

Manitoba Consulting Engineer

Official publication of the Association of Consulting Engineering Companies - Manitoba

VOLUME 3 · MMXII

**KEYSTONE
AWARD
WINNER**

Assiniboine River Flood
Emergency Engineering
KGS Group
Consulting Engineers

PM #40065075

Member
Services Guide

**13th Annual
Awards of
Excellence**



ASSOCIATION OF CONSULTING
ENGINEERING COMPANIES
MANITOBA



Design Build
Construction Management
Maintenance & Logistics
Construction & Renovation

Remote and Northern Construction is M&L's specialty. With over **15 years of experience** and hundreds of remote construction projects under our belt, we provide a level of remote construction expertise unchallenged in the industry. Unlike other construction firms, our northern division is entirely situated around remote construction projects.

M&L has all the resources, knowledge and equipment to guarantee that your remote construction project is completed on time and on budget in the **most challenging, rugged** and hard to reach places in Canada.

Safety. Quality. Innovation. Accountability. Integrity.



M&L General Contracting Ltd.

T: 1-877-907-2612

F: 204-774-1200

E: info@mlgeneralcontracting.com

W: mlgeneralcontracting.com



Copyright M&L General Contracting Ltd.

Manitoba | Saskatchewan | North-Western Ontario | Alberta | Arctic Territories





Joro Consultants Inc. is a Canadian-owned and operated environmental consulting firm focused on environmental and biological research and monitoring. Our mission is to provide innovative and efficient services to address original research questions as well as prevent, mitigate, and monitor environmental effects of development.

Wildlife Monitoring and Research for Pre- and Post-Development, Effects Mitigation, and Environmental Assessments

- Aerial and ground surveys of mammal abundance and distribution including telemetry (collar) research and monitoring. Primarily for large mammals (caribou, moose, elk, and deer) and furbearers (black bears, wolves, marten, etc)
- Bird monitoring including breeding birds, water birds, raptors (eagles, hawks, and owls)
- Species at risk monitoring – Plants, birds, invertebrates, amphibians, reptiles, and mammals

Geomatics

- Geographic Information Systems with full capacity for habitat and ecosystem modeling and mapping
- Analysis and interpretation of spatial biological and geographical data
- Large scale plotting
- Database management and information delivery systems

Resource Management and Land Use Planning

- Plan and implement land use decision information systems
- Modeling of effects of development on terrestrial and aquatic habitats and species
- Plan and implement land use studies and management plans
- Strategic planning for resource development
- Conduct and assist in the collection of Aboriginal Traditional Knowledge (ATK)

Clients Served

- Engineering
- Hydro electric generation and transmission
- Government
- Forest industry
- Oil and gas
- Transportation
- First Nations



A National Network of **Regional**
Custom Manufactured Electrical Solutions



Made in Canada

Customized Solutions
Customized Service



Custom, Quick-Ship Delivery!
Electrical Solutions for Industry



Water / Waste Water



Mining



Industrial



Petro-Chemical



Agricultural



Commercial / Institutional / Data Centres



Pulp & Paper



Powering Business Worldwide

Satellite Centres specialize in customized solutions and specially modified products, tailored to your individual requirements. Offering greater flexibility and faster turnaround, our eight Canadian Satellite locations are dedicated to delivering answers, engineered, manufactured and assembled to your exact specifications.

www.eatoncanada.ca



ASSOCIATION OF CONSULTING
ENGINEERING COMPANIES
MANITOBA

P.O. Box 1547, Station Main, Winnipeg, MB R3C 2Z4
Ph: 204.774.5258 Fax: 204.779.0788
Web site: www.acec-mb.ca

President

K. (Ken) Drysdale, P.Eng.
Accutech Engineering Inc.

Past President

B. (Bruce) Wilton, P.Eng.
MMM Group Limited

President Elect

S. (Steve) Reaburn, P.Eng.
MCW/AGE Consulting Professional Engineers

Vice President

R. (Rick) Haldane-Wilsone, P.Eng.
Tetra Tech

Secretary/Treasurer

M. (Mike) Houvardas, P.Eng.
Tower Engineering Group

ACEC Representative

Todd Smith, P.Eng.
AECOM

Directors:

C. (Cheng) Wong, P.Eng.
AECOM

R. (Ralph) Kurth, P.Eng.
Teshmont Consultants LP

R. (Rick) Martin, P.Eng.
KGS Group

C. (Cameron) Dyck, P.Eng.
Stantec Consulting Ltd.

Owen VanWalleghem, P.Eng.
AECOM

Allyson Desgroseilliers, P.Eng.
AMEC Environment & Infrastructure

Alana Gauthier, P.Eng.
GENIVAR

Jeff Rempel, P.Eng.
SNC-Lavalin Inc.

ACEC-MB Executive Director

Shirley Tillett, TCM-EVM
Association of Consulting Engineering
Companies – Manitoba

The articles printed in this issue represent authors' opinions only and are not necessarily endorsed by the Consulting Engineers of Manitoba. Copyright 2012 by the Consulting Engineers of Manitoba. All rights reserved. Reproduction in whole or in part without written permission is strictly prohibited. Printed in Canada.

Send change of address to:
Consulting Engineers of Manitoba
P.O. Box 1547, Station Main, Winnipeg, MB R3C 2Z4
Publication Mails Agreement #40065075.

Return undeliverable Canadian addresses to: kelly@kelman.ca

Publication management, design and production by:



3rd Floor – 2020 Portage Avenue
Winnipeg, MB R3J 0K4

Phone: 866-985-9780 • Fax: 866-985-9799

E-mail: info@kelman.ca • Web: www.kelman.ca

Managing Editor: Scott Kelman
Design/Layout: Tracy Toutant
Advertising Manager: Darrell Harris
Advertising Co-ordinator: Stefanie Ingram

Manitoba Consulting Engineer

Official publication of the Association of Consulting Engineering Companies - Manitoba

VOLUME 3 · MMXII

Table of Contents

Features

Consulting engineers key players in 2011 Assiniboine River flood mitigation _____ page **14**

Interprovincial trade offers opportunities, but creates challenges _____ page **16**

Awards of Excellence in Consulting Engineering _____ page **19**

Member Services Guide _____ page **44**

How can consulting engineering attract more young engineers? _____ page **47**



Departments

Board of Directors _____ page **6**

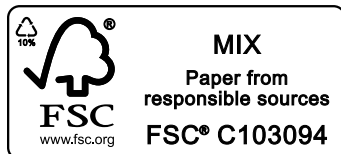
Message from the President _____ page **9**

Message from ACEC-Canada _____ page **12**

Young Professionals Committee _____ page **49**

14th annual golf tournament _____ page **53**

Directory of Advertisers _____ page **54**



BOARD

of DIRECTORS



President
Ken Drysdale, P.Eng.
Accutech Engineering Inc.



Past President
Bruce Wilton, P.Eng.
MMM Group Limited



President Elect
Steve Reaburn, P.Eng.
MCW/AGE Consulting
Professional Engineers



Vice President
Rick Haldane-Wilson, P.Eng.
Tetra Tech



Secretary/Treasurer
Mike Houvardas, P.Eng.
Tower Engineering Group



AEC Representative
Todd Smith, P.Eng.
AECOM



Director
Cheng Wong, P.Eng.
AECOM



Director
Ralph Kurth, P.Eng.
Teshmont Consultants LP



Director
Rick Martin, P.Eng.
KGS Group



Director
Cameron Dyck, P.Eng.
Stantec Consulting Ltd.



Director
Owen Van Walleghem, P.Eng.
AECOM



Director
Allyson Desgroseilliers, P.Eng.
AMEC Environment & Infrastructure



Director
Alana Gauthier, P.Eng.
GENIVAR



Director
Jeff Rempel, P.Eng.
SNC-Lavalin Inc.



ASSOCIATION OF CONSULTING
ENGINEERING COMPANIES
MANITOBA

Sick and self-employed?

Why health and disability insurance are two of the most useful business tools you'll ever have

Self-employment has a lot of advantages. However, being your own boss also means fending for yourself.

That's because you have to look after a number of details that most employees take for granted. The biggest drawback, according to over two-thirds¹ of surveyed self-employed individuals, is the lack of access to medical coverage and insurance.

Without an employer's group insurance benefits, you are left to your own means when it comes to protecting yourself, your assets and your family. For instance, if an illness or accident prevented you from working, how would your family cope without the financial support usually provided by an employer?

But this doesn't mean those who work for themselves are completely left on their own. There are insurance policies that can help protect you.

Out-of-pocket costs per household²

(Annual, excluding health insurance premiums)

\$515 Drugs

\$385 Dental

\$234 Vision

\$106 Health care practitioners
(Other than physicians, dental and vision care professionals)

Extended health insurance

A safety net to guard against illnesses and unexpected medical expenses not covered by the government is crucial for the self-employed.

With no employer to provide supplementary coverage, you would have to pay out of your own pocket for prescriptions, diagnostic services, chiropractors, physiotherapists, semi-private or private hospital rooms, out-of-Canada emergency medical care, ambulances and more. Dental costs could also include examinations, x-rays, cleaning, fillings, crowns, root canals and dentures.

If your spouse doesn't have coverage at work, your out-of-pocket medical expenses can get even bigger, especially if you have children.

Private health insurance can be more affordable than you think. Plus, you may be able to deduct the cost of your health insurance premiums from your business income.³

Disability insurance

It is far more likely that you will become disabled before age 65 than die. In fact, disability strikes working people far more often than premature death.

How will you and your dependants survive without any source of income? Where will the money come from if you're unable to work?

Disability insurance provides a source of income if you should become ill or injured and can't work. These plans provide monthly benefit payments, based on a percentage of your monthly earnings, while you are disabled and unable to perform your occupation.

Unlike employee disability plans that end when you change jobs, an association-sponsored disability plan is not only portable — some also provide coverage between jobs so you can continue to receive benefits if you become disabled within 12 months of your employment ending.

Look for a disability plan that offers coverage for different types of disability, such as total disability, partial disability, residual disability (you are able to return to your regular occupation but in a limited capacity), and catastrophic loss. And remember that as long as you pay your own premiums (not your partnership), your monthly disability benefits may be tax free.³

Affordability is key

Cost is the main reason offered by those who are not covered by any plans to explain the lack of coverage.¹

Affordable coverage is available for professional engineers through the Engineers Canada-sponsored plans. This allows you all the benefits of a group plan (e.g. lower cost) so you can focus on your recovery, not on the bills.

¹ Human Resources and Skills Development Canada: 2006 Survey of Self-Employed Individuals: Perceptions of Benefit Coverage, May 2006.

² Canadian average household annual spending (Source: Statistics Canada, 2009 Survey of Household Spending, December 2010).

³ Contact Canada Revenue Agency for details.

Engineers Canada-sponsored plans:

- Health and Dental Care
- Disability Income Replacement

To learn more and to apply:

manulife.com/EngineersCanadaDI

1-877-598-2273 (Monday-Friday, 8 a.m. to 8 p.m. ET)

Sponsored by:





**your shortest path
to robust designs
starts here** ▲



**Providing Innovative
Structural Analysis and Design
Software for Over 30 Years**

S-FRAME Structural Office is a powerful and intuitive suite of analysis, design and detailing software tools. Improve your design productivity by using one of the industry's most comprehensive and trusted structural engineering software solutions.

Purchase the entire suite or individual software products.



S-FRAME Analysis
S-STEEL Design
S-PAD Design
S-CONCRETE Design
S-LINE Design
S-CALC Cross-Section Property Calculator

**Use S-FRAME
software for:**

- Industrial buildings
- Skyscrapers
- Oil and Gas Plants
- Bridges
- Rail and Transit
- Inflatable Structures
- Offshore Structures
- Infrastructure Retrofitting
- Seismic & Wind Load Analysis

www.s-frame.com

S-FRAME Software Inc. #275 - 13500 Maycrest Way Richmond, BC Canada V6V 2N8 Tel: 604-273-7737 Fax: 604-273-7731





Ken Drysdale, P.Eng.

Ensuring our organization's success

Our organization was founded in 1978, and during my term as President, we will be celebrating our 35th anniversary. This milestone anniversary was only possible due to the determination, and hard work of all of the member companies and the volunteers who have so steadfastly believed in our overall mission to promote the business interests of the Consulting Engineers of Manitoba; and to promote the application of engineering for the benefit of society. We all owe a great deal of thanks to all of those people who have worked so hard over the past 35 years to help our voice be heard.

In looking back over the past 35 years, it is incredible to consider the magnitude of changes that have occurred in our world, and which seem to be continuing at an ever-increasing pace. Throughout this time, I believe our mission and goals have remained the same, despite the ever-changing fabric of our times. Although, I am told, this generation communicates more often and more effectively than ever-before, this huge increase in communications, and access has a price. It is now possible for anyone to be heard around the world, but the reality is, there is so much background noise, that despite the new technologies, it may be even harder to be heard than ever before.

In keeping with this reality and to ensure the success of our organization and by definition, our member companies, ACEC Manitoba has significantly increased our efforts to

“In looking back over the past 35 years, it is incredible to consider the magnitude of changes that have occurred in our world, and which seem to be continuing at an ever-increasing pace.”

understand the needs of our member firms, and to effectively communicate those needs and concerns to the benefit all parties involved. ACEC Manitoba has embraced the new technologies to promote speed and effectiveness in communications, fully recognizing that the innovative ways of yesterday quickly become ineffective in the changing world. At the same time, ACEC Manitoba has been able to strengthen the foundations of our organization by cultivating personal relationships with government departments, clients, and related organizations.

Some of the recent significant activities that ACEC Manitoba has been involved to improve services to our members include:

- Corporate re-branding
- New website
- Establishment of a Twitter account
- Launch of *Manitoba Consulting Engineer* magazine
- Further enhancement and expansion of Young Professionals Group
- Expansion, improvement and re-establishment of client receptions
- Improvement of the Annual Awards Gala
- Strengthening of our ties with related industry organizations such as APEGM; MAA, CTTAM,

- Establishment of a new continuing Professional Development (PD) programs
- Establishment of News for Members email bulletins

We have substantially increased our advocacy role, and are actively making our members voice heard on a number of key issues including:

- Limitations of Actions Legislation implementation in Manitoba
- The new City of Winnipeg, permitting process
- The proposed New West Trade Partnership
- Face to face meetings with various provincial government Ministers to discuss issues facing our membership
- Negotiations with various client groups to revise, improve contract language
- Advocacy with Manitoba Association of Architects for improved contracts for our members
- Discussions with Manitoba Association of Architects on areas of mutual concern including the role of prime consultant
- Discussions with APEGM on a variety of topics including promotion, PD, and licensing
- Development of the Engineering Hall of Fame at the University of Manitoba

bockstael.com



*The MRMCA's Mission is to
"Provide industry representation
for the advancement of quality
concrete in Manitoba."*

The Manitoba Ready Mix Concrete Association (MRMCA) is comprised of members from producers, associates and cement manufacturers. With a membership of approximately 100 members companies, MRMCA is recognized as the authoritative voice of the ready mix concrete industry in the province.

MEMBER SERVICES

- Website
- Membership Directory
- Safety Seminars, Manuals, WHMIS information
- Technical Seminars & Support
- Certification Programs
- Concrete Technology Courses
- Promotional Information & Brochures
- Representation to all levels of government & industry
- Annual General Meeting
- Annual Golf Tournament
- Scholarships

GOVERNSHIP

MRMCA is governed by a Board of ten elected Directors from producer, associate and cement manufacturer members.

GOALS

Market and promote the use of concrete. Provide a consolidated industry approach to regulatory bodies. Provide networking opportunities. Provide education and training.



www.mrmca.com



MANITOBA READY MIX
CONCRETE ASSOCIATION

3 Park Ridge Drive, East St. Paul, MB R2E 1H7

P: 204.667.8539 F: 204.668.9740

E: info@mrmca.com

www.mrmca.com

MESSAGE

from the **PRESIDENT**

- Discussions with the University of Manitoba on entrance requirements, co-op programs, graduate requirements, to name a few areas
- Promotion of qualifications-based selection
- Participation on the Manitoba Common Ground Alliance
- Quality of documents discussions with Manitoba builders
- Revisions to the *Manitoba Land Surveyors Act*

ACEC Manitoba is your association, we thrive and are effective only as a direct result of the combined efforts and participation of volunteers from our member firms. In the coming year, your association will be communicating with our membership in a more direct and regular way, to ensure that our members are well informed about the association's activities and programs. In return, we will be asking for more interaction with the members. We need your feedback and comments on everything that we do. We want to know what issues our members are facing, and we need to respond quickly and in a meaningful way to those needs. We also need your help in volunteering on various committees and ad hoc committees. No one understands the needs of our businesses better than our members, no one can champion those issues better than our members.

