvert location / rehabilitation.
- Next Meeting TBD

g) Stormwater Management Discussion

Discussion last meeting:

1. Hold two webinars in fall of 2025 – Internal for members (sales training) and external for consultants and others in the CSPI database. Deal with all misconceptions.
2. Include conservation authorities who have the authority to approve.
3. Emphasize the issues that plastic will have with creep and fire.
4. Explore the strategies that Contech & TUBAO use. TUBAO gave a presentation prior to this meeting.

4. Member / Ongoing Items update

a) AMD

Kamran – the document pertaining to wild / forest fires and its impact on steel will be sent to all members. The European code addresses repairs to steel which normally is at the ends of pipes which may extend beyond the above ground surface. To be discussed at the next meeting to determine if a technical bulletin is warranted.

b) Cleveland Cliffs

No attendance.

c) Valgroup

Mike – the lighter polymer and galvanize material has been removed from offerings at this time due to zero demand. Presently, there is no EPD for polymer laminate material.

d) Leland

Dave – tariffs at 25 – 50% are the biggest issue at present. In addition, the closing of a hot dip galvanizer in Quebec has result in tight supply issues.

e) Warner

Jonathan - no update.

f) Ironside

Derek – tariffs are their #1 issue.

g) ACI update

Todd – working on testing and evaluating products like RanVar for future substitution. There are two PL producers in the USA, none in Canada.

h) MarMac

Richard - tariffs are their #1 issue.

i) Steel Dynamics

P.C. – SDI have a mill in the USA and produce coils for culverts. They have been producing Aluminized Type II for the last year. The main issue is rerolling ends and the effect on the coating, resulting in painting the ends by manufacturers.

5. Other Associations - Updates

a) NCSPA update

- Handbook being updated.
- No changes to Height of Cover tables
- EPD work ongoing – stage of collecting manufacturers data.
- Skewed collar work pending
- Seismic update on hold
- Reviewing design to ensure in line with ASTM standards
- Polymer – letter sent to Montana. Field research ongoing on those sites to recommend service life.
- Future meeting in person on Nov 11th in Atlanta, Georgia

b) ASTM update

Spring Meetings - Sheraton Hotel in Toronto
Attended on May 5th.

1. Abrasion spec replacement from A926 to D968 (Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive)
2. AO5.13 Repair Committee – (A780) will be joining committee to review standard. Will run this by Kamran.
3. E60-80 new standard on sustainability. Kevin Williams for AIL will chair the task committee, CSPI will be a member.
 - a) Standard will address fire, flooding & risk acceptance
4. Next meeting Nov 9-10 in Atlanta Georgia
5. Spring meetings May 2026 in Dallas Texas

c) TAC update / 2025 Spring Meetings & Fall Conference

Attended Spring Meetings (virtual)

- Apr 9th Structures Committee
- Apr 10th Environmental Issues Committee
- Apr 16th Environmental Legislation Committee
- Apr 22nd Climate Change Integrated Committee
- Apr 24th Environmental & Climate Change Council

October Conference in Quebec City QC

- Abstract on "Underground Infrastructure — Getting to Net Zero" accepted.
- Scheduled for Tuesday October 7th at 4:00 pm
- Attend as a delegate only for conference and attend committee meetings on the 3rd, 4th & 5th.

d) AASHTO / TRB / AREMA / AISI

AASHTO	Current ballot released addresses maintenance items on deep corrugated SP.
TRB	No update
AREMA	September review on culverts planned. CSPI will be joining and start attending the meetings.
AISI	No update

6. Discussion / Old / New Business

a) Polymer repair Technical Bulletin updates – pending posting to website

- Updates to TB 02 Field Repair of Polymer Coatings & 17 Polymer Laminated CSP Guidelines will be posted in August.
- All agreed that the footer should be changed to *“THIS DOCUMENT PERTAINS TO CSPI MEMBERS AND STAKEHOLDERS ONLY.”*

b) Bolt issue identified in Newfoundland and Labrador with salt seepage. Visit with Dave planned for June 24th.

- [Samples will be taken from Caplin Cove \(Armtex structure\) and Brownsdale \(Atlantic structure\).](#) Report from CSPI & Leland to follow.

c) Alberta Transportation - Open Bottom Structures. Cookie cutter design, headwalls, cross sectional drawings, standard drawings, this number of boxes, arches, etc. Mimic concrete. ISG Engineering coordinating.

- [No update currently – awaiting on work with MTO.](#)

d) Technical Bulletin #13, Performance Guideline for Buried Steel Structures – reference to AASHTO electrochemical tests to previous version. Update completed. Pending – posting to website.

- Will be posted in August.

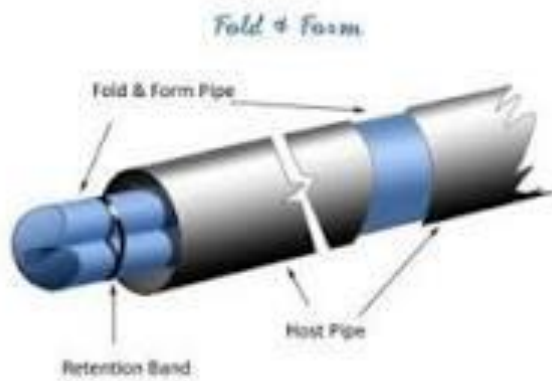
e) Canadian Water Resources Association – ½ day workshop on culvert design. Deferred to the fall of 2025.

½ day online seminar on CSP:

- 9:00 Introduction to CSPI / Industry (Applications, Product Details, Fabrication)
- 9:30 Structural Design of Culverts & Storm Sewers
- 10:30 Installation & Construction Procedures
- 11:00 Inspection, Maintenance & Rehabilitation
- 11:30 Durability & Sustainability

f) Fold and form and CIPP liners used for rehabilitation. Update.

- A liner is folded to reduce its size before insertion and reversion to its original shape by the application of pressure and/or heat. (Polyethylene or PVC), but their effectiveness is uncertain.



- No experience from the group.
- Reached out to Ian Moore from Queens University – not aware of any tests.
- Will also reach out to Robert Cichocki, a former Queen's PHD student who worked on a CSPI funded MITAC's project on rehabilitation.
- [Reach out to MTO.](#)

New Business

a) Online Tool – CSP configurator

[Deferred to next meeting.](#)

b) NZF bolts – performance review

[Covered under old business.](#)

c) TB on repairing CSP for damage from forest fires

Covered under AMD's update.

d) **Not on agenda – rerolled ends for Aluminized Type II – cracking – why? Then must paint. Any solution?**

- Dimpled couplers versus annular couplers – pull test required.
- Change annual to helical connections across Canada, thus eliminating rerolled ends.
- Obtain list of DOT's who require rerolled ends.
- Further discussion at the next meeting

7. Adjourn & Next Meeting in September (virtual) TBD

The meeting was adjourned at **3:45 pm** motioned by **Mike Williamson** and second by **Kamran Derayeh** and was carried unanimously. Next meeting in September (virtual) TBD.

Pat Mayne
Chair

Ray Wilcock
Executive Director