Happy Birthday Canada! 150 years young this summer, and what a great country we live in! Working in the construction industry, it is hard to imagine the physical toil, the sweat, and the dangers that accompanied work undertaken back then, and through the early years of the 20th century. Much of our infrastructure did not even exist and now we are struggling with a constantly growing problem…how to effectively repair or replace buried works that have reached the end of their life. Part of the answer to that lies in the innovative work and approach that we in the Trenchless industry support and promote.

And now that we are on the topic of how to ‘support and promote’, I would like to bring to your attention the Trenchless Roadshows that CATT puts on jointly with Benjamin Media, the publisher of Trenchless Technology magazine. There are now two Roadshows, one each and every year, alternating between the west and Ontario.

The first upcoming show will be held this September in Richmond BC. This will be CATT’s second western show, done in partnership with BMI and also NASTT, BC chapter, and the success of it has really been astounding, thanks to the belief in how the Trenchless industry can help municipalities and industry, and the hard work of the groups putting it together. This year’s show has grown to 9 tracks of presentations over two days and a full day of pre-event workshops.

The second show will be held in London May 15 – 17 of 2018. This again promises to be another success, with many industries/companies already signed up to sponsor this event. There is a call for papers out, with the deadline for abstracts being the end of May (but quite possibly may be extended). The venue for the London show will be the London Convention Centre. Municipalities, consultants, suppliers, contractors should all take note and put this event into your schedules now. This is an opportunity to network, and explore what is new in the trenchless and asset management world. See you there.

Jonathan Pearce, Conferences, Chair

TRS BC 2017, September 25-27, Richmond BC

Registration is open for this event which follows 2015’s highly successful conference. The event includes 5 workshops, 60 technical presentations, 40 exhibitors plus demos. It is a great opportunity to find out what is new in the industry, network and meet potential customers. Register today. Visit: http://roadshow2017.cattevents.ca/
In summer 2016, Earth Boring Co. Limited installed 390m of 600mm DIPS DR 11 HDPE for a new watermain crossing the Thames River in London Ontario. The original ductile iron watermain had become exposed due to river scour and replacement was required to ensure the stability and availability of water service to part of the University of Western Ontario (UWO) campus.

Setting their DD-1100 Maxi Horizontal Directional Drill on the west bank of the Thames in the UWO campus, Earth Boring, with use of a 1200mm steel conductor barrel, piloted through a hard clayey soil with some gravel seams to the East Bank of the Thames near Huron St. During setup, the proximity of the existing watermain created challenges while installing the conductor barrel in the loose gravel overburden, this was managed by an on-site discussion and re-design involving City of London staff to ensure quick advancement and approval.

Due to the changing soil conditions between the soft gravel seams and very hard clay, Earth Boring was required to use both an eagle claw bit as well as mud motor to complete the pilot bore. Earth Boring was required to interchange these bits as they encountered differing soil conditions to attempt to prevent inadvertent returns. To further attempt to prevent inadvertent returns, Earth Boring elected to increase the depth of cover of the bore and embed the pipe deeper in the harder clay soil.

The 600mm watermain pipe had to be staged along the east bank of the Thames and creative planning was required to manage moving the pipe into the center of Huron St to allow for hookup and pull back. After a series of increasing diameter reams, the bore hole was held open at 900mm in diameter. The product pipe was staged down the center of Huron St and continuously pulled into place on August 30th, 2016. During pull back, buoyancy compensation was added to the pipe to counter the poisson effect and lessen the friction forces on the pipe.

Despite best efforts by the drilling crew, during the pull back a small inadvertent return developed on the west bank of the Thames, this was quickly and efficiently controlled and managed by Earth Boring crews. The cleanup was seamless as the inadvertent return contingency plan was in place and a stock pile of clean up material was already on-site.

“Despite best efforts by the drilling crew, during the pull back a small inadvertent return developed on the west bank of the Thames, this was quickly and efficiently controlled and managed by Earth Boring crews. The cleanup was seamless as the inadvertent return contingency plan was in place and a stock pile of clean up material was already on-site.”

