ANNUAL MEETING
TECHNICAL ADVISORY COMMITTEE
Memorandum of Meeting

1:00 P.M. EST, Wednesday September 29th, 2021 – WEBEX

Members Attending:

Terry Dunn (Chair)	Atlantic	Byron Nelson (abs)	Leland
Kevin Williams (abs)	Atlantic	Dave Watson	Leland
Jason Sherwood (abs)	Atlantic	Jim Evans	Cleveland Cliffs
Randy McDonald (abs)	Atlantic	Ian Berry	Warner
Phil Carroll (abs)	Atlantic	Mike Mounts	Valfilm
Meckkey El Sharnouby	Atlantic	Todd Gray (abs)	ACI
Scott MacRae	Armtec	Derek Niezen (abs)	Ironside
Bruce Matheson (abs)	Frontier	Mike Hook (abs)	MarMac
Jaclyn Pittman	Hubb-Cap	Mike McGough (abs)	NCSPA
Kamran Derayeh	AMD	Ray Wilcock	CSPI

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1. Welcome and Opening Remarks

Terry opened the meeting at 1:00 p.m. and welcomed everyone. Attendance was taken and is recorded above.

2. Review Minutes from June 15th, 2021 and Approve

Minutes were reviewed and a motion for approval was made by **Kamran Derayeh,** second by **Mike Mounts**.

3. Project List and Approve

1) MTO – Structural Plate Standards Advancement

Reached out to Tony Tuintra, Director of Standards & Specifications on August 30th. He responded that Walter Kenedi is the new Manager of the Structures Office and Sharon Berg will be the contact for the Ontario Gravity Pipe Design Guidelines. Subsequent emails to both with no response yet. Will follow up in early October to determine process for future discussion.

Send Meckkey the list of outstanding items from past discussions.

2) Bay of Fundy & Cabot Trail Polymer Coated Sites

On hold - will look at in the spring of 2022.

Site visit to cover:

- Abrasion 4 or tidal waters, ice conditions?
- Water velocity, chemistries, grade of pipe, fish passage design?
- Inlet control to protect sediment from entering pipe. Characterize the upstream water feeding the pipe, sediment load.
- Find out more information and root causes of the abrasion.
- Bay of Fundy (AIL), Cabot Trail (Armtec)
- Pictures are important to determine bedload / velocity
- Port Hardy site to visit – similar abrasion issues. Future visit for site inspection next time in B.C.

3) Buried Bridge Inspection Guidelines - TB

Technical Bulletin completed and up for approval. Will be posted to the website once approved.

Remove any reference to AT spec. Send to all manufacturers. Reply by Oct 8th.

4) CSA G401 Update

Meetings to be resumed in October.

5) Fish Baffle Technical Bulletin

Not started yet.

a. National
b. Scope: Prepare a document that contains the variables that one has to look at:
    i. Owner to hire the consultant.
    ii. Show examples of FB across Canada.
    iii. List benefits of using Steel Culverts for Closed Bottom
    iv. Show Reference Guidelines – DFO, FP innovations

Agreement was reached to develop a fish baffle guideline. Idea is to list all acceptable / available options in Canada. 6 to 8 case studies were discussed. With every province there are many options along with bedload retention, slopes, etc. Reach out to members across the country for options / projects, etc. Work with Julien Cassie (AIL).

6) Design for Abrasion Technical Bulletin

Preliminary discussions have been held, however summer scheduling prohibited moving forward. Will resume this fall.

a. National

b. Scope: Ways to calculate water velocity or ways to design for it (open Bottom vs closed bottom)

Abrasion classes, how to measure? Reference documents? What do the NCSPA have in this area? Work with Phil Carroll.

Phil suggested reviewing "Stream Simulation" from the US Forest Services (Turner Fairbanks Lab).

7) CSP Rehabilitation

E-Blast to be sent in October with link to YouTube posting of webinar held earlier this year. T.B.'s to be updated in the fall.

a. National
b. Add onto CSPI Slip line tech bulletins with info from the recent research on other methods.
c. Need to gain customer confidence for CSP.

8) Geomembrane over structures/pipes Guideline

Guideline sent to all committee members for review.

Meckkey to send in comments from Andy Lister of Ten Cate by October 8th.

9) Storm Water Joint Performance

Draft underway / should be ready prior to November meeting for review.

a. National
b. Non Recorrugated Ends
c. MarMac Coupling system
d. Improve Joint performance – Test current joints!!
e. Fittings – Develop Standard Fittings to connect to other pipe materials and own. Standardize and potentially test fittings.

10) Carbon Neutral

Held discussions with Stan about reporting annually. Determined that it would be difficult given the complexity of LCA reviews / comparisons / 3rd party review, etc. Stan indicated that all members should see a significant improvement in the 2022 EPD, given that CSP is made using the EAF method versus an overall average of EAF & BOF methods contained in the latest EPD.

Stan indicated that CSPI start to follow the "Greening Government Procurement" federal department for updates and potential speaking engagements.

Reached out to international members pertaining to needs / ideas, etc. Heard back from Viacon who are using the calculator and asked of we had any plans to produce one for structural plate.

a. How do we take it to the next level?
b. Find an EPD for HDPE once Published.
c. Make it more project related with budget pricing to compare costs and CO2
d. What else can CSPI do to promote and lobby steel over other building materials?
e. Do we need to do more lobbying?