In concluding this message, I want to remind you that your association is here to promote the business interests of the Consulting Engineers of Manitoba; and to promote the application of engineering for the benefit of society. We do this through uniting our member companies together for the common good, pooling your knowledge and expertise, and we do this through the generous support of our volunteers, and we encourage each of you to join with us, and take on an active responsibility to make our association, and our membership stronger. ☺

Ken R. Drysdale, P.Eng., P.E.
ACEC-MB President

**CANADA'S LARGEST
HDPE SUPPLIER**

WOLSELEY

Engineered Pipe Group

**Tailings lines,
Dewatering,
Waterlines**



FUSION MACHINE RENTAL & FUSION SERVICES

- Factory trained Technicians for installation & training
- Authorized McElroy Distributor & Service Centre
- McElroy Rental Fleet

SPECIALTY FABRICATIONS

- Dual Containment Piping Systems
- Floats, Docks, Log Booms



HIGH DENSITY POLYETHYLENE PIPE

- Corrosion & abrasion resistant
- UV resistant for surface pipelines.
- Available in diameters 1/2" - 63"
- Available in pressure classes from 40 PSI to 400 PSI
- Preinsulated and/or heat trace available.
- Corrosion & abrasion resistant profile wall HDPE for gravity flow applications.
- Available in 18" - 120"
- CSP Culvert replacement & relining.
- Storm & sanitary sewers & dual containment

WOLSELEY
Engineered Pipe Group

For any enquiries,
please contact
epgsales@wolseleyinc.ca

DISTRIBUTOR:

British Columbia: Ph. (604) 513-4300
 Alberta: Ph. (780) 461-9400
 Saskatchewan: Ph. (306) 931-2900
 Manitoba: Ph. (204) 633-7213
 Ontario: Ph. (905) 879-2651
 Quebec: Ph. (450) 963-3010
 Nova Scotia: Ph. (902) 465-2200

HDPE FITTINGS

- Electro-fusion Fittings (3/4" - 63")
- Elbows, Tee's, etc.

GLOBAL EXPERTISE. LOCAL STRENGTH.



Stantec proudly supports the ACEC in its mission to make the engineering profession strong, vibrant, and progressive.

Stantec provides professional consulting services in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics for infrastructure and facilities projects.

Visit stantec.com or call (204) 489-5900 in Winnipeg.

Stantec is one Team providing Integrated Solutions.





Murray Thompson, P.Eng.

A world of opportunity

It is certainly my privilege and pleasure to step into the position of Chair of ACEC-Canada for the 2012-2013 year. I look forward to supporting our industry and promoting its contribution to society.

Our industry overall continues to do very well despite recent economic downturns and continued uncertainty in many parts of the country. Aging infrastructure, as well as new infrastructure to support resource development will only increase the demand for consulting engineering services. Our business world is changing very quickly and our industry still needs to fully define its place in the 21st century.

First and perhaps foremost, is the need for environmental sustainability. It seems that governments often attempt to address environmental matters through regulation; however, in many cases, it will be engineers and engineering companies who develop practical ways to decrease impacts on the environment and increase sustainability, while implementing projects that facilitate Canada's continued growth and prosperity.

We are seeing a whole new set of rules for Canadian engineering companies as we work with new clients (contractors and financial institutions) who want different working relationships. Also, governments are discarding any prior parochialism they may have had, entering into far-reaching trade agreements and encouraging large foreign engineering companies to enter the Canadian marketplace. In the past, we have thought that globalization of engineering services meant exporting our services to other

countries – which it still does – but clearly now it also means the rest of the world is coming to us.

The new world for engineering companies is not just limited to the public sector projects. Large private sector companies are increasingly outsourcing work and looking for global expertise and alliances to fulfill their engineering needs. These changes in client relationships present both an opportunity and challenge to implement QBS into the procurement of engineering services.

As well, a technology revolution is also happening. Social media and technologies, such as Building Information Modeling, will define how engineering work is done and communicated to our colleagues, stakeholders, and the public. These new technologies, and practices, will also find their way into new contract language.

Speaking of contract language – it is a simple fact that we are a more litigious society than we were even a decade ago. Clients and the public are not only holding engineering companies more accountable, they are insisting that we take on substantially increased amounts of risk when we sign contracts. Make no mistake – these risks and accountabilities have the potential to have significant financial impact on a business. Every time one of our member firms signs one of these high-risk contracts, we encourage clients to continue to shift risk to our industry.

Although there is change all around us, I believe it is an exciting new business climate. We are entering a new world where there will be opportunities for young engineers to lead and excel in a

way that has not been available since the post Second World War infrastructure boom. It is a time when engineering companies can decide to be leaders and influence how engineering services are delivered in this country. In order to do that, we have to work together. ACEC-Canada and our Member Organizations are the appropriate vehicle to do that – to promote the business of consulting engineering, and to be the voice of the industry. We can influence how engineering services are delivered in this country.

In the coming year, ACEC-Canada will be implementing a new governance model, which will focus its thinking on a response to these and other mega trends and industry issues, as well as completing a new three-year strategic plan. We need the input and support of each of our member firms, and organizations, to make sure directions and action plans stay relevant and an added value to you. To that end, I am committed to continuing the recent trend of visiting each Member Organization during my tenure as Chair. In the interim, I encourage you to let me know your thoughts on how ACEC-Canada can increase its value to your firm or organization.

It is an exciting time for our industry, and I look forward to the challenges and opportunities over the next year. 🍷

Murray Thompson, P.Eng.
Chair, ACEC Board of Directors

The above remarks are an excerpt of Mr. Thompson's inaugural speech to ACEC members at the association's Annual General Meeting, June 23, 2012.



Since 1954, Crosier Kilgour & Partners has earned a national reputation for the skillful application of engineering principles to achieve elegant, yet cost-effective and durable solutions.

Crosier Kilgour & Partners would like to thank the Association of Consulting Engineering Companies, Manitoba for their continued support.

Crosier Kilgour & Partners Ltd.™

CONSULTING STRUCTURAL ENGINEERS

300-275 Carlton Street | Winnipeg, MB | R3C 5R6
T 204.943.7501 | F 204.943.7507 | www.ckpeng.com

PADDOCK DRILLING LTD.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATIONS



BRANDON
WINNIPEG
SASKATOON

4100 RICHMOND AVE. EAST
BRANDON, MB R7A 7P8

GROUNDWATER &
SOIL EXPLORATION

www.paddockdrilling.com

Phone: 204-725-0657 • Toll Free: 1-800-339-4908 • Fax: 204-727-4926



An interview with Steve Ashton, Minister of Infrastructure and Transportation

Consulting engineers key players in 2011 Assiniboine River flood mitigation

Interview by Christine Hanlon

Steve Ashton likens the 2011 Assiniboine Basin flood to a game of speed chess, where players only have three to four seconds between each move. “Engineering analysis that would typically take months, if not years, was being done in days and weeks,” says Ashton, Manitoba’s Minister of Infrastructure and Transportation (MIT) as well as the minister responsible for Emergency Measures. “I cannot say enough about the importance of the professionalism and expertise deployed by the engineers that were involved.”

The shifting dynamics of the flood and the complexities of the engineering were challenging enough on their own. Add to that the real time impacts and the degree to which there was no time to second-guess decisions, and the situation became even more challenging. “It added another dimension to the decision-making time,” explains Ashton.

Taking the chess analogy one step

further, grappling with the flood was more like a lengthy tournament than a single game. “People were working around the clock for extended periods of time,” says the Minister. As soon as one issue was addressed, unexpected weather developments would present another challenge. For instance, no sooner had engineers come up with a way to prevent the Portage diversion control structures from being submerged by flow far exceeding their design capacity than their attention was drawn to the need for wave attenuation measures on Lake Manitoba.

“We brought the consulting engineers into the process early for a number of reasons,” says Ashton. He explains that, in 2010, there were already significant preconditions for flooding in the Assiniboine Basin. In 2011, the Province issued a flood outlook that clearly identified that there were significant risks involved.

In the spring, ice jam-related flooding was the first sign of the problem. Of concern was the condition of the

Assiniboine River’s 134 km of dikes, built 100 years ago. The consulting engineers were already in place by April 2012. Then, in May, Manitoba received 250% of its normal precipitation. “We ended up with even more significant flooding as weather events continued,” recalls Ashton. “What transpired was a remarkable cooperation effort between MIT, Water Stewardship, KGS Group Consulting Engineers and the Canadian Armed Forces.”

In mid-May, this team played a key role in the breaking of the Hoop and Holler Dam, a deliberate measure necessary for relieving the pressure on the dikes from the surge water that was coming into the Assiniboine. “We had a significant need to protect property,” says Ashton, adding that there was also a need to shore up flood defenses in Brandon as well. “What we were able to do was use some of the best engineering and assessment along with the troops and their high-tech surveillance equipment.”

The Canadian Armed Forces’ CP140 Aurora surveillance aircraft was able to relay real-time video for KGS to analyze. The ability to use both daytime and nighttime surveillance made an enormous difference in the ability to identify seepage. That allowed MIT to respond, sending contractors and the armed forces to stem the flow.

“What is really remarkable is that we were able to prevent any significant breach in the dikes during a one in 400-year flood event,” says Ashton. “We did this by bringing together some of the best engineering and hydraulic expertise – a lot of which is located right here in Manitoba. Our engineers have a great deal of experience with everything from floods to hydro developments.

“Were there impacts from the flood? Yes. Would they have been much much greater had it not been for the terrific work driven by world-class engineering? Absolutely.”

“Steve Ashton likens the 2011 Assiniboine Basin flood to a game of speed chess.”



He notes that to address such a huge hydrological event required the expertise of engineers from numerous backgrounds. Besides the rapidly changing scenario, challenging physical elements included maintaining road access, addressing geotechnical issues, evaluating dikes and crossings, and assessing the potential impact of the flood on 80 different bridges. The situation has created ongoing structural challenges during the rebuilding stage of the civil infrastructure.

After all, flood mitigation is an ongoing preoccupation for MIT, one that extends beyond the 2011 Assiniboine Basin flood event. Consulting Engineers such as KGS Group and AECOM continue to be involved in monitoring and adjusting water flows into Lake St. Martin and Lake Manitoba. In 2011-2012, instead of following the usual practice of ratcheting back the flow of water from Lake St. Martin during the winter months, the outlet was allowed to operate at full capacity. This resulted in a 3.1-foot drop in water levels on Lake Winnipeg, with a reduction in Lake St. Martin as well.

KGS Group was also involved in the expansion of the Red River Floodway as well as the \$130 million expansion of ring dikes in the Red River Basin. There has been and continues to be significant work on flood proofing in the province. "As a result, although in 2011 there was flooding on the Red River, it had far less impact than it would have had without these measures," notes Ashton.

Of course, there are still a number of hydraulic challenges to be addressed. MIT is looking at issues surrounding Morris as well as those related to the Shellmouth Dam, which, along with the Portage diversion, plays an important role in flood management on the Assiniboine. At the same time, consulting engineers are involved in a study on the range of outflow regulations for Lake St. Martin and Lake Manitoba, with a report expected later this year or early in 2013.

It is important to note that the role of consulting engineers at MIT is not limited to flood mitigation and prevention. Ashton points out that new infrastructure, of all kinds, is important

to our province's development. For instance, in the 2012 provincial budget, the government set aside \$4 billion for highway renewal over the next 10 years. "A lot of these ongoing projects would not be possible without the expertise of consulting engineers," explains Ashton. MIT is also responsible for drainage and transportation infrastructure management, including the maintenance and operation of all-weather roads, winter roads, bridges, culverts, drains, dams, reservoirs, pumping stations and northern airports – much of which involves the services of consulting engineers in some form or another.

While the nature of the infrastructure varies widely, there is no question that flood mitigation infrastructure will continue to play a central role in the department's activities and in Manitoba's future. "Consulting engineers help us take a province that is flood prone and convert uncertainty into a much more manageable situation," says Ashton. "It is a huge impact, not the least of which is giving the people of Manitoba the confidence to develop and grow." 🇨🇦

KVA DYNAMO INC.

Electrical Power Products

MOTOR + CONTROL SOLUTIONS
Rugged & Reliable

TOSHIBA
Electric Motors
Adjustable Speed Drives - to 20,000HP
5kV Starters - to 5,500HP
Uninterruptible Power Supplies - to 750kVA

BENSHAW
Solid State Starters - 230V to 13.8kV

EATON - MOELLER
Motor Control Centres
Contactors, Relays & Pushbuttons

*Application Support & Service
Training & Startup Assistance*

Winnipeg Location: (204) 237-4490
Regina Location: (306) 586-0000
Saskatoon Location: (306) 651-0400

kvadynamo.com

partnering with...

B+B DYNAMO + Armature Ltd
ISO 9001 CSA-XP certified
ElectroMechanical Repair Specialists
Motors - Pumps - Fans - Generators
Winnipeg (204) 237-6066
bbdynamo.com



SAFETY *with* SHELLY

CONSULTING SERVICES

Work Safely. Your family is waiting for you.

- COR Program
- ISNetwork
- On Site Safety
- Manuals
- Training
- Audits

Shelly Plett cso

splett@safetysHELLY.com

(204) 799-4712

www.safetysHELLY.com

MHCA WorkSafe Approved External Auditor

External Auditor # 070607SP

INTERPROVINCIAL TRADE offers opportunities, but creates challenges



By John Gamble, P.Eng.
ACEC-Canada President

Many opportunities and challenges continue to face the consulting engineering sector across Canada. One of these is the impact – both positive and negative – of recent interprovincial trade agreements like the New West Partnership Trade Agreement (NWPTA). ACEC-Canada and its 12 provincial and territorial Member Organizations are fully supportive of trade agreements between provinces that increase the flow of goods, services, capital, and people across borders in Canada. Specifically, we support the mobility provisions of NWPTA, however there are some very real challenges as a result of some procurement provisions of the agreement. Experience with the NWPTA in British Columbia and Alberta has resulted in public professional engineering services being treated as a commodity and not as a value-added professional service.

Eyes are currently on Manitoba as the provincial government continues to negotiate its possible inclusion in the NWPTA. Fortunately for our industry, ACEC-Manitoba is proactively representing the interests of the consulting engineering sector and its clients. This may well present an opportunity to make improvements to the NWPTA.

NWPTA language currently requires government clients to accept submissions from all qualified firms within the trade agreement area for any professional services assignment exceeding \$75,000. Clients now face pressure to either spend a significant amount of time and resources in order to evaluate the technical and qualitative qualifications of all proponents or revert to the simple solution of selecting lowest fee. In either case, this makes the use of qualifications-based selection (QBS) more difficult. As a result, a large number of firms are preparing proposals or pre-qualification documents, at a considerable expense, for each assignment. This

additional cost is eventually passed on to clients, and ultimately taxpayers. And of course there is the justifiable concern that if public infrastructure development is based on the lowest possible fee, there are potential consequences for both the economy and public safety.

Interprovincial trade agreements also provide opportunities for our industry. For example, we are seeing revitalized and increased cooperation between ACEC-Canada and our Member Organizations. Historically, ACEC-Canada has focused its advocacy almost exclusively on the federal government and its agencies. The NWPTA, however, transcends provincial boundaries, thus there is clearly a role for the national association to work collaboratively with the provinces. The national perspective of ACEC-Canada clearly demonstrates that the concerns of our industry are neither parochial nor protectionist – the consequences of NWPTA are being felt equally throughout the country.

Buoyed by the renewed and effective efforts of the western provinces to re-engage their provincial governments and put this issue back on the political radar, ACEC-Canada is in a unique position to facilitate information sharing and provide tools to its Member Organizations across Canada. Our associations in both Saskatchewan and Manitoba are mobilizing based on experiences in Alberta and British Columbia. Even in Atlantic Canada, our industry is taking a stand.

As negotiations on NWPTA continue in Manitoba, the consulting engineering sector across Canada will be watching closely. Our Member Organizations, like ACEC-Manitoba, are playing a leadership role in promoting interprovincial trade rules that will improve our industry's ability to provide value to taxpayers and improve our social, economic and environmental quality of life. As a result of these collaborative efforts, all of Canada will benefit. ☺

IRELAND BROS. LTD

Lorne Ireland | Terry Ireland | Mervin Ireland | Glenn Ireland

R.R. #2, Arthur
Ontario N0G 1A0

Tel: 519-848-3487
Fax: 519-848-5892
Email: terry@irelandbrosLtd.com

35 YEARS
1977-2012

www.irelandbrosLtd.com



Metallurgists and Forensic Engineers



- ☑ Metals and Plastics Failure Analysis
- ☑ Corrosion Engineering
- ☑ Non-Destructive Testing
- ☑ Fire Investigations
- ☑ Product Litigation - Insurance Losses

204-953-3800

1797 Logan Avenue

Winnipeg, Manitoba, R3E 1S9

www.testlabs.ca

SMS ENGINEERING

ENERGY EFFICIENCY INNOVATIVE SYSTEMS
 GREEN ENGINEERING SUSTAINABILITY
 LEED®-BASED DESIGN SINCE 1965

Women and Newborn Hospital

U of W Richardson College

Winnipeg International Airport

Winnipeg Blue Bombers Stadium

Mechanical and Electrical Consulting Engineers
 770 Bradford Street Winnipeg, MB R3H 0N3 Canada
 204-775-0291 www.smseng.com

OUR CONCERN FOR THE ENVIRONMENT IS MORE THAN JUST TALK

This magazine is printed on Forest Stewardship Council® (FSC®) certified paper with vegetable oil-based inks. Please do your part for the environment by reusing and recycling.