Contact: Kyle Verwey
Email: kyle@earthboring.ca
Centre for Advancement of Trenchless Technologies (CATT) and Fleming College are delighted to announce a new hands-on four-day field course entitled “Horizontal Direction Drilling: Design to Construction” starting in June 2017. The demand for pipe and utilities installation using horizontal directional drilling (HDD) has been increasing rapidly because of the need to replace aging underground water and wastewater pipelines and the growth in telecommunications and energy (gas and electric) sectors. However, according to the Underground Construction (UC) 18th Annual HDD Survey, the strong HDD demand brought an influx of new contractors and professionals who have little or no training and knowledge about the HDD process and design. One of the interviewees, in the UC survey, mentioned how the new entrants were able to purchase the HDD equipment but did not know how to operate it. The survey emphasized that HDD design is the biggest challenge from contractors and owners’ perspective. CATT’s annual surveys also show acute shortage of adequately trained trenchless professionals. The ready availability of trained professionals is crucial to expand the HDD market and to control costs and to deliver successful projects on time.

Over the past 10 years CATT has developed and delivered very successful short courses that cover the HDD process, drill fluids, equipment, project planning, bore path and pipe design, and quality assurance and quality control. CATT has also been involved with the development of industry leading design tools: BOREAID; PPI-BOREAID and PPI-PACE. Fleming college has been providing training in drilling on their state-of-the-art HDD equipment that includes dill rig, service truck with fluid mixing system, tracking system, and downhole tools.

“The new CATT-Fleming College HDD course will integrate classroom study and field practice,” explained Dr. Mark Knight, Executive Director of CATT. “The classroom lectures will provide details on surface and subsurface investigations, drilling fluids, project planning, design, construction and QA/QC, whereas field training component will include subsurface investigations, drill fluid testing, and installation of underground pipe using state-of-the-art HDD equipment.”

The students will learn how to take into account the surface and subsurface information for project planning, design, drill fluids and tool selection, as well as, how to operate the HDD equipment and monitor critical parameters (alignment, fluid pressures, pull loads) during pipe installation. “We have a very unique training program in drilling at the Fleming college,” says Eva Rees, Manager of Continuing Education and Training. “By joining forces with CATT, the course has been expanded to include HDD design along with construction.” The new course will be attractive to broader audience that includes engineers, technologists, technicians, construction inspectors, and drill rig operators.

For further details, please contact Tracy Flinders (Tel: 705 324 9144 ext. 3295 or email: tracy.flinders@flemingcollege.ca) or CATT Tel: 519 888 4770 or Email: alice.seviora@uwaterloo.ca).
Feature Product - Multi-Sensor Inspection Technology for Pressure Pipes

Gord Henrich, Pipeline Integrity Technology Associates (PITA)

First line triage of a pipe’s condition is now capable of simultaneously providing many valuable sources of information to better assist engineering decisions for condition assessments.

Pipeline Integrity Technology Associates (PITA) announces the introduction of the MTA Pipe-Inspector to North America. “This tether-less multi-sensor inspection, or MSI technology for pressure applications is a game changer,” said Gord Henrich, “because it enables four essential types of measurements to be collected simultaneously to correlate and better assess the existing condition of all pressure pipes.”

This technology is an enhanced combination of existing proven technology widely accepted for leak detection of pressure pipes and including CCTV, ideally suited for complete pre-construction, post rehabilitation and warranty inspections. The Pipe-Inspector is designed to maintain its position in the center of the pipe in a distinct manner that enables CCTV and leak detection reporting in a clock position orientation to the pipe, enabling system owners to better understand their pipe’s integrity and risks.

Common in Europe since 2005, The MTA Pipe-Inspector CCTV adds a more complete level of understanding when correlated to pressure and leak survey findings. Video recordings prove that the battery powered and ballasted Pipe-Inspector remains neutrally buoyant and remains stable while centrally positioned inside the pipe, eliminating tether induced spiralling or free rolling bouncing data collection inaccuracies.

The device is inserted and extracted using similar in-pipe inspection technologies methods. The MTA Pipe-Inspector can be used in systems up to 100bar and flow rates as low as 0.5 to 1.5 m/sec. depending on pipe size. There are 5 available sizes to suit pipelines from 100mm to 3000mm diameters for pressure and gravity flow pipes. MTA Pipe-Inspections are available through Ontario Excavac Contact: gord@gbtel.ca.

Upcoming Events

September 12: Renewing Water and Wastewater Pipelines using Cured-in Place Pipe Linings (CIPP)
October 17: Geotechnical Considerations for Underground Pipelines Projects
November 8: Providing High Quality Contract Specifications
January 17: Integrating TT into Open-cut Projects
February 10: Design and Construction of Microtunneling Projects
March 7: Return on Investment for Condition Assessment Programs