



# **NORTHWEST NEWS**

**North American Society for Trenchless Technology  
Northwest Chapter  
Alberta, British Columbia, Washington**

**November 2005**

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## **2005 Alberta Trenchless Technology Seminar Report**

November 16 was the day for another successful Northwest Chapter Trenchless Technology Seminar, this time hosted by the Calgary Section. Over 130 registrants attended the one-day symposium held at the Coast Plaza Conference Centre. All facets of the industry were represented – from government to consultants to suppliers and contractors.

Key note speaker Mark Bruce, Chairman of NASTT, led off the day with an excellent talk on the state of the industry both in North America and abroad. At the conclusion of Mark's address, he was "white hatted", the traditional Calgary thank you reserved for honored guests to the "Heart of the New West". Nine speakers followed, covering a broad cross section of trenchless topics including case studies, emerging technologies, geotechnical investigations as well as practical design and construction considerations.

The seminar was complemented by a trade show with excellent representation of trenchless industry suppliers, contractors and equipment manufacturers. Breakfast, coffee and lunch were served in the trade show area, encouraging participants to learn more from industry representatives in attendance.

Special thanks to our sponsors The City of Calgary Water and Wastewater, IPEX, Associated Engineering, Thurber Engineering, and CH2M Hill.

Submitted by:  
Duane Strayer,  
2005 Alberta Trenchless Technology Seminar  
Planning Committee Chair



Keynote Speaker: Mr. Mark Bruce, Chairman of NASTT





Duane Strayer & Mark Bruce



Merry Christmas & Happy New Year!!!

## STUDENT CHAPTERS IN NORTHWEST CHAPTER

	 <b>UNIVERSITY OF ALBERTA</b>	 <b>UNIVERSITY OF CALGARY</b>
Professor-in-Charge	Dr. Mohamed Al-Hussein <a href="mailto:malhussein@ualberta.ca">malhussein@ualberta.ca</a>	Dr. Janaka Ruwanpura <a href="mailto:janaka@ucalgary.ca">janaka@ucalgary.ca</a>
Student Organizer	Hussein Al-Battaineh <a href="mailto:hussien@ualberta.ca">hussien@ualberta.ca</a>	Mamdouh Nasr

# LOCAL GROUP NEWS

## ALBERTA



The Edmonton Region has resumed the 2005 to 2006 Technical Luncheons Program with a meeting on September 22, 2005. There were two luncheons since September. Another luncheon was scheduled for November 30, 2005. These Luncheons have been well attended averaging around 30 participants for each event. Another successful student mixer event was also conducted on September 22, 2005 at the University of Alberta as well.

The Calgary region has been busy with the planning of the 2005 Alberta Trenchless Technology Seminar. The Seminar was successfully conducted on November 16, 2005. Technical Luncheons will resume in early 2006 for the Calgary region.

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## BRITISH COLUMBIA



Congratulations! The BC region has been approved as a separate chapter by NASTT. TTBC was officially recognized as a NASTT Chapter in the January 24, 2005 NASTT Board meeting. Therefore, the news update for the BC Chapter will be reported within the BC Chapter.

The bylaws for the Northwest Chapter will be amended shortly to reflect such changes.

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## WASHINGTON



The Rehab Road Show was successfully conducted on September 19 to 20, 2005 in Seattle (Bellevue), WA. The event was staged at the Doubletree Hotel Bellevue. There were about 27 exhibitors for this Rehab Road Show. The purpose of the event is to bring quality trenchless education to the region.

The Northwest Chapter Board is also working on getting the HDD Good Practices Seminar to the region in the year 2006. Washington State NASTT members are encouraged to support the local organizing

committee and participate in future events.

# NORTHWEST TRENCHLESS PROJECTS

## **DEEP MANHOLE REHABILITATION – A RECORD FOR CURED-IN-PLACE MANHOLE LINER**

Albert Kwan and Ken Chua – City of Edmonton  
Delores Eaton and Chad Eaton - IVIS

The implementation of the Real Time Control (RTC) at Site #6 in the City of Edmonton, Alberta, Canada, has created a zone of storage behind the gate. The existing drainage system will be exposed to increased operating pressures as a result of the RTC gate operation. The increased pressures could be detrimental to system components. In particular, some deep manholes in the RTC #6 storage zone have already been identified with corrosion and surface damages during field investigations. These manholes are thus requiring rehabilitation and/or repair in order to withstand the increase pressure from the in-line storage system.