THINK GREEN

CONNECT WITH THE BEST AND BRIGHTEST ENGINEERING STUDENTS

- Co-op and internships
- Engineers in Residence
- U of M Idea Projects
- Friends of Engineering

Please contact:
 Amber Skrabek: 204-474-9034
 or amber_skrabek@umanitoba.ca

[umanitoba.ca/
engineering](http://umanitoba.ca/engineering)

Faculty of
Engineering

UNIVERSITY
OF MANITOBA

When it just has to work...



In the land of the midnight sun, a bright new star shines. The Rankin Inlet Men's Healing Centre represents a quantum leap ahead in the humane treatment and rehabilitation of offenders in Nunavut Territory.

"The intent of the facility is to heal both the offender and the community, our most important resource in the north is people, we cannot afford to lose even one."

Ken Drysdale, P.Eng.
Project Manager

**MEN'S HEALING CENTRE
RANKIN INLET, NUNAVUT, CANADA**

Accutech Engineering Inc.

Knowledge, Experience, Perspective

Accutech Engineering Inc. *Provides complete Design & Construction Services to Industries Across Canada, the U.S.A. and the World. We commit to our clients that we will assist their companies to reach their fullest potential through the*

application of value-added engineering techniques, as well as through the utilization of the latest and most appropriate technologies practical for each unique situation.

Accutech Engineering Inc.
605 - 287 Broadway Street
Winnipeg, Mb, Canada, R3C 0R9
Ph. (204) 944.1555 Fx. (204) 944.1444
www.accutecheng.ca

Member of
Association of Consulting Engineering
Companies Canada - Manitoba

 **Accutech Engineering Inc.**
Tomorrow's Technology Today



13th Annual Awards of Excellence in Consulting Engineering



Thanks to our sponsors

Title Sponsors:

XL Insurance and
OKE Oldfield Kirby Esau Insurance Brokers



OLDFIELD KIRBY ESAU Inc.
Insurance Brokers

Award Category Sponsors:

University of Manitoba;
Winnipeg Construction Association;
Manitoba Hydro; Encon;
Province of Manitoba, Department
of Infrastructure & Transportation



Wine Sponsors:

Maple Leaf Construction; Bockstael



Margarita Bar Sponsor:

Maple Leaf Drilling Ltd.

Martini Bar Sponsor:

Boretta Construction 2002 Ltd.



Entertainment Sponsor:

Paddock Drilling Ltd.



Program Sponsor:

Manitoba Conservation and Water Stewardship

2012 Judging Panel

Dr. Jonathan Beddoes, Ph.D., P.Eng.

Dean of Engineering at the University of Manitoba, has an engineering career that includes industrial product and process development, research in industrial and government laboratories, as well as extensive experience in academia. Prior to joining the Faculty of Engineering at the University of Manitoba in 2011, for 18 years he was a faculty member in the Department of Mechanical and Aerospace Engineering at Carleton University, Ottawa, including six years as Department Chair. He has taught engineering courses at all levels from first year to graduate studies. Before joining academia he worked at Pratt & Whitney Canada Inc., and Alcan Aluminium for ten years. His research interests have included high strength aluminum alloys for aircraft applications, casting and processing of aluminum for high value added sheet products, processing/recycling of Al-Si alloys, and high temperature materials for gas turbine applications. He is the (co-) author of more than 60 research papers,

three patents and two books dealing with industrial processing of engineering materials.

Dustin Booy, M. Eng., P.Eng. is the Contract Engineer for the Engineering and Operations Division at Manitoba's Department of Infrastructure and Transportation. With more than ten years of experience in project management and transportation engineering, Dustin has been involved in such recent notable projects as the CentrePort Canada Way Design-Build where he acted as a Project Manager. His diverse career experience also includes accomplishments in the discipline of geotechnical engineering as well as environmental engineering. He holds Bachelor of Science in Civil Engineering and Master of Engineering (Geotechnical) degrees from the University of Manitoba.

Ruth Eden, M.Sc., P. Eng. is the Director of the Structures Design and Construction Branch for Manitoba Infrastructure and Transportation, Water Control and

Structures. She has been the Director of Design and Construction for five years and currently oversees a staff of 45. Ruth has been involved in the construction of bridges and structures throughout the Province for over 20 years and is a past President of ACI Manitoba Chapter. She is on three separate committees of CHBDC as well as the executive for the Structures Standing Committee for Transportation Association of Canada.

Dave Ennis, P.Eng. is the former Executive Director & Registrar of the Association of Professional Engineers and Geoscientists of Manitoba, and former director on the Board of Engineers Canada. He has prior experience in bridge engineering and in the heavy construction industry. He holds Bachelor of Science in Civil Engineering and M.Sc. degrees from the University of Manitoba.

Lawrence Ferchoff, FEC, P.Eng. is currently the Manager of Electrical Codes & Standards/Chief Electrical Inspector for Manitoba Hydro. Over the past ten years, Lawrence has also been directly involved

in the development of advanced metering technology and alternative energy and northern generating station projects for Manitoba Hydro. He has extensive prior experience in the consulting industry, including project and business unit management, and electrical and control systems engineering for energy, infrastructure, environmental and industrial projects. He holds a B.Sc. in Electrical Engineering from the University of Manitoba, has been active in professional and community organizations, including APEGM, the United Way, IEEE, Toastmasters and Consulting Engineers of Manitoba.

Robert Fudge is Director of the National Centre for Arctic Aquatic Research Excellence, with the Department of Fisheries and Oceans Canada (DFO). He represents a diverse and geographically widespread DFO Oceans research community in areas of Arctic Ecosystem Research, Oceanography, Climate Change, and Community Based initiatives. He brings over 34 years of experience in conducting aquatic environmental research, implementing field projects and managing research programs. His present focus is the development and coordination of collaborative research programs, involving Canadian and international researchers working from Canadian Coast Guard (CCG) icebreakers in the Arctic regions of Canada.

Doug McNeil, M.Eng., P.Eng. is Deputy Minister of Manitoba Infrastructure and Transportation. Prior to this appointment in June 2009, Doug spent almost six years at the Manitoba Floodway Authority as Vice President of Engineering and Construction and earlier as Vice President of Hydraulics. Doug has also held various engineering positions with the City of Winnipeg in the Water and Waste Department over a 20 year period. This included fighting the 'Flood of the Century' in 1997, managing the flood proofing projects in the City as well as serving on technical advisory committees of the early studies related to Floodway Expansion. With this background, it was fitting for him to have a major role in the 2011 Flood. Doug has both a Civil Engineering Degree and a Master of Engineering Degree from the University of Manitoba.



Bernie Osiowy, P. Eng. is a Civil Engineer with over 45 years of experience in managing various phases of planning studies, design, construction, commissioning and the post construction performance evaluation of many of Manitoba's northern hydraulic generating stations. This included the Kettle and Long Spruce Generating Stations where his on Site Team successfully added 1600 megawatts of new generation to the Manitoba Hydro System. Bernie has contributed to the successful negotiation of several Aboriginal First Nations Comprehensive Compensation and Mitigation Agreements. He served as a Provincially appointed member on the Split Lake Resource Management Board from 1992 – 2009. Bernie is a graduate of the University of Saskatchewan and retired from Manitoba Hydro in 2009.

Jerald Peters, M.Arch., MAA is current President of the Manitoba Association of Architects. Jerald is a principal with Friesen Tokar Architects + Landscape + Interior Designers, with offices in Winnipeg and Calgary. Jerald is working on projects across the prairie provinces and is pleased to lead the team which won the national design competition for new dormitories and campus entry at the historic RCMP training academy in Regina. Jerald received his Bachelor of Environmental Studies and Master of Architecture degrees from the University of Manitoba.

Douglas Ruth, P.Eng. is a Professor of Mechanical Engineering at the University of Manitoba. He is currently the Associate

Dean (Design Education) and holds the Chair in Design Engineering at the University of Manitoba. He served as Dean of the Faculty of Engineering from 1999-2010. Doug has engineering experience with several companies including Carter-Temro, Petro-Canada, and GEOTECHnical resources.

Ahmed Shalaby, PhD, P.Eng. is Professor and Head of the Department of Civil Engineering, University of Manitoba. He is a graduate of Cairo University with a Bachelor and Master of Science in Civil Engineering, and he holds a PhD in Civil Engineering from Carleton University. His research and teaching interests are in pavement and airfield design, infrastructure management, and highway engineering. He is actively involved with professional organizations including the Transportation Association of Canada, and the Transportation Research Board.

Ed Wojczynski is the Division Manager, Portfolio Projects Management at Manitoba Hydro. He is Chair of the Canadian Hydropower Association, Chair of the CHA Regulatory Process Working Group, formerly Chair of the CHA Species At Risk Act Working Group and is a member of the Federal Species At Risk Advisory Committee. He is a member of the International Hydropower Association and chairs the working group on Indigenous Peoples Consultation, Participation and Consent. He has a B.Sc. from the University of Manitoba and a M.Sc. from the University of Saskatchewan in Electrical Engineering.

KEYSTONE AWARD WINNER

Project Name: 2011 Assiniboine River Flood – Emergency Engineering
 Firm: KGS Group
 Client: Manitoba Infrastructure & Transportation
 Category: Infrastructure/Transportation
 This project also won an Award of Excellence

KGS
GROUP
 CONSULTING
 ENGINEERS



INTRODUCTION

The 2011 Assiniboine River Flood, estimated to be a 300-year event, presented challenges exceeding the flood protection system capacity. Manitoba Infrastructure and Transportation (MIT) assembled an experienced and diverse team of engineers to develop fast-tracked, emergency, proactive solutions to contain, redirect and control the floodwaters of the Assiniboine. From March 2011 into 2012, KGS Group provided an integrated team of geotechnical, hydraulic and survey/GIS expertise to evaluate flood potential, undertake modeling, reinforce dikes, monitor flows, redirect flood waters, stabilize slopes, expand channels and armour shorelines.

BACKGROUND

The 'perched' Assiniboine River channel is on a broad flat floodplain between Portage la Prairie and Baie St. Paul. The federal government constructed 134 kilometres of dikes during the 1950's and 1960's along this reach to prevent overland flooding and to promote agriculture and rural development. Major flood protection infrastructure projects were undertaken after the disastrous 1950 Red River Flood included the Red River Floodway, the Shellmouth Dam

and Reservoir, the Portage Diversion and the construction of the Assiniboine River Dikes.

After 2010 record level precipitation, the Assiniboine River froze at levels well above normal, followed by above-average snowfalls. By January, flood forecasters predicted a major Assiniboine flood, so the Shellmouth Reservoir was lowered and MIT mobilized equipment to raise the Assiniboine Dikes in winter conditions and armour the Portage Diversion Control Structure.

Ice jams in April between PR 430 and the Baie St Paul Bridge, caused a 2.5 m (8 feet) water level surcharge, breaching the newly raised dikes in two locations. Subsequently, KGS Group was requested to provide geotechnical and hydraulic resources for emergency engineering support to protect the people, livelihoods and property of Manitoba.

ASSESSMENT AND MONITORING OF THE ASSINIBOINE RIVER DIKES

In April 2011, KGS Group conducted a comprehensive emergency reconnaissance assessment to address the dike conditions using GPS-equipped cameras. Areas of concern included headscarps, tension cracks, piping and seepage boils at the dike toe, often in wet silty inaccessible areas. As the Assiniboine River rose, hydrostatic pressures produced new signs of failure and potential uncontrolled breaches.

With the flood protection at maximum capacity and more water coming, the Province declared a state of emergency in May, triggering assistance of 1,800 Canadian Forces army, air force, navy and reserve personnel.

Using ESRI's (Environmental Systems Research Institute) ArcGIS software, with monitoring data and geo-referenced pho-

tos, KGS Group developed a digital map database of the geotechnical condition assessment which was updated daily to prioritize dike failures and allocate MIT and Canadian Forces resources.

The dikes weakened with flow increases as steady state flow conditions were reached. The restless seepage lines frequently exited to ½ way up the dry side of the dike, necessitating continuous monitoring to avoid uncontrolled breaches. The Canadian Forces initiated night monitoring, using a CP-140 Aurora Surveillance Aircraft equipped with an infrared night-vision camera, relaying real-time video and audio to Portage for KGS Group to identify signs of slope instability and dike failure.

HYDROMETRIC MONITORING PROGRAM

KGS Group hydrometric crews obtained 2 months of daily water level, flow, and velocity information at the Portage diversion and along rivers within the Assiniboine River Watershed. A boat-mounted Acoustic Doppler Current Profiler (ADCP) monitored real-time flow velocities and bathymetry of the river bottom, which was instrumental to MIT and Manitoba Water Stewardship (MWS) for provincial flood forecasting efforts and Portage Diversion planning and control structure operation.

To assess the structural integrity of bridge pier foundations, KGS Group also monitored the complex sediment processes and mobile riverbed erosion at bridge sites with high potential for scouring. A side-scan imagery sonar unit, coupled with a Differential Global Positioning System (DGPS) was used to identify potential riverbed erosion at bridge piers and abutments, including profiling at the peak and recession of the flood.



REINFORCEMENT OF THE ASSINIBOINE DIKES

The Assiniboine Dikes are designed to protect over 500 km² of land including farms and several rural communities. Under difficult winter conditions, MIT raised approximately 80 kilometres of the dikes using partially frozen fill. As the frozen fill thawed, the prominent failure modes impacting the dike integrity were pore-water-pressure induced slope failures and internal piping with toe boils related to increasing hydrostatic river pressure. The Canadian Forces focused on protecting the integrity of the newly raised dikes, prioritizing the weakest sections of the dikes using KGS Group's map-based database monitoring program. KGS Group developed a simple effective design that could be easily implemented by the soldiers, consisting of an adaptable sandbag stabilizing toe berm detail underlain by a non-woven geotextile for use in areas difficult to access. The geotextile also acted as a filter over the piping-induced springs, to allow pressure dissipation without fines migration while retaining suspended sediment, thereby reducing the seepage rate. KGS Group provided onsite geotechnical and constructability support to the Canadian Forces under the overall direction of MIT.

The priority sections for dike repair were inaccessible by road, with saturated silt fields and mud trails, precluding conventional delivery of sandbags. The dike crest was impassable except by ATV or light tracked vehicles. Accordingly, Manitoba Conservation "Hueys" and military Griffon helicopters were mobilized to deliver sandbags and materials to the troops, with Canadian Forces providing air-traffic control along the closed PR 430. This proved inadequate as dike failure

potential increased, so MIT mobilized two Russian-built Kamov and Sikorsky heavy-lift helicopters. Finally, the armed forces were able to keep up with the necessary repairs, and as conditions dried out the switch was made to conventional ground based equipment.

PORTAGE DIVERSION EXPANSION

By May 8th Assiniboine River flows of up to 56,000 cfs were predicted at the reservoir at Portage la Prairie. The river downstream could handle approximately 18,000 cfs sustained flow, with ongoing emergency dike maintenance. The Portage Diversion to Lake Manitoba was designed for a flow of 25,000 cfs, approximately 13,000 cfs less than the forecasted flows. The Portage Diversion control structure operations room, under threat of flooding and loss of the system, was reviewed on an emergency basis and modified under KGS supervision to a remote control operation.

MIT mobilized contractors and equipment to raise the channel dikes by 1 m (3 feet) in less than 1 week, with the capacity limit increased to 34,000 cfs. KGS Group assessed the erosion protection requirements, dike stability with saturated ground conditions, toe piping, and modifications necessary for emergency expansion of the channel. Loading and riprap requirements were also addressed to protect concrete drop structures which would be submerged. The earthen berms were raised on either side of the 29 kilometre-long channel, with integrated perforated-pipe toe drains. Designs for the modified dikes were provided on a timely basis based on engineering judgement and verified by stability models and sensitivity analysis using GeoSLOPE software and HEC-RAS hydraulic models. In

addition, KGS Group assessed potential inundation areas related to dike breaching along the Portage Diversion, and developed emergency evacuation plans.

