



Minutes of the 2017 TAC Annual General Meeting
Thursday, October 12, 2017
École de Technologie Supérieure (ÉTS), Montreal, QC

Members of the TAC Board of Directors in attendance:

Erik Eberhardt (EE), President; Past President; Steve Skelhorn (SS), Vice President East; Bruce Downing (BD), Vice President, West; Michelle Richards (MR), Treasurer; Derek Zoldy, (DZ), Secretary; Serge Moalli (SM), Director, BC Region; Jason Mann (JM), Director, Prairies; Walter Trisi (WT), Director, Ontario; André Rancourt (AR), Director, Quebec and Maritimes; Nichole Boulton (NB), Director

Absent Directors:

Rick Lovat (RL), Past President; Heinrich Heinz (HH), Director, Alberta; Boro Lukajic (BL), Director, Lara Reggin (LR), Director; Seamus Tynan, Director

1. Welcome and Introductions

Erik Eberhardt opened the meeting at 16:45 welcoming all members and guests. He noted that the AGM agenda and the 2016 AGM minutes were available at the door – the minutes are also posted on the TAC website. EE remarked that workshops and conferences provide an opportunity to get together to connect with the members and to plan and review TAC programs, finances, membership and other elements of the Association's business.

2. Minutes from the 2016 AGM – October 17, 2016

Motion: *Moved by Derek Zoldy (seconded by Bruce Downing) that the minutes of the 2016 AGM be approved – Carried.*

3. President's Report

EE provided a status overview of a number of the TAC projects underway. He reported that TAC is in excellent financial health (due to the 2010 WTC and prudent spending since then) that allows TAC to invest in special projects such as the TAC coffee-table book, the website revitalization, and workshops, among other projects.

SS provided an update on the coffee-table book – the picture collection process, writing and editing is taking longer than anticipated so the delivery date is now June 2018. There is still an opportunity for firms and individuals to support the project through sponsorship – sponsors so far include Rick Lovat, Boro Lukajic & Associates, Ward and Burke, McNally Construction, Technicore, The Robbins Company and KGS Group.

4. 2016 Membership Report and Targets for 2018

SS reported that total 2017 TAC membership is 378 as of the end of September. With the added non-member delegates to the workshop added in (who will receive TAC membership as part of their registration) should put paid membership in 2018 close to 400 or over.

SS recommended that TAC 2018 membership fees remain at \$75 for individuals, \$500 for corporations, \$15 for students and \$25 for retired members. SS noted that member benefits in 2017 will remain the same and will include six issues of *T&TNA*, TAC conference and workshop registration at preferred member prices, member-only access to TAC documents, local chapter events, TAC e-newsletters and chapter e-news mailings. Corporate

membership includes the above benefits for one individual plus recognition on the TAC website, at the AGM, and in *T&TNA*, and an extra subscription to *T&TNA*.

5. Treasurer's Report

5.1 2016 Financial Statements

MR reported that TAC's financial health is excellent with a good cash position due to the large accumulated surplus. The budgeted loss for fiscal 2016 was \$16.5K, but the actual was only \$0.8K as the 2016 conference net proceeds were higher than budgeted.

5.2. Auditor's Report – Fiscal 2016

MR reported that the 2016 audit was completed by Bob Adam by the end of June as required in order to file with CRA by the June 30 deadline.

Motion: *Moved by Michelle Richards (seconded by Derek Zoldy) that Bob Adam be appointed as TAC's auditor for fiscal 2017 – Carried.*

5.3. 2017 Forecast & 2018 Budget Approval

MR noted that the budgeted fiscal 2017 \$28.9K operating loss may increase to \$44K by year end due to lower TAC book sponsorship received than anticipated. However, the sponsorship could materialize next year as the book nears completion. In a non-conference year, a budgeted loss is normal to enable TAC to take on special projects, like the commemorative book, in all years.