The depths of these manholes are generally deep, in the range of 10 to 19 meters (30 to 60 feet). The diameter of the manholes ranges from 900 mm to 1,200 mm (36 to 48 inches). These manholes have been successfully rehabilitated using the Cured-In-Place (CIP) liner method. The completion of these deep manholes is the deepest installation to-date for such trenchless rehabilitation method.

The selection of the rehabilitation method has gone through an elaborated process in order to ensure proper installations. This selection process included research, discussion with contractors, and a pilot project. The design criteria for the CIP liner have been researched. Finally, the challenges during construction phase including the lessons learned have been overcome with ingenious field construction approaches.

## **Reducing Risk and Uncertainty through the Integration of Geophysical and Geotechnical Investigations**

Mark Bowman, P.Geoph. & Jim Henderson, M.E. Des. -  
Associated Mining Consultants Ltd.

Often, the results of independently conducted geophysical and geotechnical investigations for trenchless technology projects not fully integrated. Integrating the results of the complementary methods can vastly improve the individual findings of each survey, reducing risk and cost overrun potential.

Using several case histories taken from recent projects, a framework to integrate geophysical and geotechnical investigations has been provided. In addition, there are barriers to implementation as well as limitations of each geophysical and geotechnical approach. Additionally, combining complementary investigation methods can be beneficial including the best scenario, which is to integrate the information in a timely manner so that it can be used effectively.

## **Design and Construction of the City of St. Albert's Sanitary Trunk Sewer Phase 1 Project**

Dan Willems, P.Eng.

Culminating after two and a half years of design and construction, the City of St. Albert's Sanitary Trunk Sewer Phase 1 project constituted a major undertaking by the City of St. Albert towards establishing ultimate conveyance for sanitary flows from the City's existing and future neighbourhoods and relieving existing sanitary infrastructure throughout the City. Major challenges facing the design and implementation of the project included concept development, public consultation and education, working area constraints, constructability, funding, and supply issues.

The Phase 1 project included the installation of 1,800 m of 1,200 mm sanitary trunk sewer through an existing, mature neighborhood adjacent to many local historical sites. The trunk sewer alignment follows one of the City's busiest collector roads, which is also a bus route for both public and school transit.

The selected alignment has depths in excess of 25 m, making microtunneling the preferred, if not the only viable, method of construction. An extensive public consultation campaign involving several open houses, advertising in local newspapers, hand delivery of construction and detour notices, and meetings with involved stakeholders, including transit, the school boards, an assisted living facility and residents adjacent to shaft locations, were conducted to minimize disruption to the local residents and surrounding neighbourhoods. There are many unique challenges faced and successes achieved over the course of this project.

# NASTT NORTHWEST CHAPTER PROPOSED AMENDMENT TO CHAPTER BYLAW

(Proposed changes are in **BOLD**)

Section 1. The Northwest Chapter of the North American Society for Trenchless Technology (Northwest Chapter NASTT) shall be affiliated with the North American Society for Trenchless Technology, hereafter referred to **as** NASTT.

**Section 2. The geographic area for this chapter covers the Province of Alberta in Canada and the State of Washington in USA.**

## ARTICLE II: Purposes and Definitions of the Chapter

Section 1. The purpose of this organization shall be: to advance the science and practice of Trenchless Technology for the public benefit; to promote and conduct education, training, study and research in said science and practice for the public benefit; and to make available information thereof to all interested and concerned parties.

Section 2. Trenchless Technology as used herein means that technology for the evaluation, servicing, renovation and replacement of existing, and the construction of new public utilities and other services underground without the digging of trenches, including all kinds of sensing and mapping techniques for underground guidance, tunneling devices and specialized machinery, materials and equipment.

## ARTICLE III: Membership

Section 1. Membership in the chapter shall be available to all individuals and to all private, trade, professional, and labour organizations, public regulatory agencies, consumer and environmental groups, governmental agencies, public utilities and contractors or any other organization or individuals professing an interest or concern in Trenchless Technology.