THE HOOP AND HOLLER CONTROLLED BREACH

With a maximum flow of 34,000 cfs via Portage Diversion and 18,000 cfs in the Assiniboine River downstream, the increased capacity was still short by up to 4,000 cfs of the forecasted flow of 53,000 to 56,000 cfs. Uncontrolled and catastrophic breaches of the Assiniboine or diversion Dikes could result, potentially releasing up to 15,000 cfs into unprotected rural communities. A controlled breach was selected at the historical low point at the Hoop and Holler bend along PR 331. Surplus water, flowing south into the Lasalle watershed, could potentially impact 150 homes. The fast track design consisted of a broad-crested weir with a limestone riprap apron to control flow release and to facilitate closure. The site was prepared for the breach within five days, while provincial staff and the army notified affected residents and built ring-dikes around their homes. Actual inflows into the Portage Diversion reservoir limited the breach flows to approximately 500 cfs, with establishment of a controlled flow channel in a flooded area of 3.5 square kilometres.

LAKE MANITOBA WAVE ATTENUATION

Lake Manitoba reached record water levels with the diversion of Assiniboine River floodwaters added to natural inflow. A May windstorm at 70 to 90 km/hr from the northwest decimated many of the south end cottages along the Twin and Delta beaches. Temporary wave



attenuation measures were developed as protection against further destruction. Contractors worked around the clock deploying kilometres of geo-tubes infilled with sand slurry, which drained leaving densified sand. These temporary wave attenuators were constructed offshore along the beach front properties to absorb wave energy before reaching the cottages. KGS Group monitored performance using mini weather-stations, video cameras and wave-height monitors along the shoreline, coupled

with remote data collectors. The geo-tube wave attenuators protected lakefront properties from large waves in subsequent windstorms.

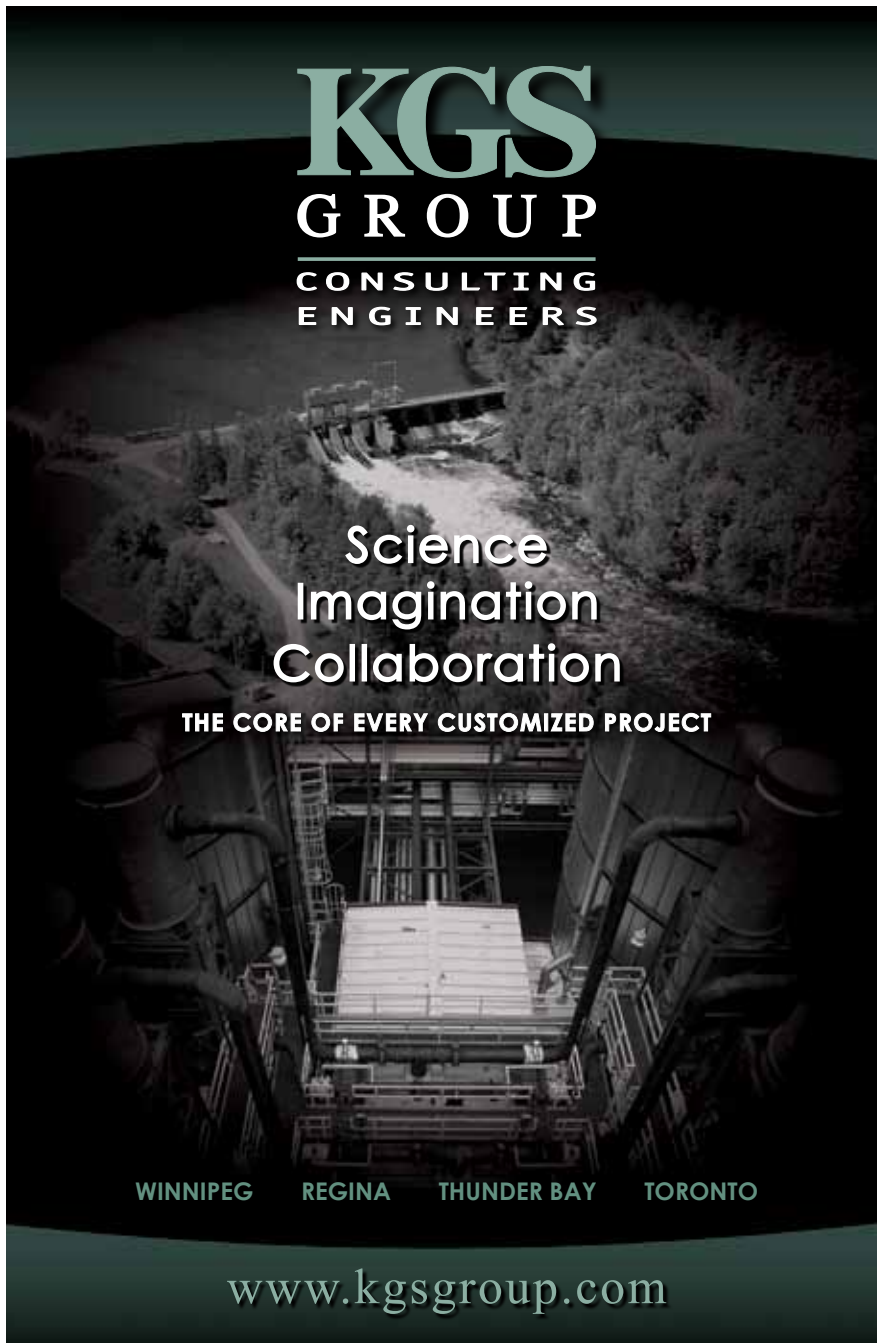
A SUCCESS IN EMERGENCY ENGINEERING

Over 1 million sandbags were placed along the Assiniboine dikes, as well as substantial volumes of clay and riprap along the Portage diversion channel. KGS Group continued to provide emergency services to MIT for subsequent flood mitigation projects including the construction of dikes at Brandon, the Pas, Souris, St Laurent, Dauphin River First Nation, slope stabilization at the Wawanesa Dam, and the design and construction of the Lake St. Martin Emergency Channels with assistance from others.

Emergency engineering is infrequently encountered in the engineering practice and requires timely and informed decisions using best available information. Working with demanding deadlines, decisions were made collaboratively by MIT and KGS Group, to successfully respond to the 2011 Assiniboine River Flood for communities in the flood zone.

JUDGES' COMMENTS

The 2011 Assiniboine River Flood – Emergency Engineering project was a key part of the unprecedented flood fight of 2011. KGS Group provided emergency services and technical support and had a critical role in many concurrent components including; the assessment and reinforcement of the Assiniboine dikes, the Hoop and Holler controlled breach and capacity increase at the Portage Diversion. The judges chose this submission for an Award of Excellence for its important impact on many communities and for the significant effort and quality of engineering work and innovations of the KGS Group project team.



KGS
GROUP
CONSULTING
ENGINEERS

Science
Imagination
Collaboration

THE CORE OF EVERY CUSTOMIZED PROJECT

WINNIPEG REGINA THUNDER BAY TORONTO

www.ksgroup.com

AWARD OF EXCELLENCE – MUNICIPAL AND WATER TECHNOLOGY

Project Name: **Analysis of Options of Emergency Reduction of Lake Manitoba and Lake St. Martin**
 Firms: **AECOM Canada Ltd. and KGS Group**
 Client: **The Province of Manitoba**



The Manitoba Government retained AECOM and KGS on June 15, 2011 to analyze options for dealing with the unprecedented 2011 flooding on Lake Manitoba and Lake St. Martin.

The result of diverting Assiniboine River water to protect areas downstream of Portage La Prairie was that Lake Manitoba crested at 817.2 ft (249.1 m) which was 4.7 ft (1.43 m) above the desirable range

of 810.5 ft to 812.5 ft. This was estimated to be the 1 in 400 year event.

The inflow to Lake St. Martin from Lake Manitoba was greater than the natural outflow capacity, causing Lake St. Martin to crest at 805.5 ft (245.6 m) which was 5.5 ft (1.68 m) above the desirable operating range of 797.0 to 800.0 ft.

The analysis of flood mitigation options had to be undertaken as quickly as possible due to the fact that levels were still rising and viable options needed to be identified that could be implemented before winter freeze up. These options had to be evaluated on their utility to mitigate flood conditions (without adversely affecting other parts of the province) constructability and cost.

An analysis of the existing conditions





CREATE. ENHANCE. SUSTAIN.

Partnering with clients across Canada, AECOM provides the most innovative and appropriate solutions to deliver projects that leave proud legacies for tomorrow.

From road, rail, energy and water systems to enhancing environments and creating new buildings and communities, our vision is to make the world a better place.

AECOM

www.aecom.com



Shaping the future

AMEC is a company of engineers and scientists supplying high value consultancy, engineering and project management services to the world. AMEC designs, delivers and maintains strategic and complex assets for its customers. The company employs more than 25,000 people in around 40 countries worldwide.

440 Dovercourt Drive, Winnipeg, MB R3Y 1N4 Tel + 1.204.488.2997
Environmental-Hazardous Materials-Occupational Hygiene-Geotechnical-
Materials Testing-Mining

amec.com



indicated that Lake Manitoba would remain above desirable range until October 2012 with the historic operating regime and that Lake St. Martin would remain above flood stage until late fall of 2012.

Selection of possible routes for emergency outlet channels began immediately with over 30 field and office technical staff mobilized from the two firms including engineers, surveyors and construction estimators. Many of the possible routes for flood mitigation channels had limited topographic and geologic information. Once conceptual routes were selected, crews including specialists, such as those applying geo-seismic investigation technologies, were brought in from across the country to collect and analyse field data. Hydraulic engineers used the sparse data available to conceptualize and model relief channels. Numerous options initially examined were rejected due to constructability issues due to the existing flood conditions.

The speed at which these analyses were undertaken is dramatic with the time between the request from Manitoba to the presentation of recommendations being only five weeks. In this time, over six flood channel routes from Lake Manitoba, three outlets from Lake St. Martin and four flood management options on the Assiniboine River were analysed and costs estimated.

The challenge was to optimise the design and develop cost estimates based on excavation volume and material composition. The latest three-dimensional Computer Design software, Geoseismic exploration, LiDAR, sonar bathymetric and GPS surveys, compiled in GIS support tools, were required to estimate excavation volumes and associated costs for various channel alignments and configurations.

Hydrodynamic modeling was used to analyze the potential benefits of flood mitigation options. Data collected from the field was input into the GIS modelling tools to help refine alignments and estimate the quantities of rock and overburden that had to be excavated. This was an iterative process as potential construction constraints caused hydraulic designs to be modified in an attempt to optimise project costs.

In the end, AECOM and KGS analysed more than 11 diversion options from Lake Manitoba and Lake St. Martin. They also re-checked four historic flood relief options: the Holland Dam; La Salle River Diversion; Assiniboine River Dredging; and the Long Lake Drain diversion from Lake Manitoba to the Assiniboine River. These historic options proved infeasible due to cost, environmental considerations or effectiveness.

This study identified the Dauphin River as the hydraulic constriction in the system and on July 22, the consulting team recommended the following solution:

Begin immediate construction of an additional emergency channel from Lake St. Martin to address the hydraulic flow

restrictions in the Dauphin River and accommodate additional Lake Manitoba outflows over the winter;

Allow unrestricted outflow of water from Lake Manitoba through the Fairford River Water Control Structure through the winter of 2011/2012, allowing several times more outflow than past winters.

If the emergency channel from Lake St. Martin was in service by the Fall of 2011, both lakes could be two to three feet lower by the spring of 2012 than without the emergency outlet channel

Analytical result documents prepared for the province were presented to the public on July 26, 2011.

JUDGES' COMMENTS

The judges choose this project for an award of excellence for the societal significance of identifying viable flood control options and the importance of accurate and timely analysis. With the many options to be considered arriving at a feasible and effective solution on a compressed schedule was a remarkable feat.



ENGINEERING AND TESTING SOLUTIONS THAT WORK FOR YOU

Unit 6-854 MARION STREET, WINNIPEG, MANITOBA, R2J 0K4
PHONE: (204) 233-1694 FAX: (204) 235-1579 ENG_TECH@MTS.NET WWW.ENG-TECH.CA

AWARD OF EXCELLENCE – BUILDING

By Richard Lay, PEng., Enermodal, a member of MMM Group

Project Name: Churchill Northern Studies Centre – Energy Efficiency and Water Self Sufficiency in Northern Manitoba
Firm: Enermodal Engineering, a member of MMM Group Limited
Client: Churchill Northern Studies Centre



After years of struggling with an old sheet metal building inherited from the military, Churchill Northern Studies Centre has a new 27,000-sq. ft. building. The CNSC is an independent, non-profit research and education facility located 23 kilometres east of the town of Churchill, Manitoba.

The new building is designed for 88

visiting scientists and 12 staff working year-round on sub-arctic scientific research and education. The building has laboratories, classrooms, kitchen and dining rooms, recreation areas, gift shop, observation dome, library, herbarium, and study collections of various animal species.

The goal was to reduce operating costs and showcase best practice green building engineering design. Prairie Architects of Winnipeg designed a streamlined elevated building, which sheds wind and snow and collects sunlight. The two-storey structure has a long shallow rectangular plan oriented east-west for good daylight penetration and views. The building envelope is R-40 freezer panel construction with low-e argon triple-glazed windows. The structure is raised about 1.5 metres above

grade to minimize snowdrifts. This feature also provides space under the building for the ventilation openings, protected from snow entry.

Enermodal Engineering designed mechanical and electrical services, which include generous ventilation with heat recovery, intelligent building controls, and good lighting. The kitchen and laboratories are energy efficient, and there are on-site water and wastewater treatment systems, non-potable water distribution, grey water recovery, and waterless composting toilets.

The main ventilation system is a 1175 L/s reversing flow heat exchanger made in Manitoba and featuring 85% heat recovery efficiency and no requirement for defrost. The other HRVs, serving the dining room



A proud member of Manitoba's consulting engineering community for more than 40 years.

MMM Group is passionate about delivering innovative and technically superior planning, engineering, landscape architecture, environmental management, geomatics, and project management solutions that not only receive public and critical acclaim, but encourage sustainable development and environmental preservation and enhancement.

www.mmm.ca



Leading-edge design at the remote Churchill Northern Studies Centre lowers operational costs, and increases utility reliability and independence

Environmental impacts are minimized on the complex Pointe du Bois Spillway Replacement project





Connecting Clients and Solutions and providing the highest quality engineering solutions in a client-focused manner by empowering our talented people.

Tower Engineering Group

Structural
Electrical
Mechanical
Project Management

Offices in Winnipeg & Calgary
www.towereng.ca





and kitchen, labs, and composting toilets, rely on electric pre-heaters to keep them out of defrost mode and to optimize their heat recovery performance.

Commercial kitchens can be extremely energy intensive due to large amounts of cooktop ventilation, hot water use, and appliance energy. The best-in-class range hood ventilation at CNSC is low-flow and variable speed. Solar wall panels pre-heat the large volume of makeup air, supplemented by a dedicated ERV that even recovers dishwasher exhaust heat.

Two oversized grease interceptors are installed in a cool basement service room, where they help heat the room while cooling and improving grease separation.

Laboratory fume hoods are variable volume with dedicated makeup air unit.

Most heating is by thermostat controlled electric baseboards or radiant ceiling panels. The design heat loss of the building envelope is 145 kW, plus an additional 52 kW for 2,800 L/s ventilation.

Extreme Water Conservation

The old facility had to truck water from town then truck back the sewage. The most significant measure to decrease this considerable cost was two composting systems serving waterless toilets and urinals. A dedicated HRV provides continuous exhaust from the composter and the washrooms.

Wastewater is treated on-site to tertiary quality by two 5,000-litre indoor biofilters, and two outdoor area beds made of manufactured sand and woodchip-and-sand layers. The permitted daily design flow is 8,000 litres and design flow is only 68 L/person, compared to the metered 100+ L/person last year in the old building.

Lake water is pumped two kilometres to the site in summer and treated with settling, simple cartridge filters and ultraviolet light to drinking water quality. Two 13,000-litre tanks can store drinking water trucked from town in winter when the lake is frozen.

To reduce the need for drinking water, untreated lake water is distributed through separate non-potable water piping to flush-type toilets, hose bibs and drain trap primers. Greywater is recycled from the lavatory and shower wastewater, and drain-water heat exchangers recover heat from the showers and lavatories to preheat the domestic hot water.

It is hoped that the combination of ambitious water conservation and on-site treatment will be a model of sustainability for other developments in remote communities. The technologies showcased at CNSC are scalable to larger facilities.

JUDGES' COMMENTS

The remote location of the Churchill Northern Studies Centre facility, harsh climate, difficult site conditions and roaming polar bears presented a variety of challenges to the design team. The site has no piped municipal services for water, sewer or gas and no prospect for gaining these services in the future. Emermodal Engineering, a member of MMM Group Limited designed a building that provided a high degree of reliability and independence for water, wastewater, heat and power that minimized building cost and conserved energy, for these reasons the judges selected the project for an Award of Excellence.