The proposed 2018 budget shows a net loss of \$29K, but \$35K in net spending is destined for special projects so the operating (only) budget is a surplus of \$6K. A reduced net revenue of \$15K has been budgeted for a joint TAC/NASTT-NW conference in 2018 – this is a drop of over \$25K from typical conference years. The 2018 revenue plan also has a target of \$20K in additional coffee table book sponsorship.

Motion: *Moved by Michelle Richards (seconded by Bruce Downing) that the proposed 2018 TAC budget be approved – Carried.*

6. TAC 2018 Board of Directors

EE reviewed the slide illustrating the end of terms for the current TAC Board of Directors – the officers all complete their terms at the end of 2017. The TAC Nominating Committee (Past Presidents Rick Lovat, Boro Lukajic and Garry Stevenson) asked the three officers if they would serve another term and all agreed.

Two Directors are ending their terms at the end of 2017 – Serge Moalli and Lara Reggin – EE thanked them for their service. He reported that, from the interest in serving on the Board received from TAC members, the nominating committee has recommended that Connor Langford and Stephanie Robillard be appointed for a three-year term beginning in 2018. EE noted that regional considerations have been taken into account when making the recommendation.

Motion: *Moved by Jason Mann (seconded by André Rancourt) that the proposed Officers and Directors be appointed to the TAC Board of Directors for three-year terms beginning January 1, 2018.*

WT observed that the Ontario Chapter is looking for a way to move good members of their chapter team onto the Board to retain their motivation and to thank them for long-time

service. But as few vacancies occur each year, it is a challenge

EE noted that the TAC Bylaws fix the number of directors, but they can always be changed. He noted that TAC recently added more regional representation by adding Manitoba and another director in Quebec – that may have precluded adding another Ontario seat at this time.

WT suggested an option of co-director appointments. EE noted that TAC can certainly look into it. Jeffrey Oke asked if all motivated volunteers need to serve on the Board or if it was not possible to implement new awards to recognize the contributions of these individuals. WT suggested that could be considered.

The motion carried.

7. Regional Reports

7.1. East (Ontario & Quebec)

SS presented an overview of completed, current and future work in Eastern Canada.

Ontario

The Ontario market is steady; there are quite a few projects currently underway, some in the prequalification stages and others in the tender stage, and there seems to be a good outlook for projects to come on the horizon. Current projects include:

Mid-Halton Outfall and Zone 1 Interconnect Tunnel projects, Oakville, Ontario

The project is well underway with shafts and tunnelling complete. Pipe installation, Marine work and restoration is still ongoing.

Ottawa Combined Sewage Storage Tunnel (CSST), Ottawa, Ontario

The project consists of approximately 6km of 3m diameter rock with segments. General construction has commenced on the site; the project is scheduled for completion in late 2019.

Trafalgar & Derry Rd Feedermain, Halton Region, Ontario

There are multiple shafts and tunnels to be constructed for this project. Tunnelling will be in mixed ground conditions, utilizing various TBMs of differing sizes. A main portion of the work is to be performed with an EPB TBM that installs 3m ID prefabricated concrete segments.

Coxwell By-pass Tunnel, Don River & Central Waterfront, Toronto, Ontario

10.6km tunnel of 6.3m diameter; entirely in Georgian Bay Formation. There are also 5 Tunnel shafts and 13 Tunnel connections. A request for prequalification was issued earlier this year. RFP is due anytime.

West Vaughan Sewage System Project – York Region

The project is currently in the design stage and is anticipated to be constructed via TBM with internal tunnel diameter of 3m. Total tunnel length is approximately 14km.

Metrolinx Hwy # 401 & Islington Tunnel, Toronto, Ontario

Rail Tunnel project is on the Kitchener Corridor; which runs from Union station to Kitchener. The new tunnel must pass under 21 lanes of Hwy (approx. 180m) and will be over 8m in diameter. Bid Submissions are in and an outcome is pending.