Section 2. Membership in the chapter shall be in four (4) classes as follows:

- 2.1 Sustaining. An organizational membership providing additional support for, or participation in, the chapter. Sustaining organizations may designate up to two individuals to represent their organization. Additional individuals may be designated by meeting NASTT requirements. Each sustaining member shall have one vote to be cast by the designated prime representative.
- 2.2 Governmental/Educational Institutions. Federal, state or local government agencies and educational institutions that have interests in the technology. Such agencies and institutions will be granted the same benefits as sustaining members and will be allowed to name one voting and one non-voting representative to the chapter.
- 2.3 Individual. An individual membership available to all individual persons interested in the technology or concerned with the environment. Each individual member shall have one vote.
- 2.4 Student. An individual who is (1) a full-time student currently enrolled in a program of an accredited educational institution, or (2) enrolled in a recognized

apprentice program. The curriculum or apprenticeship must have a reasonable relationship to the technology. The student membership is non-voting and may not hold office in the chapter.

Section 3. Application for membership may be made through NASTT or the chapter. Upon payment of dues, the organization or individual will be considered accepted as an active member. Chapter applications and dues payments are to be forwarded to NASTT within five (5) days after receipt.

Section 4. Non-members shall be allowed to attend only two (2) meetings.

Section 5. NASTT members from outside the geographical area may join this chapter by paying dues in the amount of 15% of the society membership dues.

Section 6. Members may voluntarily withdraw from the chapter by submitting a written notification to the Northwest Chapter NASTT.

Section 7. Members will be automatically expelled upon non-payment of membership dues.

## ARTICLE IV: Membership Dues

Section 1. NASTT dues are established by the NASTT Board of Directors and approved by the NASTT general membership. Supplemental chapter dues, if required, shall be established by the chapter membership.

Section 2. Chapter functions:

- A. Verify membership category for each member and return to NASTT.
- B. Verify billing report and notify NASTT.
- C. Encourage slow payer or non-payer to be involved.

## ARTICLE V: Meetings

Section 1. A minimum of one (1) meeting shall be held annually at a time and place designated by chapter membership.

Section 2. Notice of the time and place of all meetings shall be delivered to each member not less than thirty (30) days prior to the date of such meeting. A copy of such notice shall also be sent to NASTT Headquarters or an annual listing of dates and locations of chapter meetings may be sent.

Section 3. An annual meeting of the members shall be held not less than ten (10) days prior to the end of the NASTT fiscal year for the purpose of electing directors and officers and for the transaction of such business as may come before the meeting.

Section 4. A quorum to conduct business at a chapter meeting shall be 10 percent, but in no case less than ten (10) of the voting chapter members. The vote of the simple majority of votes entitled to be cast, during a meeting at which a quorum is present, shall be necessary for the adoption of any matter. In case of a tie, the chapter chair shall cast his/her vote to break a tie.

Section 5. Voting by mail may be authorized by the chapter Executive Committee to meet emergency situations. Votes are to be returned within thirty (30) days to the chapter secretary for counting.

Section 6. All Books and Records will be available for inspection by individual members at the annual meeting.

ARTICLE VI: Board of Directors

Section 1. The affairs of the chapter shall be managed by its Board of Directors.

**Section 2. The number of directors shall be not less than 3 (three) and not more than six (6) as determined by the Board of Directors. The immediate past chair shall be ex officio member of the board.**

**Section 3. The Board of Directors shall include equal representation from each of the two (2) major geographic areas.**

Section 4. Directors shall be individual members or the voting representative of a charter, sustaining or governmental/institutional member. In order to maintain the broad societal purpose of the chapter, the board should, to the extent feasible, have representation from each of the following seven (7) areas of activity: public utilities, professional engineers, contractors, regulatory agencies, manufacturers, suppliers and educators/researchers.

Section 5. The Board of Directors shall meet at least annually in conjunction with the annual meeting of the chapter.

Section 6. Special meetings of the Board of Directors may be called at the request of the chair or any three directors or officers.

Section 7. Notice of Board meetings shall be delivered at least thirty (30) days prior to the meeting date.

Section 8. A majority of the Board of Directors shall constitute a quorum for transaction of business. If in the course of business, additional funds must be accessed through borrowing, a unanimous decision by all board members will be required.

Section 9. Any vacancy of the Board of Directors shall be filled by the affirmative vote of a majority of the remaining directors for the unexpired portion of the term.