Smart Control Systems
 Smart Final Control
 Smart Analytical
 Smart Asset Optimization
 Smart Machinery Health
 Smart Wireless
 Smart Measurement
 Smart Safety

LAKESIDE
 Lakeside Process Controls
 7 Sylvan Way
 Winnipeg, MB
 R2R 2B9
 www.lakesidecontrols.ca
 info@lakesidecontrols.com
 204-633-9197
EMERSON
 Process Management

BENEFITS OF EMPLOYING THE TECHNOLOGY PROFESSIONALS

Who Are the Technology Professionals?

They are the men and women who hold the professional designations:

C.E.T. and **A.Sc.T Certified Technologists**

OR

C.Tech. Certified Engineering Technician

Granted by the Certified Technicians and Technologists Association of Manitoba (**CTTAM**) which has approximately 3000 members joining over 52,000 Certified Technicians and Technologists across Canada. Technical Colleges provide the education and CTTAM provides the certification.

These technology professionals are recognized for their unsurpassed capabilities and professionalism in:

- Meeting national standards for education and work experience.
- Having been evaluated and accepted by their peers. Making a commitment to their profession.
- Making the personal statement that they are a technology professional.
- Agreeing to uphold the Code of Ethics, to protect the public and the profession.
- Holding accountable to CTTAM and its disciplinary process.

How Does the Employer Benefit?

An increasing number of employers support the certification of member employees and support the certification of eligible employees by CTTAM.

By employing a certified engineering technology professional you can be confident that you are employing a competent individual who has made a commitment to professionalism.

You have also removed the guesswork involved in hiring new employees, as these individuals have:

- Met nationally recognized academic requirements
- Had their technical work experience reviewed to ensure it is relevant.
- Had three professional references reviewed regarding character and work experience verification.
- Successfully challenged a professional practice exam.

The designation marks a degree of competency in their chosen field.

By employing certified individuals your organization (and clients) is provided with the credibility afforded an organization that employs competent professionals.

If you wish further information please contact us at:

602 - 1661 Portage Avenue
Winnipeg, Manitoba R3J 3T7
Phone: (204) 784-1088
e-mail: admin@cttam.com
Website: www.cttam.com

AWARD OF EXCELLENCE – INFRASTRUCTURE/TRANSPORTATION

Project Name: **Lake St. Martin Emergency Flood Relief Channel
Final Design & Construction Management**
Firm: **AECOM Canada Ltd.**
Client: **The Province of Manitoba**




The study *Options for Emergency Reduction of Lake Manitoba and Lake St. Martin Levels* was undertaken by AECOM and KGS Group and examined a number of potential options for dealing with the 2011 flooding on Lake St. Martin and Lake Manitoba. This identified the Dauphin River as the hydraulic constriction in the system and recommended the immediate construction of an additional emergency channel from Lake St. Martin to address the hydraulic flow restrictions in the Dauphin River and accommodate additional Lake Manitoba

outflows over the winter.

The contract for the detailed design and construction management of the Lake St. Martin Emergency Outlet Channel (LSMEOC) was awarded to AECOM in August of 2011. Construction Contracts with three contractors were signed August 15, 2011.

The objective of this project was to build an emergency outlet channel from Lake St. Martin to not only provide additional hydraulic capacity from this lake but also to allow maximum operation of the Fairford River Control Structure to allow

a more rapid reduction in Lake Manitoba flood levels. The utility of this approach had been demonstrated during flood modelling conducted during June of 2011 and addressed the concern that actions taken to lower Lake Manitoba should not adversely affect Lake St. Martin.

The challenge was to optimise the design and develop construction plans and a schedule that would allow the completion of the channel before freeze-up in early November. Construction of the channel in the time frame available required optimization of the design to provide the maximum flow rate with the minimum excavation volume. In addition the design and staging had to be flexible enough to be modified to suit the available construction equipment.

One of the many challenges faced was that the site for the channel was on the northeast side of Lake St. Martin. This site is remote with no road access. This would have presented less of a problem if construction could have been delayed until winter, but the flooding situation on Lake Manitoba and Lake St. Martin required immediate action that could not be delayed.

The conditions on the construction site were also challenging. The ground





was covered by 1.0 to 1.5 m of wet peat on top of hard basil till. A primitive road network had to be established to just to allow the landing of sufficient equipment to prepare a staging area for the rest of the equipment. The flooding had pushed the water 500m inland so the first crews had to cut their way through a forest of flooded trees just to find higher ground.

The area where the channel was conceptually located had virtually no information on topography, bathymetry, soil types, soil depth and depth to bedrock and as a result this data had to be collected coincident with detailed design and mobilization. Three-dimensional terrain modelling was used to refine the understanding of the volumes of various materials that had to be excavated and geo-technical modelling helped refine the configuration of the spoil piles to minimise haul distances while maintaining a stable channel and bank configuration with the mix of peat and till being excavated.

Once this information was known it was possible to postulate potential construction sequencing. This was constantly refined with contractor input and progress measured against the construction schedule. Advanced two dimensional hydraulic modelling was applied to assess the impact of sections of the project that could not be completed according to the design because of construction constraints and to modify the design to optimise hydraulic conductivity.

At its peak there were four construction camps to house over 150 personnel, landing areas on both sides of the lake for three tugs and four barges and a small

boat harbour for the flotilla of crew boats used to transport construction personnel and other staff to the work site.

The approximately 6 km long, 45 m wide (base width) channel was partially opened November 1, 2011 and immediately started lowering the level of Lake St. Martin. The successful completion of the Lake St. Martin Emergency Outlet Channel has lowered Lake St. Martin by approximately 2.7' (0.73 m) compared to natural outlet conditions by the end of February, 2012. This allowed fully open operation of the Fairford River Water Control Structure and Lake Manitoba levels dropped to 813.6' (slightly below flood stage) by the end of February, 2012.

JUDGES' COMMENTS

The Lake St. Martin Emergency Flood Relief Channel Final Design and Construction Management project is presented with an award of excellence for the successful execution of a complex engineering problem; which was completed under extremely tight timelines. The project required extensive and mature engineering judgment throughout the entire time frame and is a credit to all who contributed to its success.

INTERACTIVE EDITION of Manitoba Consulting Engineer



AVAILABLE ONLINE

With print and electronic communication operating hand-in-hand more than ever before, we are more than happy to advise you that *Manitoba Consulting Engineer* is available online in a highly interactive format. A user-friendly, interactive Media Rich PDF format that includes:

- Active hyper-links to all websites and e-mails contained in the publication
- Active links to the specific stories from the front cover and contents page
- Active links to advertiser websites from their ads

Visit us online at www.acec-mb.ca

AWARD OF EXCELLENCE – ENVIRONMENTAL

Project Name: **Pointe du Bois Spillway Replacement
– Environmental Assessment**
Firm: **MMM Group Limited**
Client: **Manitoba Hydro**



The Pointe du Bois Spillway Replacement project involves modernizing a 100 year-old generating station within the confines of a sensitive ecological environment. The oldest power plant still in operation along the Winnipeg River, the Pointe du Bois generating station does not currently meet Canadian Dam Safety Guidelines, as it has significant safety and

operational concerns due to its aging infrastructure. In 2010, to maintain public and dam safety and ensure a safe working environment for employees, its owner Manitoba Hydro decided to proceed with the construction of a new primary and secondary spillway, transition structures, wing walls, and earthfill dams. The existing spillway and dams need to be replaced in a cost-efficient manner while avoiding, or minimizing, any potential adverse environmental effects.

This complex project encompasses many notable challenges, including the need to protect and maintain the endangered lake sturgeon and its spawning habitat, a tight project schedule, and the involvement of numerous sub-consultants and disciplines, which required extensive

management and coordination. Opportunities for adaptive management must be exploited on the project, and design and construction work need to take into account environmental sensitivities and requirements, including avoidance of in-water work in known lake sturgeon spawning areas; preserving turbulent flow on the east side; and maintaining water flow over known spawning areas. All these factors influence and contribute to the costs and schedule on the project.

MMM Group Limited (MMM) was selected by Manitoba Hydro to lead the environmental component of the Pointe du Bois Spillway Replacement project, responsible for providing an environmental assessment, an Environmental Impact Statement (EIS), project management

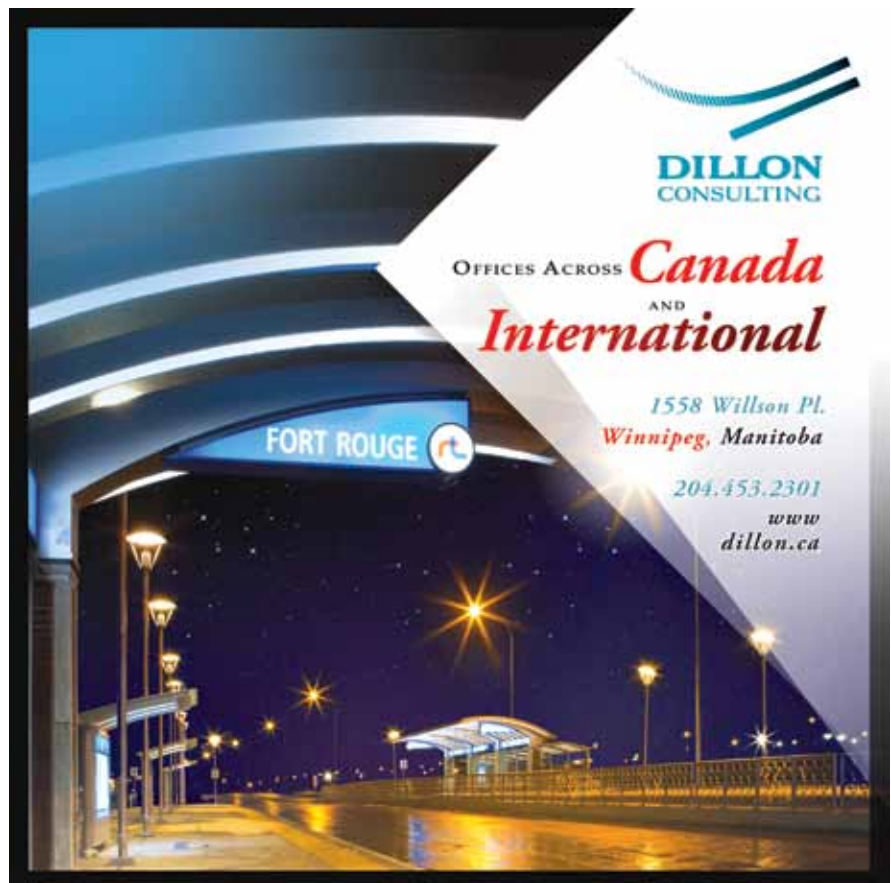
Northern Lights Heritage Services Inc.



**SPECIALIZING IN
ARCHAEOLOGICAL SURVEYS,
CULTURAL & HERITAGE RESOURCE
MANAGEMENT, GEOPHYSICAL
SURVEYING & EDUCATION.**

Virginia Petch, Ph.D., RPA, EP
President
Northern Lights Heritage Services Inc.

2739 Pembina Hwy, Winnipeg, MB R3T 2H5
Tel: 204-231-8190 Fax: 204-269-8716
vpetch@northernlightsheritageservices.ca
www.northernlightsheritageservices.ca



**DILLON
CONSULTING**

OFFICES ACROSS **Canada**
AND
International

1558 Willson Pl.
Winnipeg, Manitoba

204.453.2301
www.dillon.ca



services (for the environmental portion of the project), public consultation services (in conjunction with the client), coordination of the biophysical and socioeconomic studies, and guidance on minimizing any adverse environmental impacts. The environmental assessment studies addressed a full range of aquatic, terrestrial, socio-economic, and heritage issues, and the process needed to satisfy the requirements of the Manitoba Environment Act and the Canadian Environmental Assessment Act.

This project has an extremely tight schedule, and any delay on the project may result in a potential increase in costs. MMM Group remained flexible and

responsive to Manitoba Hydro's changing needs and objectives throughout the project, minimizing challenges, risks, and costs through constant communication and modifications to the project scope. Care was taken during the environmental assessment process to ensure alignment with Manitoba Hydro's corporate principles and goals, particularly those related to sustainable development, environmental stewardship, and aboriginal peoples. Through effective communications, MMM Group was also able to successfully manage and coordinate numerous sub-consultants in multiple disciplines. As a result, the environmental assessment studies and EIS were completed

on-schedule, enabling Manitoba Hydro to obtain their Environmental Act License in January 2012. This milestone was extremely critical, as construction activities could not begin without this component. The project is scheduled to be completed by September 2016.

MMM Group was recently honored for its role in the Point du Bois Spillway Replacement project, as it was selected for an Award of Excellence in the Environmental category at the 2012 Association of Consulting Engineering Companies (ACEC) - Manitoba Awards.

JUDGES' COMMENTS

The Pointe du Bois Spillway project involved constructing a new spillway without impacting power generators or the environment. The environmental assessment study conducted by MMM Group received an award of excellence because the objectives were met while taking particular note of the lake sturgeon spawning areas and minimizing impact on the activities of the provincial park.

BUILDING A SUSTAINABLE FUTURE

Joining Forces –
GENIVAR and **Smith Carter**, leading the way
 in Engineering and Architecture



Buildings | Environment | Architecture | Energy | Municipal Infrastructure
 Landscape Architecture | Industrial | Transportation | LEED®

Winnipeg Office: 10 Prairie Way | T 204-477-6650 | bill.brant@genivar.com
www.genivar.com



AWARD OF MERIT – INFRASTRUCTURE/TRANSPORTATION

Project Name: Chief Peguis Trail Extension Rothesay Street Overpass
 Firms: AECOM Canada Ltd. and
 Gateway Construction & Engineering Ltd.
 Client: DBF2 Ltd.




JUDGES' COMMENTS

The judges chose this project for a Merit award as it provided a significant contribution to the overall Chief Peguis trail extension. The structure incorporates the first known combination of mechanically stabilized earth retaining wall abutments and light-weight cellular fill supporting an integral abutment. A major achievement was the completion of the overpass in only 11 months.

AWARD OF MERIT – ENERGY RESOURCE DEVELOPMENT

Project Name: Mayo B Hydro Enhancement Project
 Firm: KGS Group
 Client: Yukon Energy Corporation




JUDGES' COMMENTS

The Mayo B Enhancement Project documents the successful construction of a northern hydro project, which increased the capacity of the existing facility from 5 megawatts to 15 megawatts and thereby displacing diesel generation. The successful completion was in large part attributable to the ability of those involved to work in harmony and in the best interest of the project; resolving not only complex technical problems but equally complex human relations issues.

AWARD OF MERIT – INFRASTRUCTURE/TRANSPORTATION

Project Name: Portage Diversion Pre-2011 Flood Assessment Project
 Firm: Hatch Ltd.
 Client: Manitoba Infrastructure and Transportation



JUDGES' COMMENTS

The Portage Diversion project protected life, limb, the environment and property in Winnipeg and the area adjoining the lower Assiniboine River. Hatch Ltd. undertook emergency multi-disciplinary assessments of the flood risk and provided engineering solutions and advice. The channel capacity was increased by approximately 35% above original design parameters and allowed for the management of record inflows.

AWARD OF MERIT – INFRASTRUCTURE/TRANSPORTATION

Project Name: Red River Bridge on P.R. 201, Letellier, Manitoba
 Firm: Dillon Consulting Limited
 Client: Manitoba Infrastructure & Transportation



JUDGES' COMMENTS

An Award of Merit was given to this project for Dillon Consulting's demonstration of a high level of engineering expertise needed to complete the Red River Bridge on P.R. 201. The design had to deal with the instability of riverbanks, poor soil parameters and high ground-water level, to design a bridge with a 75 year life with minimal maintenance. Design innovations include the second application worldwide of the use of pin piles, the first cellular concrete application of its kind in Manitoba and the first use in Manitoba of permanent metal deck forms for concrete framework.

AWARD OF MERIT – INFRASTRUCTURE/TRANSPORTATION

Project Name: Southwest Rapid Transit Corridor Osborne Street Station
Firm: Dillon Consulting Limited
Client: City of Winnipeg – Transit Department




JUDGES' COMMENTS

The judges chose this project for an Award of Merit due to the advances made in designing a transit station on top of a new bridge and the lack of any design codes for this project. Significant constraints on the site and the large skew angle greatly added to the complexity of the design and overall project requirements. The social, economic and environmental contribution for this project were also significant for the City.

AWARD OF MERIT – MUNICIPAL & WATER TECHNOLOGY

Project Name: University of Winnipeg Combined Sewer Overflow Storage
Firm: AECOM Canada Ltd.
Client: City of Winnipeg – Water and Waste Department




JUDGES' COMMENTS

The University of Winnipeg Combined Sewer Overflow Storage Facility project addressed the problem of discharging raw sewage in to the Assiniboine River from combined sewers. The unique solution was offline storage constructed amidst the challenges of a dense downtown area at the University of Winnipeg. The underground storage facility also allowed the area above the facility to become a University Of Winnipeg green space and the design provided an opportunity to demonstrate CSO mitigation technology, which could be applied citywide.