11) Green Handbook Update

Commence after CSA G401 is complete.
a) 2 Year Project
b) Member participation
c) Chapter by chapter

12) Mitacs Opportunity – Municipal Storm Sewer Standards

Storm Sewer Mitacs draft sent to all committee members for review.
Discussion, thoughts?

Cost $7,500 - $10,000. Approved by committee.

Jim stated in the USA, similar situation with regards to concrete hold on this market.

4. Member / Ongoing Items update

a) AMD – carbon / galvalume update (Kamran)

Nothing to report. Remove from the agenda. Will look at down the road.

b) Valfilm – Lighter polymer laminate (Mike Mounts)

Several samples of different steel types and film thicknesses have been submitted to KTA for lab testing where they are going to complete all of the testing described in ASTM A742. This testing will take a few months, so it will probably be after the first of the year before we get the complete results and decide how we are going to proceed from there. KTA is the company that Pete Ault now works for.

c) Leland - Bolt & Nut Research update (Byron)

No update on research. Experiencing material and labour issues causing longer lead times.

d) Warner – alternative polymer coating update (Ian)

A number of coatings and testing. Ian to reach out to Armtec & AIL for direction on further testing.

e) Ironside – machinery update (Derek)

Derek was not in attendance.

f) ACI update (Todd)

Todd was not in attendance.

g) MarMac Joint Testing of non-rerolled ends (Mike H)

Mike was not in attendance.

h) PPI Carbon Document review (Ray)

The Franklin report posted by PPI was reviewed to determine if CSP was properly represented in the comparison to HDPE & RCP. Following are my comments:

1. The data source for all pipe materials leaves many unanswered questions.

a) For PE, stated directly in the report – "Because of the limited participation by pipe producers, it is not possible to determine the degree to which the PE pipe manufacturing data collected for this study are representative of total North American production of PE pipe. However, the pipe production data is the most current primary data representative of North American PE pipe production." There is no EPD for PE at this time, also the leadup to manufacturing is not detailed.

b) PVC Pipe – based upon a 2015 EPD & converting production data based upon a 2008 study.

c) RCP – based upon a 2016 study for the Portland Cement Association and steel rebar from 2017 WorldSteel Data.

d) Aluminized Spiral Rib – 2017 WorldSteel Data & from the report "Manufacturing energy use for converting steel sheet into corrugated pipe was based on total MJ of renewable and non-renewable manufacturing energy from a 2018 EPD for the Corrugated Steel Pipe Institute." Notice how they only used Energy in Table 3.

2. Reuse, Recovery & Recycling Potential – Franklin used two methods 1) landfill and 2) recycling. In the Executive Summary which majority of the readers will look at, recycling credits are not shown. Only in the sensitivity analysis deep into the report will you find

discussion and calculation of recycling credits. Thus, why would one want to landfill any material if it can be recycled, especially steel.

3. My calculations based upon our EPD using 2.0mm Aluminized Spiral Rib Pipe versus Franklin's report for the Production stage:

Impact Category	**Unit**	**EPD**	**Franklin**	**Diff**	**PE**
Global Warming	kgs	16,382	34,400	18,018	11,300
Ozone Depletion	kgs	.00061	.000135	-.00048	.0000288
Acid Rain	kgs	116.3	94.8	-21.5	33.2
Eutrophication	kgs	5.11	3.23	-1.88	0.671
Smog	kgs	1,727	1,310	-417	371
Total Energy	mj	225,691	402,000	176,309	419,000
Non-Renew Energy	mj	210,205	371,000	160,795	417,000
Water Consumption	liters	106,270	109,000	2,730	50,700

4. Pipe Transportation Results - indicate that steel incurs double for all categories versus PE? While steel is twice the weight per meter / foot, I would expect that items like mileage per gallon are not double.

5. In the reviewer's section there were a number of questions with regards to source data. The responses from Franklin were weak in my opinion. For e.g.: a reviewer asked why our EPD was not used for the steel production stage. Franklin stated that our EPD was based upon a previous Worldsteel report and that the newer 2017 publication indicates a higher Global Warming number versus 2011 that was used for our EPD.

Until such time an industry wide EPD is undertaken by PE, it will be very difficult to compare materials.

Present to the Executive for discussion in November.

5. Other Associations - Updates

a) NCSPA update (Mike)

Meeting on Saturday October 2nd in San Diego for their annual meeting.

b) ASTM update (Mike)

November meetings will be held via WEBEX

c) TAC update / Fall Conference & Meetings (Ray)

Attended a number of sessions as conference was held online. Recordings are available.

Meetings to be held this November via WEBEX:

1st	Structures
9th	Road Safety
10th	Small Municipalities
15th	Climate Change Integrated
17th	Environmental Issues / Legislation
19th	Environmental & Climate Change Council

d) TRB update (Mike)

Nothing to report.

e) AREMA (Mike)

Nothing to report.

g) AISI News (all)

Nothing to report.

6. Discussion / Old / New Business

a) CO2 calculator in French

Fall project.

b) Training course on water testing – sponsored by CSPI

Will set up for both members and industry this winter via webinars.

c) Guideline on maintenance of corroded bolts

Draft attached to agenda for committee review. Send to all manufacturers for final approval by Oct 8th.

7. Adjourn & Next Meeting in November in Kitchener ON

The meeting was adjourned at **2:30pm** motioned by **Kamran Derayeh** and second by **Ian Berry**. Next meeting on November 18th in Kitchener in or virtual, to be determined.

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Terry Dunn	Ray Wilcock
Chair	Executive Director