Section 10. The term of office for all directors shall be two (2) years, coinciding with the Annual General Meeting of the chapter. In order to establish a staggered rotation of board members, initially approximately half shall be elected for one (1) year and the remainder for two (2) years.

ARTICLE VII: Chapter Officers

Section 1. The officers of each chapter shall be at least three (3) and not exceed six (6) and shall consist of:

- Chair
- Vice Chair
- Secretary
- Treasurer
- Chapter Director

and shall be bonded by NASTT. The offices shall be filled by eligible members appointed by election in accordance with the regional bylaws at any regular meetings or by mail ballot.

Section 2. The term of office for all chapter officers shall be one year, coinciding with the Annual General meeting of the chapter.

The Vice Chair shall succeed the Chair, and the Secretary shall succeed the Vice Chair.

Section 3. The Chapter Director may be re-elected.

Section 4. Any chapter office which shall become vacant by reason of death, incapacity or resignation of the officer shall be filled by the affirmative vote of a majority of the Board of Directors for the unexpired portion of the term.

ARTICLE VIII: Executive Committee

Section 1. The officers of the chapter shall constitute the Executive Committee. The immediate past chair shall be an ex officio member of the Executive Committee.

Section 2. The Executive Committee is empowered to act on behalf of the Board of Directors between meetings of the board.

Section 3. Should a corporate seal become necessary, it would be under the custody of any member of the Executive Committee.

ARTICLE IX: Duties of Officers

Section 1. Chapter Director

- A. Shall represent the chapter at NASTT Board of Directors meetings.
- B. Shall receive and implement policies of the Chair, Executive Committee or Board of Directors with regard to chapter assignment.
- C. Shall report to the NASTT Headquarters, following each meeting, items to be considered at the next regular meeting of the Executive Committee and/or Board of Directors.
- D. Shall file with NASTT the bylaws and standing rules and amendments made to such bylaws and standing rules.
- E. Shall encourage and assist in preparing and conducting chapter meetings.
- F. Shall provide assistance, advice and follow-up on membership goals to assure continued society membership growth.
- G. Shall encourage and assist the chapter in promoting and utilizing regional educational programs at the chapter level.
- H. Shall coordinate all chapter activities with NASTT Headquarters.
- I. Shall provide NASTT Headquarters with names and addresses of officers immediately after their election.

Section 2. Chair

- A. The chair shall be the chief executive officer of the chapter. He/she shall preside at all meetings of the chapter and its Board of Directors and Executive Committee.
- B. It shall be the chair's duty to exercise general supervision over the activities and welfare of the region and maintain liaison with the chapter Board of Directors.

- C. The chair is an ex officio member of all chapter committees (with the exception of the nominating committee) and is a voting member of the chapter Board of Directors.
- Section 3. Vice Chair
- A. Shall perform such duties that may be assigned by the Chair or Board of Directors.
- Section 4. Secretary
- A. Shall record and maintain records of all chapter business.
- B. Shall provide NASTT Headquarters and all chapter members with copies of minutes of chapter meetings within thirty (30) days of said meeting.
- C. Shall conduct voting by mail in accordance with established rules.
- D. Shall act in the event of a temporary disability or absence of the Chair from the meetings.
- E. Shall participate in the annual audit of accounts.
- Section 5. Treasurer
- A. Shall be custodian of all chapter funds.
- B. Shall approve and make all disbursements properly allocated to chapter business, with the disbursements being counter-signed by at least one other officer.
- C. Shall maintain chapter financial records and perform the annual audit of accounts.
- D. Shall provide chapter members with a financial statement at each chapter meeting.
- E. Shall provide NASTT Headquarters with a year-end financial statement.
- F. Shall file for tax exempt status.
- G. Shall file required state and internal Revenue Service forms, if and as required.

ARTICLE X: Fiscal Year

- Section 1. The fiscal year shall be the same as that of NASTT, the Calendar Year.

ARTICLE XI: Chapter Committees

- Section 1. There shall be a budget committee, a nominating committee and such other committees as the chapter Executive Committee shall from time to time establish.
- Section 2. Regional committees shall be formed to run the day-to-day activities for each of the regional area.**
- Section 3. The chapter Executive Committee shall designate the chair of each committee. Committee chairs shall appoint committee members, subject to the approval of the chapter Executive Committee.