Burnhamthorpe Water Project, Peel Region, Ontario

A prequalification recently in May 2017 for the Burnhamthorpe Water Project. The RFPQ has closed, and the results have not yet been posted, however, the project is currently scheduled to hit the streets before the end of this year.

The outlook for Ontario continues to look promising. There are numerous projects under design and scheduled to be let for tender in the future, such as: Sheppard East LRT; Downtown Relief Line; and, Fairbanks Silverthorne, CP Rail Tunnel from Windsor to Detroit; Ontario Power Generation deep geologic repository tunnels for nuclear waste; to name a few.

There continues to be a very active microtunnelling market in Ontario. Many projects are currently underway such as: Brampton Feedermain, Bradford West Gwillimbury, MTO highway crossings, Streetsville, etc. These projects are being completed by the three main microtunnel contractors in Ontario: Ward & Burke Microtunnelling; Earth Boring; and CRS Tunnelling. Many more microtunnelling projects are scheduled to be tendered; like the York Durham Sewage System Modifications project; so there is plenty of activity that will continue into next year.

SS reminded everyone to visit the TAC website for information about TAC Ontario monthly presentations and site visits, scheduled on the last Thursday of every month.

Quebec

In Quebec, Romaine-4 (245 MW) is the final site to be constructed on the river. Work is ongoing.

The market is still looking strong in tunnelling with the following projects on the horizon:

- Metro extension toward east – Blue Line (Agence Metropolitaine de Transport, AMT) adding five new stations to the line towards the east to reach Anjou.
- Lavigne retention pool – to manage storm water, 3 tunnels of 2 m diameter to be excavated for a total length of 2,1 km, City of Montreal
- Jarry Tunnel, excavation of the 4,1-km long tunnel for the installation of a water main of 1,2 m dia. is ongoing, City of Montréal
- Atwater tunnel – water intake extension for environmental purposes, is ongoing, City of Montréal
- Cote-Vertu Garage, AMT – Large underground facility for the Metro rolling stock maintenance

The Caisse de Dépôts et de Placement du Québec 5,5 B\$ light rail train project.

- Involves the construction of two new tunnels and refurbishing of the existing Mont-Royal tunnel
- The new downtown tunnel of ± 2 km will reach the existing train station from the south shore
- The other new airport tunnel of ± 3 km will link the airport from the north part of the train line
- Major refurbishing of the existing 5 km Mont-Royal tunnel (5 km long) in order to bring the tunnel to meet NFPA 130 standards for fire safety.
- Funding was recently approved

SS thanked WT and AR for sending the project information on their Chapters.

7.2. West (Alberta, British Columbia and Prairies)

BD presented an overview of completed, current and future work in Western Canada.

Current & Future Projects – Prairies

Several tunneling projects are planned for the City of Winnipeg as part of two overlapping City programs, the Basement Flood Relief program (BFR), and the Combined Sewer Overflow (CSO) Management program. Four major projects are currently underway :

- Cockburn and Calrossie Sewer Relief Project
- Ferry Road Sewer Relief Project
- Jefferson Sewer Relief Project
- Transcona Sewer Relief Project

Together, these four projects have over 14 km of pipe installations in excess of 1,200 mm; and include pipe diameters up to 3,000 mm.

Active tunnelling construction contracts (under construction over the past 12 months) with pipe diameters \geq 1,200 mm include:

- Jefferson Sewer Relief Project – Outfall Contract: Installation of ~ 115 m of 2,100 mm sewer using Excavator Boring Shield (Contractor - Borland Construction Inc.).
- Cockburn and Calrossie Sewer Relief Project – Contract 2: Installation of ~1.3 km of 1,200 mm sewer by microtunnelling (Contractor – Marathon Drilling Co. Ltd.).
- Cockburn and Calrossie Sewer Relief Project – Contract 4: Installation of ~525 m of 2,700 mm sewer via microtunnelling (Contractor- Ward and Burke Construction Ltd.).