AWARD OF MERIT – INDUSTRIAL

Project Name: WESTEST New Vehicle Performance Centre
 Firms: GENIVAR
 Client: Western Canada Testing Inc.



JUDGES' COMMENTS

The WESTEST New Vehicle Performance Centre was designed to facilitate the testing of vehicles using a chassis dynamometer. The facility provides specialized testing services previously unavailable in Western Canada. The project involved significant coordination between building, structural and mechanical designers. The centre will provide opportunity for Western Canada manufacturers to complete internationally with well-tested products. The project has the potential to have positive environmental impact from better-tested and designed products.

MCW *MCW / AGE*
 For any mechanical and electrical needs, call
 MCW/AGE: 779-7900
 www.mcw.com

- New and Existing Design
- Renovation and Building Upgrades
- Tenant Improvement Design Work
- Due Diligence Reports
- Life Safety System Review
- Sustainable Green Design Specialists

**Innovative
Thoughtful
Proven**
 The MCW Group of Companies

J. R. Cousin Consultants Ltd.
 Consulting Engineers and Project Managers

**Proudly Providing
Engineering Excellence for
Municipal Infrastructure Works
since 1981**

ph: (204) 489-0474
 fax: (204) 489-0487
 www.jrcc.ca



complex world | CLEAR SOLUTIONS™



**CLEAR SOLUTIONS
FOR WATER,
INFRASTRUCTURE &
THE ENVIRONMENT**

In a complex world with competing demands for limited resources, Tetra Tech offers clear solutions that serve our clients' long-term needs.

www.tetrattech.com

ENGINEERING ACTION AWARD

TOM WINGROVE, P. ENG.

Tom Wingrove is currently the Executive Vice President of AECOM Environment, Canada. He has national responsibility for management, marketing and growth of AECOM's services in the environmental discipline. In addition to his senior leadership responsibilities, he also remains involved in engineering projects and studies as a senior technical advisor and project manager. With over 38 years of experience, Tom has worked on a wide array of environmental and geological projects throughout Canada.

Tom is a registered engineer and member of the Association of Professional Engineers and Geoscientists in Manitoba, Alberta, Ontario, British Columbia and the Yukon Territory.

Tom is also a Past President of the Consulting Engineers of Manitoba, is on the Executive Committee for the Association of Canadian Engineering Companies, and is a Past Member of the Associate Committee on Geotechnical Research.

Academic contributions have also

been introduced by Tom, to include several technical papers related to cold climate engineering, groundwater issues and solid waste management. Two examples of those papers are as follows:

"Field Evidence for Groundwater Flow Systems in Precambrian Terrain near Atikokan, Ontario," proceedings of the International Groundwater Symposium on Groundwater Resources Utilization and Contaminant Hydrogeology, Montreal, 1984 (with Rudolph and Farvolden).

"Diesel Contamination Remediation at a Remote Site in a Cold Climate," Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, American Society of Civil Engineers (ASCE), January 1997.

Even after 38 years, Tom continues to provide mentorship to young professionals and remains active in strengthening the engineering consulting industry in Manitoba and throughout Canada. He is a true asset to both AECOM and Manitoba.



LIFETIME ACHIEVEMENT AWARD

GARRY BOLTON. P. ENG.

Garry Bolton graduated from the University of Manitoba's Faculty of Engineering with a Bachelor in Science, Mechanical Engineering in 1970 and started his career at James Bertram & Sons Limited in the Pas, Manitoba followed by Firschbach & Moore Mechanical Contractor in Toronto, Ontario

In 1973, Garry joined Scouten Mitchell Sigurdson & Associates Limited, and after a six year hiatus from 1981 to 1987 as the Head of the Mechanical Department at Lamb McManus Associates Limited in Edmonton, Alberta he returned to Manitoba in 1987 to rejoin the firm. In 1991, Garry became a Partner of the firm, and since 1996 has served as President of SMS Engineering. This adds up to more than four decades of mechanical engineering experience, 39 of them as a consulting engineer with SMS Engineering.

Garry remains a leader in his field managing the day-to-day work for projects such as the new Winnipeg Blue Bombers Stadium, Assiniboine Park Zoo Redevelopment, the Winnipeg International Airport Site Redevelopment Project and the on-going projects at the Milner Ridge Correctional Facility in rural Manitoba.

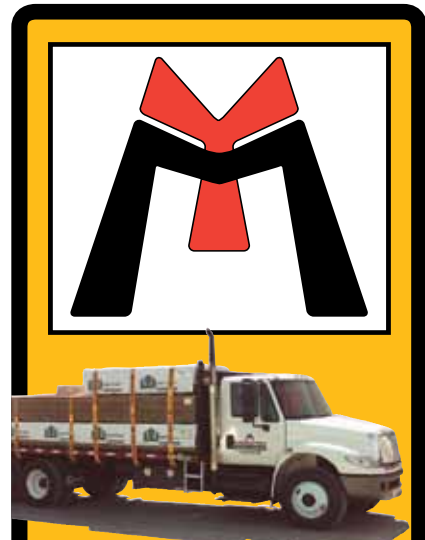
Garry is a respected leader in the engineering profession, having served as President of the Association of Consulting Engineers of Manitoba 1996-1997, Vice Chair of the Association of Consult-

ing Engineers of Canada 2002-2003 and as Chair of the Association of Consulting Engineers of Canada 2003-2004. Garry is a member of the Association of Professional Engineers and Geoscientists of Manitoba, Association of Professional Engineers of Manitoba, Geologists and Geophysicists of Alberta and the Association of Professional Engineers of Ontario. In May 2009, Mr. Bolton received the Distinguished Service Award from the University of Manitoba for his contribution to the University and to the Engineering profession.

Aside from Garry's significant contribution to the Consulting Engineering community he has also contributed to the community at large as Past President, Rotary Club of West Winnipeg;

Past President, Western Aviation Museum; Past Chair, Air Cadet League of Canada Manitoba Provincial Committee; Vice President, Transportation and Heritage Technology Centre of Canada; Co-Chair, Engineering Building \$52M Capital Campaign at the University of Manitoba and Chair of the Winnipeg Chamber of Commerce Trade Development Committee.

Garry has carried out major achievements within ACEC and the Community and his dedication and commitment ensured significant contribution to the advancement and goals of the Consulting Engineering Profession and ACEC in Manitoba.



WE KNOW
**BUILDING
SUPPLIES**

See McMunn & Yates for expert advice, professional service, and on-time delivery.

15 locations throughout Manitoba and eastern Saskatchewan



BUILDING ACROSS THE PRAIRIES

BEAUSEJOUR, MB	204-268-1603
BRANDON, MB	204-728-1986
DAUPHIN, MB	204-638-5303
ERIKSDALE, MB	204-739-2110
FLIN FLON, MB	204-687-3401
GRANDVIEW, MB	204-546-2020
KAMSACK, SK	306-542-3633
PORTAGE LA PRAIRIE, MB	204-239-8750
ROBLIN, MB	204-937-8371
RUSSELL, MB	204-773-2690
STE. ROSE, MB	204-447-3152
STEINBACH, MB	204-326-3481
THOMPSON, MB	204-778-8363
WINNIPEG, MB	204-837-1347
YORKTON, SK	306-783-8516

Helping you build better at great prices everyday!

www.mcmunnandyates.com



RISING STAR AWARD

JONATHAN EPP, P.ENG.

Jonathan Epp graduated from the University of Manitoba with a BSc. (with Honours) in Computer Engineering in 2004. Shortly after graduation he joined Teshmont Consultants where he began his engineering career by working on, and leading, a number of key software development projects. Eventually, Jonathan became involved in feasibility studies associated with development options for Manitoba Hydro's Bipole III project and also completed courses developing his skills in project management. Apart from his project assignments, Jonathan also has key responsibilities in areas of management of the company. He is the Teshmont's Information Systems Supervisor and his responsibilities also extend to Teshmont's Marketing Committee.

Aside from obtaining his professional P.Eng. designation with APEGM in 2011, Jonathan is currently registered as an engineer in training with the Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design, where he is pursuing his P.E. professional engineering designation in the United States.

Jonathan joined the Image Committee in January of 2007 and became the



Co-Chair in 2008. He has been very actively involved in speaking to high school students both at local high schools as well as at the annual Rotary Career Fair promoting Engineering as a career option. He also took over responsibility for upkeep of the association's web site.

In 2010 Jonathan became Chair of the Image Committee. Under his leadership, the Image Committee has been responsible for a number of important activities including a comprehensive rebranding of the association from the Consulting Engineers of Manitoba to the Association of Consulting Engineering Companies – Manitoba. Jonathan's tireless efforts over

the past five years as a member and ultimately leader of the image committee have been instrumental in further developing a positive image for the association.

Jonathan was previously an active member of the APEGM Public Awareness Committee for many years and a long term member of Teshmont's Social Committee.

Jonathan's commitment and dedication to the association have been instrumental in the many successful initiatives undertaken by the Image Committee over the past five years. His achievements in his engineering work have also launched Jonathan's career on a path well advanced of his eight years in the industry.

WE DO IT ALL

CORROSION PROTECTION & SEALING SYSTEMS YOU CAN DEPEND ON



Extend Structure Life, Reduce Maintenance & Repair Costs

- for individual steelwork, pipework & road surfaces
- above & below ground pipe, valves, fittings & steel
- offshore marine piling protection
- road, bridge, airport & asphalt applications

A member of Winn & Coales International.

Denso

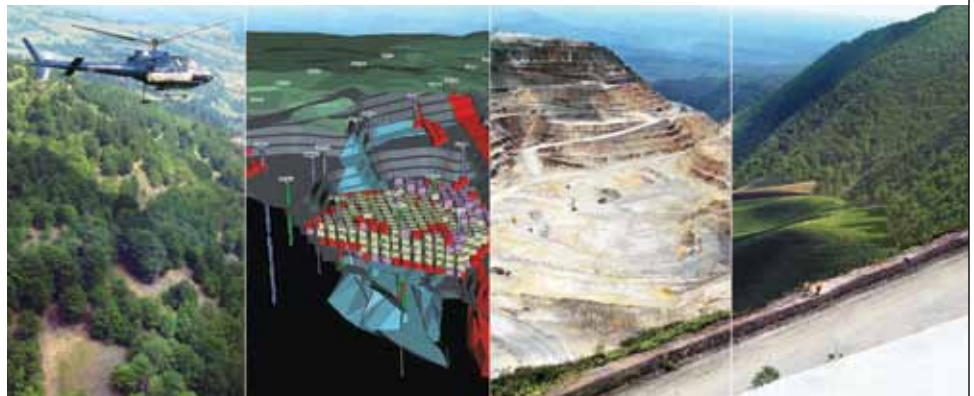
www.densona.com
Toronto • Edmonton
Denso North America Inc.
90 Ironside Cres. Unit 12, Toronto, ON M1X 1M3
Tel: 416.291.3435 Fax: 416.291.0898

Cradle to cradle

Consulting assistance for mining clients from grass roots exploration through to mine closure.

Mark Liskowich, P. Geo
Principal Consultant (Environmental)

SRK Consulting (Canada) Inc.
Suite 205, 2100 Airport Drive
Saskatoon, Saskatchewan
Canada S7L 6M6
T: +1-306-955-4778
F: +1-306-955-4750
E: mliskowich@srk.com



>1,500 professionals • >45 offices • >20 countries • 6 continents



 **Teshmont**
Leaders in Power Delivery Engineering

A Bright Future

This is the dawn of a new era in electric power transmission. Today, aging infrastructure, increased energy consumption and a push for clean renewable sources of energy are pushing power transmission systems around the world to their limits. As Leaders in Power Delivery Engineering, Teshmont strives to provide the best solutions to today's problems and to do so we strive to employ the best people.

We are looking for talented power systems engineers who are experienced in the area of AC and HVDC power transmission study, design, and project management.

If this is you and you're looking for a bright future, consider a career at Teshmont and apply today at teshmont.com.

teshmont.com

High Voltage Transmission System Engineering since 1966



Our ACEC-MB Member Services Guide consists of two sections:

1. A categorical listing of products and services, including a list of the companies that provide them.
2. An alphabetical listing of the companies appearing in the first section.

This listing includes name, contact info, website and more.

Listings by CATEGORY

Aerospace

Boge & Boge Ltd.
Genivar
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
SNC Lavalin Inc.
Tetra Tech
Tower Engineering

Agriculture

Accutech
AECOM
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Golder Associates
J.R. Cousin Consultants Ltd.
MCW/AGE Consulting
Professional Engineers Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Airports

AECOM
Genivar
MMM Group
Stantec

Asset Management

CH2M HILL Canada Ltd.
Stantec

Building Science

Accutech
AECOM
AMEC
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Golder Associates
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
Neegan Burnside Ltd.

SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering
Zandstra Farag Consultants Ltd.

Chemical Engineering

AECOM
Dillon Consulting
MMM Group
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Communication/ Telecommunications

AECOM
Genivar
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Computer Science

Genivar
Golder Associates
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Electrical

Accutech
AECOM
Associated Engineering
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Hatch Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
Neegan Burnside Ltd.
SMS Engineering Ltd.
SNC Lavalin Inc.
Stantec
Teshmont
Tetra Tech
Tower Engineering

Energy

Accutech
AECOM

AMEC
Associated Engineering
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Golder Associates
Hatch Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Teshmont
Tetra Tech
Tower Engineering

Environmental

Accutech
AECOM
AMEC
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
ENG-TECH Consulting Ltd.
Genivar
Golder Associates
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Fisheries

Accutech
AECOM
AMEC
Dillon Consulting
Genivar
Golder Associates
Hatch Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech

Forestry

Accutech
AECOM
Boge & Boge Ltd.
Dillon Consulting
Golder Associates
SNC Lavalin Inc.
Stantec
Tetra Tech

Geotechnical

Accutech
AECOM
AMEC
Boge & Boge Ltd.
Dillon Consulting
Dyregrov Robinson Inc.
ENG-TECH Consulting Ltd.
Genivar
Golder Associates
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering
TREK Geotechnical Inc.
Zandstra Farag Consultants Ltd.

Industrial

Accutech
AECOM
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Golder Associates
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Marine & Coastal

AECOM
Dillon Consulting
Genivar
Golder Associates

Hatch Ltd.
J.R. Cousin Consultants Ltd.
MMM Group
SNC Lavalin Inc.
Stantec
Tetra Tech

Materials

Accutech
AECOM
AMEC
Boge & Boge Ltd.
Crosier Kilgour & Partners Ltd.
Dillon Consulting
ENG-TECH Consulting Ltd.
Genivar
Golder Associates
J.R. Cousin Consultants Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering
Zandstra Farag Consultants Ltd.

Mechanical

Accutech
AECOM
Associated Engineering
Boge & Boge Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
Neegan Burnside Ltd.
SMS Engineering Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Mining

Accutech
AECOM
AMEC
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
Genivar
Hatch Ltd.
J.R. Cousin Consultants Ltd.
MCW/AGE Consulting
Professional Engineers Ltd.

SNC Lavalin Inc.
Stantec
Tetra Tech

Municipal
AECOM
Associated Engineering
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Golder Associates
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MMM Group
Morrison Hershfield Ltd.
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering

Operation and Maintenance
SNC Lavalin Inc.

Planning
Accutech
AECOM
Associated Engineering
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
ENG-TECH Consulting Ltd.
Genivar
Golder Associates
Hatch Ltd.

J.R. Cousin Consultants Ltd.
MMM Group
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech

Power Engineering
Stantec
Teshmont

Project Management
Accutech
AECOM
Associated Engineering
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
DGH Engineering Ltd.
Dillon Consulting
ENG-TECH Consulting Ltd.
Genivar
Golder Associates
Hatch Ltd.

J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MCW/AGE Consulting
Professional Engineers Ltd.
MMM Group
Morrison Hershfield Ltd.
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering
TREK Geotechnical Inc.

Structural – Buildings
Accutech
AECOM

Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
CH2M HILL Canada Ltd.
Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting
Genivar
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MMM Group
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Tower Engineering
Zandstra Farag Consultants Ltd.

Structural – Other
Accutech
AECOM
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.

CH2M HILL Canada Ltd.
Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting
ENG-TECH Consulting Ltd.
Genivar
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MMM Group
Morrison Hershfield Ltd.
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec

Tetra Tech
Zandstra Farag Consultants Ltd.

Surveying
Accutech
AECOM
Associated Engineering
Burns Maendal Consulting
Engineers Ltd.
Dillon Consulting
ENG-TECH Consulting Ltd.
Genivar
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MMM Group
Morrison Hershfield Ltd.
Neegan Burnside Ltd.
Stantec
Tetra Tech
TREK Geotechnical Inc.