ARTICLE XII: Chapter Rules of Order

- Section 1. The rules contained in *Roberts Rules of Order, Current Revision* shall apply to all meetings of each chapter.

ARTICLE XIII: Amendments

- Section 1. Any proposed amendment to these bylaws shall first be presented to NASTT Headquarters for approval and then presented to voting members at least thirty (30) days prior to voting on the amendment.
- Section 2. Voting may take place at any legally constituted meeting of the chapter's voting members. A majority of the votes cast is required for adoption of an amendment.

ARTICLE XIV: Dissolution

- Section 1. The region shall use its funds only to accomplish the objectives and purposes specified in these bylaw and no part of its funds shall inure, or be distributed to members of the chapter or NASTT. On dissolution of the chapter, any funds remaining shall be distributed to NASTT.

Please submit any responses to the above proposed changes to the Northwest Chapter bylaws to  
 Albert Kwan  
 Phone: (780) 496-6852, Fax: (780) 496-6865,  
 e-mail: [albert.kwan@edmonton.ca](mailto:albert.kwan@edmonton.ca)

## EDMONTON REGION 2005-2006 TECHNICAL LUNCHEON PROGRAM

September 22, 2005 (Thursday)	Presentation Topic: A Record For Cured-In-Place Liner In Manhole Rehabilitation
October 26, 2005 (Wednesday)	Presentation Topic: Geophysical Investigation For Trenchless Projects
November 30, 2005 (Wednesday)	Presentation Topic: Microtunnelling Case Study
January 26, 2006 (Thursday)	Presentation Topic: Low Pressure Pipe System Installation – A Case For HDD Application
February 22, 2006 (Wednesday)	Presentation Topic: Lateral Pipe Structural Condition Rating System
March 23, 2006 (Thursday)	Annual General Meeting Student Presentation: Microtunnelling Model Development
April 26, 2006 (Wednesday)	Presentation Topic: Tunnel Construction With TBM For The City Of Calgary

## TRENCHLESS TRAINING OPPORTUNITIES

### March 13, 2006

NASTT Pipe Bursting Good Practices Course  
Pointe South Mt. Resort - Phoenix, Arizona  
Phone: 866-279-7755  
Website: [www.undergroundfocusevents.com](http://www.undergroundfocusevents.com)

### March 29-30, 2006

NASTT Lateral Rehabilitation and Replacement Good Practices Course  
NASTT HDD Good Practices Guidelines Course  
Gaylord Opryland Hotel & Convention Center - Nashville, Tennessee  
Sponsored by: North American Society for Trenchless Technology  
Contact: Benjamin Media, Inc.  
Phone: 330-467-7588  
Fax: 330-468-2289  
Website: [www.nastt.org/nodig.html](http://www.nastt.org/nodig.html)

### NASTT NW Chapter WEB Site

The NASTT Northwest Chapter Web site has been on-line since January 2004. The Web address is [www.nastt-nw.com](http://www.nastt-nw.com). Please log on to check for the latest news. Lists of companies in trenchless industry are also provided. Trenchless contractors, manufacturers and service providers are welcomed to add your name onto the list.

## UPCOMING EVENTS

**January 24-26, 2006** - The 12<sup>th</sup> Annual Underground Construction Technology International Conference and Exhibition will be held at Cobb Galleria Centre in Atlanta, GA, USA. For further information, please visit [www.uctonline.com](http://www.uctonline.com)

**March 26-31, 2006** - The NASTT 2006 No-Dig Show will be held from March 26 to 31, 2006 at Nashville, Tennessee, USA. The 2006 No-Dig Show will be in the Gaylord Opryland Resort & Convention Center. For further information, please visit [www.nastt.org/nodig.html](http://www.nastt.org/nodig.html) or contact 2006 No-Dig program chairman Piero Salvo at ph: 613-235-8119 or e-mail: [psalvo@waterrehab.com](mailto:psalvo@waterrehab.com).

## NEWS FLASH

**September 22, 2005** – Participated in the APEGGA student mixer night at University of Alberta.

This is your newsletter. We are looking for articles, events, suggestions and ideas for the next issue. If you would like to receive the NORTHWEST NEWS, contact the editor. Letters to the editor are welcome.

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NASTT Northwest Chapter WEB Site: [www.nastt-nw.com](http://www.nastt-nw.com)  
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