Near Term to Future Projects – Prairies

Near-term City of Winnipeg tunneling construction contracts (i.e. within approximately 6-8 months):

- Cockburn and Calrossie Sewer Relief Project – Contract 5: Installation of upwards of 1.3 km of piping ranging from 1,800 mm – 2,400 mm.
- Investments in the CSO program are planned to continue, subject to the approval of Council. This planned investment in buried infrastructure has and continues to generate interest from tunneling companies across North America.

Tazi Twe Hydroelectric project

- Proposed 50 MW Tazi Twe hydroelectric project is located on the Fond du Lac River in northern Saskatchewan.
- Saskpower has decided to suspend this project due to reduced electricity demands in the region.

Current & Future Projects – Alberta (Transit)

In Edmonton, construction of two 500 m long soft ground NATM tunnels for the Valley Line LRT started in March and is progressing well. The tunnels are part of a CAD 1.8 bn public private partnership project awarded to TransEd Partners, a consortium led by EllisDon, Bombardier and Fengate Capital Management.

In Calgary, CAD 4.5 bn funding has recently been approved for the Green Line LRT, which includes over 3 km of tunnel in the City's downtown area. The conceptual design is being conducted by a team which includes Hatch, Stantec and Thurber, for the City of Calgary.

Current & Future Projects – Alberta (Municipal)

Edmonton area

- Phase II Downtown Storm Drainage Servicing 1500 mm storm tunnel along 105 Street,
 - Design build (DB) venture led by Shanghai Construction, with Associated Engineering providing the design services.
- Downtown Intensification Storm tunnel.
 - City of Edmonton tunnelling crews with Stantec, and AMEC Foster Wheeler
- Shanghai and Associated are also involved in the third phase of the North Interceptor Sanitary Trunk in St. Albert, an approximately 2.6 km long, 1500 mm sanitary sewer. In Sherwood Park, Michels Canada is constructing a 220 m long, 1200 mm storm sewer using an Akkerman SL60 MTBM.

Calgary area

- Glenmore Dam Utility Replacement tunnels. This project included 500m of 2500 mm ID reinforced concrete pipe installed as casing for a 2050 mm OD watermain
 - Ward and Burke with Klohn Crippen Berger and Associated Engineering.
- West Pine Creek Sanitary Trunk Sewer and Feedermain - 3000 m of reinforced concrete pipe installed by microtunnelling
 - Ward and Burke with Stantec and McIntosh & Lalani

Fort McMurray

- Confederation Way Sanitary Sewer Bypass. Over 500 m of microtunnelling, installed as casing for Fibre Reinforced Plastic (FRP) pipe.
 - Ward and Burke was the tunneling contractor, with Associated and Thurber involved in planning and design.

British Columbia

A few tunnels and underground projects have concluded in the past few months: nevertheless, the market in British Columbia is expected to regain strength starting in 2018 as new projects come along.

Current Projects – British Columbia

2017 saw the conclusion of some major underground projects in British Columbia: Approximately 60km north of Pemberton, Innergex Renewable Energy developed the Upper Lillooet and Boulder Creek hydroelectric facilities (HEF). The construction of both facilities was being carried out by CRT-EBC, a joint venture of EBC Inc. and CRT Construction Inc. Both tunnels were completed by the end of 2016. Both projects were put in service earlier this year.

The remaining major ongoing civil tunnelling works are on BC Hydro's Site C project and BluEarth Renewable's Narrow Inlet hydro project 1.2 km conveyance tunnel. Excavation works have commenced on both with the former expected to continue throughout 2018 while the latter is expected to be completed in 2018.

The excavation of the underground works of the John Hart Generating Station Replacement Hydro project in Campbell River, on Vancouver Island was completed earlier this year. The Frontier-Kemper, Aecon and SNC Lavalin JV demobilized at the end of July signaling a transition from the project's tunneling and heavy civil works to the mechanical and electrical works to commission the new generating station.