Temporary Works
Accutech
AECOM
Associated Engineering
Boge & Boge Ltd.
Burns Maendal Consulting
Engineers Ltd.
Dillon Consulting
Genivar
Golder Associates
Hatch Ltd.
MMM Group
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech
Zandstra Farag Consultants Ltd.

Transit
AECOM

Transportation
Accutech
AECOM
AMEC
Associated Engineering
Boge & Boge Ltd.
CH2M HILL Canada Ltd.
Dillon Consulting
Genivar
Golder Associates
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MMM Group
Morrison Hershfield Ltd.
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech

Water Resources
AECOM
AMEC
Associated Engineering
CH2M HILL Canada Ltd.
Dillon Consulting
Genivar
Golder Associates
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Kontzamanis Graumann Smith
Macmillan Inc. (KGS Group)
MMM Group
Neegan Burnside Ltd.
SNC Lavalin Inc.
Stantec
Tetra Tech

COMPANY Listings


Accutech Engineering Inc.
www.accutecheng.ca
605 – 287 Broadway
Winnipeg, MB R3C 0R9
Tel: 204-944-1555
Fax: 204-944-1444
drysdale@accutecheng.ca
Contact: Ken Drysdale,
President


AECOM
www.aecom.com
99 Commerce Drive
Winnipeg, MB R3P 0Y7
Tel: 204-477-5381
Fax: 204-284-2040
ron.typliski@aecom.com
Contact: Ron Typliski, P.Eng.


AMEC Environment & Infrastructure
www.amec.com
440 Dovercourt Drive
Winnipeg, MB R3Y 1N4
Tel: 204-488-2997
Fax: 204-489-8261
harley.pankratz@amec.com
Contact: Harley Pankratz,
Vice President, MB and SK


Associated Engineering
www.ae.com
203 – 5 Donald Street
Winnipeg, MB R3L 2T4
Tel: 204-942-6391
Fax: 204-942-6399
Odriscollj@ae.ca
Contact: Jeff O'Driscoll, P.Eng.


Boge and Boge (1980) Ltd.
www.aboge-boge.com
268 Ellen Street
Winnipeg, MB R3A 1A7
Tel: 204-942-7276
Fax: 204-942-7288
hansb@boge-boge.com
Contact: Hans E. Boge, P. Eng
hansbsr@boge-boge.com
Contact: Hans Boge Sr.,
President/CEO


Burns Maendel Consulting Engineers Ltd.
www.bmce.ca
1331 Princess Avenue
Brandon, MB R7A 0R4
Tel: 204-728-7364
Fax: 204-728-4418
d.burns@bmce.ca
Contact: Daniel Burns


CH2M HILL
www.ch2mhillcanada.com
403 – 211 Bannatyne Ave.
Winnipeg, MB R3B 3P2
Tel: 204-488-2214
Fax: 204-488-2245
ed.sharp@ch2m.com
Contact: Ed Sharp, Senior
Project Manager


Crosier Kilgour & Partners Ltd.
www.cpkpeng.com
300 – 275 Carlton St.
Winnipeg, MB R3C 5R6
Tel: 204-943-7501
Fax: 204-943-7507
john.m@cpkpeng.com
Contact: John Miller, P. Eng.,
Partner


DGH Engineering Ltd.
www.dghengineering.com
12 Aviation Boulevard,
St. Andrews, MB R1A 3N5
Tel: 204-334-8846
Fax: 204-334-6965
dougs@dghengineering.com
Contact: Doug Small


Dillon Consulting Limited
www.dillon.ca
1558 Willson Place
Winnipeg, MB R3T 0Y4
Tel: 204-453-2301
Fax: 204-452-4412
dkrahn@dillon.ca
Contact: David Krahn, Partner



Dyregrov Robinson Inc.
101 - 1555 St. James Street,
Winnipeg, MB R3H 1B5
Tel: 204-632-7252
Fax: 204-632-1442
dyregrov@mts.net
Contact: Al Dyregrov, Principal



ENG-TECH Consulting Limited
www.eng-tech.ca
854 Marion Street, Unit 6
Winnipeg, MB R2J 0K4
Tel: 204-233-1694
Fax: 204-235-1579
eng_tech@mts.net
Contact: Clark Hryhoruk,
President



GENIVAR
www.genivar.com
10 Prairie Way
Winnipeg, MB R2J 3J8
Tel: 204-477-6650
Fax: 204-474-2864
bill.brant@genivar.com
Contact: Bill Brant, Vice
President, Manitoba Division



Golder Associates Ltd.
www.golder.com
1 - 25 Scurfield Blvd.
Winnipeg, MB R3Y 1G4
Tel: 204-489-9600
Fax: 204-489-9339
kevin_beechinor@golder.com
Contact: Kevin Beechinor



Hatch Ltd.
www.hatch.ca
Sixth Floor, 500 Portage Ave.
Winnipeg, MB R3C 3Y8
Tel: 204-786-8751
Fax: 204-786-2242
wgendzelevich@hatch.ca
Contact: Warren Gendzelevich,
P. Eng.



**J.R. Cousin
Consultants Ltd.**
www.jrcc.com
91A Scurfield Blvd.
Winnipeg, MB R3Y 1G4
Tel: 204-489-0474
Fax: 204-489-0487
jcousin@jrcc.ca
Contact: Jerry Cousin,
President



**Kontzamanis Graumann
Smith Macmillan Inc. (KGS
Group) www.ksgroup.com**
3 - 865 Waverley Street
Winnipeg, MB R3T 5P4
Tel: 204-896-1209
Fax: 204-896-0754
hgraumann@ksgroup.com
Contact: Helmut Graumann,
Principal



**MCW/AGE Consulting
Professional Engineers**
www.mcw.com
210 - 1821 Wellington Ave.
Winnipeg, MB R3H 0G4
Tel: 204-779-7900
Fax: 204-779-1119
sreabum@mcw.com
Contact: Steve Reaburn,
Partner



MMM Group Limited
www.mmm.ca
Suite 111 - 93 Lombard Ave.
Winnipeg, MB R3B 3B1
Tel: 204-943-3178
Fax: 204-943-4948
wiltonb@mmm.ca
Contact: Bruce Wilton,
Manager, Project Development and
Management



**Morrison Hershfield
Limited**
www.morrisonhershfield.com
1 - 25 Scurfield Boulevard
Winnipeg, MB R3Y 1G4
Tel: 204-977-8370
Fax: 204-487-7470
bbiglow@morrisonhershfield.com
Contact: Bruce Biglow, Regional
Manager



Neegan Burnside Limited
www.neeganburnside.com
106-B Scurfield Blvd.
Winnipeg, MB R3Y 1G4
Tel: 204-949-7110
Fax: 204-949-7111
gerry.popowich@neeganburnside.com
Contact: Gerry Popowich,
Manager



SMS Engineering Ltd.
www.smseng.com
770 Bradford Street
Winnipeg, MB R3H 0N3
Tel: 204-775-0291
Fax: 204-772-2153
gbolton@smseng.com
Contact: Garry Bolton,
Principal Partner



SNC-Lavalin Inc.
www.snclavalin.com
148 Nature Park Way
Winnipeg, MB R3P 0X7
Tel: 204-786-8080
Fax: 204-786-7934
ed.ryczkowski@snclavalin.com
Contact: Ed Ryczkowski,
Vice President and General
Manager Manitoba and
Saskatchewan



Stantec Consulting Ltd.
www.stantec.com
905 Waverley Street
Winnipeg, MB R3T 5P4
Tel: 204-489-5900
Fax: 204-453-9012
eric.wiens@stantec.com
Contact: Eric Wiens, Vice
President, Manitoba



Teshmont Consultants LP
www.teshmont.com
1190 Waverley Street
Winnipeg, MB R3T 0P4
Tel: 204-284-8100
Fax: 204-475-4601
rkurth@teshmont.com
Contact: Ralph D. Kurth,
President



Tetra Tech
www.tetrattech.com
400 - 161 Portage Ave. East
Winnipeg, MB R3B 0Y4
Tel: 204-954-6800
Fax: 204-988-0546
rick.haldanewilson@tetrattech.com
Contact: Rick Haldane-
Wilson, P. Eng.



Tower Engineering Group
www.towereng.ca
208 - 897 Corydon Ave.
Winnipeg, MB R3M 0W7
Tel: 204-925-1150
Fax: 204-925-1155
mhouvardas@towereng.ca
Contact: Mike Houvardas,
Partner



TREK Geotechnical Inc.
www.trekgeotechnical.ca
1712 St. James Street
Winnipeg, MB R3H 0L3
Tel: 204-975-9433
Fax: 204-975-9435
jblatz@trekgeotechnical.ca
Contact: James Blatz,
President



**Zandstra Farag
Consultants Ltd.**
8 - 395 Berry Street
Winnipeg, MB R3J 1N6
Tel: 204-488-4593
Fax: 204-489-1459
Cell: 204-227-1863
zandcon@mts.net
Contact: Sam Farag, President
& CEO



Visit our website
for updates:
www.acec-mb.ca

How can consulting engineering



attract more young engineers ?

By Jonathan Beddoes, P.Eng., PhD.

As the Dean of the Faculty of Engineering at the University of Manitoba I have a unique view of the opportunities and challenges that are facing the engineering industry and our engineering graduates. At the University of Manitoba, we are committed to student success, and offering leading edge academic programs, outstanding facilities, and a supportive environment that inspires excellence. Further, at the Faculty of Engineering we are committed to providing the all-important human resource that drives the Manitoba economy – prospective professional engineers.

The current 'situation' in Manitoba is similar to that in many other regions of the country. There are simply more engineering positions than there are new engineers to fill them. In this province, we graduate between 200-250 new engineers per year, and our graduates

are employed by as many as 20 different engineering sectors. Currently, many of our students have multiple job offers prior to graduation, some as early as a full year before completion of their degree. Competition for our graduates is great; with each of the 20 sectors competing with the others for graduates. Some sectors go to considerable length to ensure they 'win' this competition.

With the foregoing in mind, I think it is important to impress upon the consulting engineering sector that engineers are not recruited after they graduate. To successfully recruit a young engineer, you must start much earlier. You need to connect with our students prior to their graduation and instill in them the excitement and opportunities that exist within the consulting engineering sector. The good news is the Faculty of Engineering has many opportunities for you to make this early

connection with our students. The first, and probably the easiest, is to get your company active in our co-op/internship program.

Co-op/Internship

Co-operative education is available in all of our departments and programs, including Biosystems, Civil, Electrical, Computer, and Mechanical. Co-op is also a part of the program for the Internationally Educated Engineering Qualification program (IEEQ). These programs can be valuable to the consulting industry, in that they provide a four to sixteen month interview of a potential employee, while giving a current engineering student a taste of your company and an opportunity to build skills and relationships within your company. Companies who currently participate in our co-op and internship programs appreciate

“The current 'situation' in Manitoba is similar to that in many other regions of the country. There are simply more engineering positions than there are new engineers to fill them.”

“To successfully recruit a young engineer, you must start much earlier. You need to connect with our students prior to their graduation and instil in them the excitement and opportunities that exist within the consulting engineering sector.”

the opportunity to train potential future employees at student wages, and to confidently offer a position to an engineering student before they graduate or get scooped up by another company or sector.

The Faculty of Engineering is committed to assisting employers seeking co-op students. A Director of Co-op/Internship Programs (Ms. Carolyn Geddert, P.Eng.) was appointed in 2011 and currently the Faculty is upgrading the preparation of students for their first co-op term by providing enhanced training in the areas of workplace safety, communications and other work related skills. Flexible work terms, and continuous intake of students allows each employer to create the co-operative/internship program that works best for them. Ease of recruiting saves time and money for companies, and many are eligible for provincial grants and tax rebates.

Engineers-in-Residence

Some engineering sectors are taking advantage of our Engineer-in-Residence

(EiR) program to ensure engineering students are fully aware of careers in their industry. We have two different types of EiR's. The first is typically a recently (early) retired engineer or new parent who would like to get involved in a part-time or full-time academic career. The Faculty of Engineering appoints these EiR's as full members of the faculty, and they usually teach at least one course of particular interest to their industry sector. These EiR's would also be involved in the garnering and supervision of capstone design projects and courses, as well as liaising with sector companies to ensure they are maximizing their opportunities to interact with students and faculty.

The second type of EiR is a practising engineer who is seconded to the University for a specific project or design task. This would usually involve a part-time appointment in the Faculty of Engineering, and include the teaching of a course, lab/tutorial, or supervision of student projects.

I encourage the consulting

engineering sector to consider sponsoring an EiR in the Faculty of Engineering at the University of Manitoba. Whichever type of EiR you decide to sponsor, the Engineer-in-Residence will be your agent in the Faculty of Engineering, and become integral in making sure our students are fully aware and excited about the career opportunities and expectations within consulting engineering. In this way the consulting engineering sector can ensure that it continues to attract top calibre students that are enthusiastic about developing long term careers in consulting.

Please do not hesitate to contact me or anyone else within the Faculty of Engineering to discuss our Co-op/Internship or EiR programs. Moreover, if you have thoughts as to how the Faculty of Engineering can better interact and prepare students for the consulting engineering industry we are always pleased to hear from those that share our passion for excellence in engineering. 🍷



Dr. Jonathan Beddoes, Ph.D., P.Eng., Dean of Engineering at the University of Manitoba, has an engineering career that includes industrial product and process development, research in industrial and government laboratories, as well as extensive experience in academia. Prior to joining the Faculty of Engineering at the University of Manitoba in 2011, for eighteen years he was a faculty member in the Department of Mechanical and Aerospace Engineering at Carleton University, Ottawa, including six years as Department Chair. He has taught engineering courses at all levels from first year to graduate studies. Before joining academia he worked at Pratt & Whitney Canada Inc., and Alcan Aluminium for ten years. His research interests have included high strength aluminum alloys for aircraft applications, casting and processing of aluminum for high value added sheet products, processing/recycling of Al-Si alloys, and high temperature materials for gas turbine applications. He is the (co-)author of more than 60 research papers, three patents and two books dealing with industrial processing of engineering materials.



Message from the YPC Chair

Owen Van Walleghem, P.Eng.

I read an interesting story recently that I would like to share. There was a time, not all that long ago, when the world watched in awe as a small group of engineers, scientists and technicians accomplished one of the greatest engineering feats of the all time. On July 20, 1969, people everywhere were glued to their TV screens, watching live as Neil Armstrong stepped out of a spacecraft and onto the surface of the moon. Nothing like this had ever been done before. To accomplish this unique task, NASA put together a highly skilled and creative team, and they successfully performed an undertaking that many thought was impossible.

Now, we have all heard that part of the story before. Most engineers are familiar with this story as it is one of few times that engineers have been the focus of such positive public attention. There was a part of the story that I had not heard before, though. On the night the Apollo 11 crew returned safely to earth, the average age of the people in NASA's control room and backroom was only 28. At that time, there were no designers with decades of experience in sending people to the moon. Instead, NASA built its team out of young engineers and scientists because it needed people with new ideas and up-to-the-minute technical know-how to achieve its lofty goal.

This got me thinking about the young professionals (YPs) in our industry. The YPs in your office are intelligent and capable, but the tricky part comes in determining how to develop their skills and leverage them to maximize the benefits to your organization. As Chair of ACEC Manitoba's YP Committee and a member of the ACEC Canada National YP Network, I have had the opportunity to talk to countless young professionals from firms across the country. I have heard many stories and examples describing what works and

what doesn't when it comes to employee retention and development, and have developed a few suggestions for companies and for YPs that I hope will help.

The first suggestion is simple – take the time to get to know your young workers. Provide opportunities for senior members and junior members of your firms to meet and learn more about each other. This can be done through structured mentorship programs, regular performance review discussions, or informally over coffee. Listen to what they have to say. When you get to know each individual, you will have a greater understanding of the next steps that you will need to take to help develop them.

Once you know the individuals better, the next step is to act on what you have learned. Your company will see immediate benefits if you ensure that each individual is in a role best suited to this or her talents and interests. Armed with this knowledge, you can then provide training and learning opportunities to help develop the skills related to their role. You can also

provide leadership training and opportunities early-on to those who demonstrate the potential to manage in the future.

Whether an individual is on track to become a technical expert in their field, or leans more towards the management and business aspects of your organization, encourage their participation in one of the many technical and professional organizations related to their interests. Through their participation, they will be able to find a lot of their own learning opportunities, and they will build lasting relationships in the industry that will benefit your company for decades to come.

The task of developing young employees doesn't all sit on the shoulders of the senior members, though. YPs must take responsibility for their own training and career development. As a YP, it is important to have a realistic awareness of your own strengths and weaknesses and look for opportunities to improve on them. Take the initiative and talk to your supervisors or decision makers about your development goals to get their input

BUILDING A POWERFUL FUTURE



We are investing in hydroelectric development today so tomorrow's generations will continue to benefit from this affordable, reliable and renewable source of power.

Find out more at www.hydro.mb.ca.



Message from the YPC Chair *continued*

and tailor your research to align with your organization's goals. This will make it more likely that you will receive the training you are looking for.

Newer employees may find it difficult to develop leadership skills in their everyday work within a company, but there are plenty of external options available to help develop these abilities. Volunteering for non-profit or charitable organizations is a great way to gain this experience. Another option is to start something yourself. Organize a fundraising event or put a sports team together just for fun. It may sound simple, but in doing this you

will build a lot of skills you will need later on as a leader, such as organization, time management and budgeting. You will also develop soft skills such as communication, networking and persuasion. Once you try getting a full team of people with competing schedules and priorities to show up every week, you will see what a great challenge and learning experience it can be.

The ACEC Manitoba YP Committee is dedicated to helping YPs develop themselves, which in turn benefits the consulting engineering community as a whole. We have received enthusiastic support

from the ACEC Manitoba Board and from senior employees of our member firms. They constantly tell us how important developing the newer generation of workers is to the industry and their companies. As a YP, you should not hesitate to take the initiative to develop yourself. You may be surprised at the level of support you will receive.

If there is anything we as a committee can do to help you, please email us at yp@acec-mb.ca. We may not be putting people on the moon, but with proper support and training, Manitoba's YPs can continue to accomplish great things. 🇨🇦

What is the Young Professionals Committee?

The ACEC Manitoba Young Professionals Committee (YPC) was created in 2009 and aims to enhance the growth and evolution of the consulting engineering industry by promoting and empowering the development of young professionals' careers within the industry.

The YPC achieves its mission by:

- providing young professionals with a greater understanding of the consulting engineering business and ACEC Manitoba's role in it;

- providing networking, mentoring, educational, and career growth opportunities for young professionals;
- providing young professionals with the opportunity to actively contribute and become an integral part of the industry and ACEC Manitoba;
- being a link and progression from the student ACEC Manitoba chapter to professional involvement in ACEC Manitoba; and
- communicating and coordinating with

other similar organizations in other jurisdictions to exchange ideas, find mutually beneficial opportunities, and grow and improve the consulting engineering industry.

Since officially launching in October 2009, the YPC has progressively met these goals by hosting 10 educational and networking events per year, presenting at the University of Manitoba, and providing a link between YPs and the ACEC Manitoba Board. The YPC has also continued to foster relationships with other professional organizations in Winnipeg and across Canada. This year's YPC is made up of the following hard-working individuals:

- Owen Van Wallegghem, Chair, AECOM
- Kyla Kirk, Vice Chair, CH2M HILL
- Beth Phillips, Past Chair, Tetra Tech
- Dana Bredin, GENIVAR
- Michelle Globush, GENIVAR
- Amanda LaCoste, MCW Consulting
Professional Engineers
- Dustin Warelis, AMEC
- Mark Warkentin, MMM Group
- Lin Watt, Dillon Consulting Ltd.
- Kim Yathon, Tetra Tech

The YPC defines a young professional as any employee of an ACEC Manitoba member firm who is under the age of 35 or who has up to 10 years of experience in his/her field. 🇨🇦



TRIPLE CONSTRUCTION

Triple CCC Construction is a dedicated company for all commercial concrete needs. Our professional experience provides a high standard of quality workmanship in concrete forming, finishing, demolition and excavation. We also provide assistance in budget pricing for upcoming commercial, industrial, institutional, larger residential projects and multi-tenant building projects. Triple CCC Construction will continue to provide its experience to the industry.

Ph: 694-6085
Fax: 694-6104
Email: tripleccc@mts.net

PO Box 651
Stony Mountain, MB
ROC 3A0

The beginner's guide to networking

Kyla L. Kirk, P.Eng.



I was at a leadership summit for volunteers when we were asked to 'guesstimate' how large we thought our professional networks were. This number was to include our professional social network connections, co-workers, those we volunteered with on a regular basis, and any other contacts we considered professional. There were a couple under 200, and a few more hands went up as we increased the number. Most of us were in the 400 to 800 range, but there were three remarkable attendees with over 5,000 (as high as 12,000) professional contacts. To be honest, those with large networks were executive directors and liaisons for a 40,000+ professional association, and the person with the largest network was a professional motivational coach (ringer), but it was still inspiring to see how surprised we all were at the size of our network.

How large is your network? As a young professional, your professional network generally consists of the co-workers you interact with and university professors, and, as you become more experienced, you start adding clients to your list. If you are dissatisfied with the size of your network or just like meeting new people, here are four tips:

Attend networking events – alone if necessary.

Yes, it is awkward being surrounded by people you do not know, and yes, it can be difficult to start conversations with persons you have not met before, but the purpose of networking events is to, well, network. No one should find it strange if you strike up a conversation. My goal at every event is to talk to one new person. Sometimes that person is also alone, but more often than not, they are not, and I wind up surpassing my goal. Mission accomplished.

Volunteer with a professional association.

Volunteering is an easy way to meet new people with similar interests, but volunteering with a professional association is a great way to meet professionals at all levels in your field, including clients, regulators, suppliers, contractors AND competitors. As you advance in your career, these contacts may be crucial to your ability to work successfully and efficiently.

I often ask for a volunteer position that forces me to interact with others (for example, registration or photographer) to maximize the number of people I meet. Many associations maintain a list of task-based volunteers in addition to committees and boards. You can find out what volunteer opportunities are available by sending an email to the association's executive director.

Never stop learning.

This goes beyond formal programs from universities and colleges. Attend seminars, conferences and other training sessions that are relevant to your professional goals. These learning opportunities not only increase your knowledge, but expand your network as you meet others who have similar goals, and a guru who is actually smart enough to teach the skills you need to achieve those goals.

Follow up with your new contacts.

This is the part most struggle with. I have found that the simplest way to remain relevant is to add (or invite) my new contact to my professional social network as soon as possible. However, there are still some hold outs on the online professional networking scene. Those contacts would receive an email with my contact information and a short note stating how much I enjoyed meeting them. If you meet someone you want to keep in touch with, do not forget to ask for a business card. Similarly, never go any-

where without a business card. You never know who you will meet or who would want to keep in contact with you.

The world of networking can be confusing, complicated and quite frankly terrifying, but the rewards are extremely beneficial to your career. Whether your network is 50 or 500, these simple steps should help you navigate the networking scene more confidently.

ACEC Manitoba's Young Professionals Committee provides networking, educational and volunteer opportunities to young professionals to help you grow your network. Our aim is to promote and empower the development of your career within the industry, so please do not hesitate to contact us (yp@acec-mb.ca) with your networking needs or to suggest potential networking events. ☺

EECOL ELECTRIC
Proudly Serving the Electrical Industry since 1919

Full Line Electrical Distributor offering:

- Automation
- Data & Communication
- International
- Lighting
- MRO
- Renewable Energy Solutions
- Utility
- Wire & Cable

Ninety Years

Visit us at www.eecol.com

ACEC-MB YPC Events

AUGUST 2011:

Go-Karting

Young professionals (YPs) gathered at Grand Prix Amusements to enjoy go-kart racing, formula track racing, mini-golf, bumper cars, bumper boats, batting cages, and networking over drinks and snacks.



SEPTEMBER 2011:

Breakfast Seminar

YPs attended a breakfast seminar at Canad Inn Polo Park to listen to Peter Heavsege speak on growing your referral source and contact networks, maintaining strong relationships with current clients and targeting new clients.

OCTOBER 2011:

3rd Annual Gala

The third annual YP Gala was held on Thursday October 13, 2011 at the Winnipeg Convention Center thanks to the generous donations of many sponsors. In attendance were over 19 firms and organizations. At this event, John Gamble presented on the topic of 'Understanding P3s (Private Public Partnerships) in Canada.'



JANUARY 2012:

Meet the Board Pub Night

The YP Committee hosted a Meet the Board Pub Night at King's Head Pub and Eatry. Many YPs attended to network with the following Board members: Steve Reaburn, Ron Typliski, Bill Brant, Ralph Kurth, Cameron Dyck, Rick Haldane-Wilsons and our YP representative, Owen Van Wallegem.



FEBRUARY 2012:

Breakfast Seminar

A breakfast seminar on 'Existing building Energy Retrofits that Pay for Themselves' was presented by Steve Reaburn at AE-COM's Oak Boardroom.



APRIL 2012:

CTTAM Mixer

YPs gathered to play pool and to network with fellow YPs from CTTAM at the CT-TAM/ACEC Manitoba Mixer held at Flea Whiskey's Café & Billiards. Terry Gifford, Executive Director of CTTAM, attended to answer questions about the organization.



JUNE 2012:

Breakfast Seminar

A breakfast seminar was held in the Dillon Consulting Boardroom where Dave Krahn presented on the newest addition to Winnipeg's transit system, the Southwest Rapid Transit Corridor.



14th Annual Golf Tournament

The Association of Consulting Engineering Companies – Manitoba held its 14th annual golf tournament on Monday, May 14, 2012 at Niakwa Golf and Country Club. This year's tournament had an attendance of 135 registered golfers. It was a beautiful day with the temperatures nearing 30C. The rain and wind held off until everyone was safely inside the clubhouse for dinner and prizes.

The Association of Consulting Engineering Companies – Manitoba would like to thank the players, prize sponsors, hole sponsors and event sponsors for making this event successful. This year, ACEC is proud to donate \$2,207.50 to Winnipeg Harvest from this year's tournament proceeds. Please keep your calendars open for the 15th annual tournament next year May 13, 2013 at Niakwa Golf and Country Club.

David Fuchs, Golf Committee Chair



Pictured above is the winning team from Lakeside Process Controls made up of Roy Dansen, Dan Campbell, Blair Lyons and Brian Rocan. Presenting the trophy is David Fuchs, Tournament Chair and Steve Whitty, Tervita (Marquee Sponsor).



Pictured above in the cheque presentation to Winnipeg Harvest are Ken Drysdale, ACEC-MB President; Jim Kilgour, Co-Chair Golf Committee; David Fuchs, Chair Golf Committee; Dianne Casar, Event Coordinator; and David Northcott, Winnipeg Harvest Executive Director



**THE
NATIONAL
TESTING
LABORATORIES
LIMITED**
Established in 1923

199 Henlow Bay
Winnipeg, MB R3Y 1G4
Phone: (204) 488-6999
Fax: (204) 488-6947

GEOTECHNICAL ENGINEERING

- Subsurface investigations
- Slope stability analysis
- Foundation inspection
- Floor heave investigations
- Vibration monitoring
- Geotechnical laboratory testing

CONSTRUCTION MATERIALS TESTING

- Concrete, aggregates, soils and asphalt
- Concrete and asphalt mix designs
- Concrete condition surveys
- Nondestructive testing
- Failure investigation
- Accredited by AASHTO since 2005

Email: info@nationaltestlabs.com

www.nationaltestlabs.com

DIRECTORY
of **ADVERTISERS**

COMPANY	PAGE	PHONE	WEB ADDRESS
Accutech Engineering Inc.	18	204-944-1555	www.accutecheng.ca
AECOM	25	204-477-5381	www.aecom.com
AMEC Earth and Environmental	26	204-488-2997	www.amec.com
Bockstael Construction Limited	10	204-233-7135	www.bockstael.com
Crosier Kilgour & Partners Ltd.	13	204-943-7501	http://www.ckpeng.com
CTTAM	31	204-784-1088	www.cttam.com
Denso North America Inc.	42	416-291-3435	www.densona.com
Dillon Consulting	34	204-453-2301	www.dillon.ca
Eaton Electrical (Canadian Operations)	4	204-694-0569	www.eatoncanada.ca
EECOL Electric	51	204-774-2800	www.eecol.com
ENG-TECH Consulting Limited	27	204-233-1694	www.eng-tech.ca
GENIVAR	35	204-477-6650	www.genivar.com
Ireland Bros. Ltd.	16	519-848-3487	www.irelandbrosLtd.com
J.R. Cousin Consultants Ltd.	39	204-489-0474	www.jrcc.ca
Joro Consultants, Inc.	3	204-786-9015	www.joroconsultants.com
KGS Group Consulting Engineers	24	204-896-1209	www.ksgroup.com
KVA DYNAMO INC.	15	204-237-4490	www.kvadynamo.com
Lakeside Process Controls	30	204-633-9197	www.lakesidecontrols.ca
M&L General Contracting Ltd.	2	877-907-2612	www.mlgeneralcontracting.com
Manitoba Hydro	49	204-360-3534	www.hydro.mb.ca
Manitoba Ready Mix Concrete Association	10	204-667-8539	www.mrmca.com
Manulife Financial	7		www.manulife.com/acec
MCW/AGE Consulting Professional Engineers	39	204-779-7900	www.mcw.com
McMunn & Yates Building Supplies	41	204-638-5303	www.mcmunnandyates.com
MMM Group Limited	28	204-943-3178	www.mmm.ca
Nilex Inc.	55	888-543-5454	www.nilex.com
Northern Lights Heritage Services Inc.	34	204-231-8190	www.northernlightsheritageservices.ca
Oldfield Kirby Esau Inc.	56	204-943-1441	www.oldfieldkirby.com
Paddock Drilling Ltd. (incorporated 1982)	13	800-339-4908	www.paddockdrilling.com
S-FRAME Software	8	203-421-4800	www.s-frame.com
Safety with Shelly Consulting Services	15	204-799-4712	www.safetyselly.com
SMS Engineering Ltd.	17	204-775-0291	www.smseng.com
SRK Consulting (Canada) Inc.	43	306-955-4778	www.srk.com
Stantec	11	204-489-5900	www.stantec.com
Teshmont Consultants LP	43	204-284-8100	www.teshmont.com
Testlabs International Ltd.	17	204-953-3800	www.testlabs.ca
TETRA TECH	40	905-369-3000	www.tetrattech.com
The National Testing Laboratories Limited	53	204-488-6999	www.nationaltestlabs.com
Tower Engineering Group Limited Partnership	29	204 925-1150	www.towereng.ca
Triple CCC Construction	50	204-694-6085	tripleccc@mts.net
University of Manitoba, Faculty of Engineering	17	204-474-9034	www.umanitoba.ca/engineering
Wolseley Engineered Pipe Group	11	204-633-7213	www.wolseleyepg.ca

To reach the engineering profession through *Manitoba Consulting Engineer* magazine and its targeted readership, contact Darrell at your earliest convenience to discuss your company's promotional plans for 2013.

Darrell Harris Marketing Manager

P: 1-877-985-9793 F: 1-866-985-9799 darrell@kelman.ca





The Nilex Advantage

Whether it's for a civil, resource, or environmental construction project, we apply the latest engineered, technically superior materials and construction techniques to save our customers time, money, and materials.

Our products and technologies lessen the environmental impact of any construction project by protecting surface and ground water and by minimizing the need to mine, process, and handle natural aggregate and fill materials.

Simply stated, it's a better way of building.

In Manitoba call: **1.888.543.5454**





Resources that matter

Your practice is at risk every day. Your reputation is always on the line. That's why you need a professional liability risk management program specifically designed for A/Es and customized to protect your practice.

That's where our agency comes in. We are dedicated advisors providing solution-oriented service—risk management guidance, insurance coverage placement, training, contract reviews, and education programs. You can benefit from our experience and local expertise with the unparalleled resources from XL Insurance. Together, we can help you make good decisions and improve your firm's risk management practices:

Expert claims handling by professional liability specialists who understand that preserving your reputation is just as important as protecting your assets. You can talk to knowledgeable, experienced people who go to work for you from pre-claims situations through ultimate resolution.

Specialty underwriting. We gain a thorough understanding of your firm and know the important questions to ask so we can deliver customized insurance solutions.

Industry leading education developed by XL Insurance and backed by 30 years of front-line claims experience to positively impact behavior. You get useful courses, seminars and tools to help improve your risk management practices, including *The XL Insurance Contract Guide for Design Professionals: A Risk Management Handbook for Architects and Engineers*. This relevant resource provides useful and practical advice.

And there's peace of mind knowing you have a trusted partner who anticipates your needs by keeping up with the A/E industry. We understand the intricacies of protecting your practice, assets and reputation. You can be confident in our knowledge.



Oldfield Kirby Esau Inc.
200-330 St. Mary Avenue
Winnipeg, MB R3C 2L2
Tel: 204-943-1441
Fax: 204-957-5561
www.oldfieldkirby.com

Contact: Darren Peters, President & COO
Tel: 204-943-1441 or email: dpeters@oldfieldkirby.com

For free risk management tools, visit www.xldp.com/tools.

XL INSURANCE
FUNDAMENTAL STRENGTH – CAPITAL AND PEOPLE

"XL Insurance" is a registered trademark of XL Capital Ltd and the global brand used by its insurance company subsidiaries. Coverages underwritten by Greenwich Insurance Company, Indian Harbor Insurance Company, and XL Specialty Insurance Company are subject to underwriting requirements. Coverages not available in all jurisdictions.