Future Projects – British Columbia

Metro Vancouver, has numerous tunnel projects planned:

- The Second Narrows Water Supply tunnel, a 1.1km-long, 6m diameter tunnel connecting the Vancouver suburbs of North Vancouver and Burnaby below Burrard Inlet, is expected to commence in 2018 and be completed in 2022;
- The Annacis Main No. 5 Water Supply Tunnel is a proposed water supply tunnel beneath the Fraser River connecting the Greater Vancouver suburbs of New Westminster and Surrey. The project is in the planning stages with construction anticipated to begin in 2020;
- The Annacis Island Wastewater Treatment Plant Outfall Project is currently being designed with construction anticipated to begin in late 2018;
- Conceptual design for the Coquitlam Reservoir Intake No. 2 tunnel began in 2015: this project would include a 6km long tunnel to tap water up the East side of Coquitlam Lake;
- Design of the Capilano Main No. 5 Stanley Park Section project will start this fall with construction expected to commence in 2018;

Translink's Millennium Line Broadway Extension project could include a 5-km long tunnel. Translink is working with its partners to advance planning and design work for this project: if funding from all three levels of governments is confirmed in 2017, construction could begin as early as 2019 with final commissioning expected 4 to 6 years later.

Other upcoming projects of note in the mining sector include Seabridge Gold's KSM project. Overall, the current Seabridge conceptual design shows more than 100 km of tunnels including twin 23km-long ore conveyance and access tunnels as well as numerous other drainage tunnels and galleries.

Some major pipeline projects in British Columbia also have tunnels planned along their alignment. Kinder Morgan's Transmountain Pipeline project is planned to go through a 3.8m-diameter, 2km-long tunnel under Burnaby Mountain. However, the newly formed provincial government does not support this project.

BD thanked SM, HH and JM for their contributions to the Western Canada report.

8. Young Members Report

NK reported that the number of YM's in TAC is estimated to be over 150.

It has been a slower year for the TAC-YM Group and no site visits were possible, but there will be an upcoming conference in Seattle that the BC YM's will participate in as well as a regional event with our US counterparts as well as site visits to SR99 and the Bellevue Tunnel. The Kingston group has plans to take students to the newly refurbished Brockville Tunnel.

The TAC-YM Group in Ontario undertook the following in 2017:

- 2 dedicated YM meetings in the GTA;
- 1 meeting/lecture in Kingston at Queen's and Ryerson Universities
- Participation in the tunnelling course Ryerson University (currently ongoing this month);
- Growing Ontario contact list;
- Social Media participation in #WorldTunnelDay at Santa Barbara Annual Social event in the GTA – well promoted by ITA-YM

NK reported that ITA's YM efforts are growing steadily in Europe, and numerous Regional

Events have happened between countries. The magazine, Breakthrough 3 was released in Bergen. YM's are becoming more and more prevalent in all areas of the ITA – and were mentioned in almost every session as a focus area.

NK noted that the YM Group would be interested in a Canadian “Hagerbach” (training tunnel in Switzerland), that is they are looking for ideas to have an existing underground facility in Canada be available for teaching / site visits / industry training etc. This would need to be a collaborative effort throughout the Industry.

9. ITA Update, Nordic Forum

EE reported that the 2018 WTC will be in Dubai next April 21-26. ITA working groups are always looking for individuals to serve on the working groups so consider signing up when TAC makes its appeal.

SS reported on last November's Norwegian Tunnelling Forum where TAC participated and thanked Giuseppe Gaspari for his assistance in organizing the tunnel tour that afternoon.

10. Motions from the floor

There were no motions.

11. Other Business

There was no other business

12. Next Annual General Meeting

EE reported that the 2018 AGM will coincide with the 2018 TAC/NASTT-NW Conference tentatively scheduled for November 8, 9 2018 in Edmonton, Alberta.

The meeting adjourned at 17:45 pm