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Published For:

The Public Works Association of British Columbia

102-211 Columbia Street
Vancouver, BC V6A 2R5
www.pwabc.ca

Editorial Advisor: Ashifa Dhanani
Tel: 604-880-8585

The Alberta Public Works Association

PO Box 2235
Didsbury, AB T0M 0W0
Phone: 403-990-APWA • Fax: 888-812-7014
www.publicworks.ca

Editorial Advisor: Jeannette Austin
Tel: 403-990-2792

The Saskatchewan Public Works Association

http://saskatchewan.cpwa.net
Editorial Advisor: Andrew Stevenson
Tel: 306-244-8828

The Canadian Public Works Association, Manitoba Chapter

http://manitoba.cpwa.net
Editorial Advisor: Steve Blayney
Tel: 204-509-7385

Alberta Municipal Supervisors Association

www.amsapw.ca
Editorial Advisor: Christine Heggart
Tel: 403-844-5678

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Matrix Group Publishing Inc.

309 Youville Street
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President & CEO:

Jack Andress

Operations Manager:

Shoshana Weinberg
sweinberg@matrixgroupinc.net

Publisher:

Jessica Potter

Editor-in-Chief:

Shannon Savory
ssavory@matrixgroupinc.net

Senior Editor:

Alexandra Kozub
akozub@matrixgroupinc.net

Finance/Administration:

Pat Andress, Nathan Redekop, Lloyd Weinberg
accounting@matrixgroupinc.net

Director of Circulation & Distribution:

Lloyd Weinberg
distribution@matrixgroupinc.net

Sales Manager – Winnipeg:

Neil Gottfred

Sales Manager – Hamilton:

Jeff Cash

Sales Team Leader:

Bonnie Petrovsky

Matrix Group Inc. Account Executives:

Andrew Lee, Brenda McPhee, Brian MacIntyre, Cheryl Klassen,
Chrystal Pelow, Colleen Bell, Frank Kenyeres, Jason Wikis, Jim
Hamilton, Julie Welsh, Renée Kent, Rob Gibson, Rondal Gardner,
Sandra Kirby, Tanina Di Piazza

Advertising Design:

James Robinson

Layout & Design:

Cody Chomiak

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On the cover: Top: Participants of the Flood Readiness Orientation in High River, Alberta. Bottom left: The Downtown Revitalization project in North Battleford, Saskatchewan. Bottom middle: Compost Winnipeg has collected over 276,000 kg of organic waste since 2016. Bottom right: The City of Penticton, British Columbia, is using geographic information systems (GIS) to manage its infrastructure.



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PWABC Executive

PRESIDENT

Matthew Brown
Street Manager – Southern
Operations
City of Surrey
Surrey, BC
T: 604-591-4847
E: mkrown@surrey.ca

DIRECTOR

David Lundberg
Public Works Coach and
Consultant
Vancouver, BC
T: 778-957-4688
E: davelundberg@
smallpausecoaching.com

PRESIDENT ELECT

Scott Lamont
Supervisor of Roads
District of Squamish
Squamish, BC
T: 604-815-6862
E: slamont@squamish.ca

DIRECTOR

Chris Anderson
Public Works Manager
City of West Kelowna
West Kelowna, BC
T: 778-797-8842
E: chris.anderson@
westkelownacity.ca

PAST PRESIDENT

Deryk Lee
Manager Administrative
Services
City of Victoria
Victoria, BC
T: 250-361-0467
E: dlee@victoria.ca

DIRECTOR

Brian Carter
Manager PW Operations
City of Burnaby
Burnaby, BC
T: 604-297-4541
E: brian.carter@burnaby.ca

SECRETARY/TREASURER

Karen Stewart
Industry Manager,
Municipal Solutions
Esri Canada
Vancouver, BC
T: 604-695-7403
E: kstewart@esri.ca

APWA COUNCIL OF CHAPTERS DELEGATE/ CPWA DIRECTOR

**David Sparanese, ASCT,
CPWI 3**
Manager of Public Works
District of Saanich
T: 250-475-5599
E: david.sparanese@
saanich.ca

DIRECTOR

Pat Miller
Director, Utility Services
Sun Peaks Utilities Co. Ltd.
Sun Peaks, BC
E: pmiller@sunpeaksresort.com

EXECUTIVE DIRECTOR

Ashifa Dhanani
Chapter Administrator
Public Works Association of
British Columbia
102-211 Columbia Street
Vancouver, BC V6A 2R5
T: 604-880-8585
E: executivedirector@
pwabc.ca
W: www.pwabc.ca

DIRECTOR

Meryl Ditchburn, CET
Roads Management
Specialist
Engineering & Public Works
Nanaimo, BC
T: 250-758-5222, Ext. 5403
E: meryl.ditchburn@nanaimo.ca

You can learn more about the Public
Works Association of British Columbia
on their website: www.pwabc.ca

A Message from the Public Works Association of British Columbia

With summer ending and fall beginning, change is continuously happening. Across the province, it seemed like the snow just left and we shifted our attention to floods and fires. Now we shift again, to winter whiteouts. As always, our public works professionals rose to the challenge and will continue to do so!

After the floods and fires subsided, I am happy to say that our province had a reprieve, just in time for our public works departments across the province to showcase their National Public Works Week (NPWW) celebrations. Every year, I'm proud to say our celebrations get bigger and better. From the Lieutenant General's declarations to the smiling faces of children on equipment; these activities promote and provide advocacy for our profession. During this NPWW, the award-winning community of Squamish had an APWA National special guest, President-Elect Jill Marilley. I heard it was a great visit. Thank you to Squamish for their hospitality.

As the weather changes, our board continues to evolve. In April, Greg Wightman stepped down as President/Director from the PWABC Board of Directors. He made this decision in order to focus his attention on family and work—he leaves us wishing everyone at PWABC all the best. The Board of Directors would like to express sincere thanks to Greg for all his contributions. He will be missed.

With this change, I stepped into the President's position, leaving the President-Elect and a board position open. In June, current board member Scott Lamont from the District of Squamish was selected by the board to fill

the President-Elect position. As for the vacant board position, Meryl Ditchburn from the City of Nanaimo was selected for that position. Our board is very excited to have them on our team.

Should you wish to reach any member of our board our contact information is available on our website at www.pwabc.ca/about-us/board. During the transition period, our Executive Director demonstrated exemplary leadership and patience. A sincere thank you to Ashifa Dhanani.

Our 2018 joint conference with the BC Municipal Safety Association in Sun Peaks, B.C., from September 16 to 18, is shaping up very nicely. The full schedule and registration is now available at www.pwabc.ca/events/technical-conference-trade-show. A special thank you to the conference committee for preparing this professional program; it's truly remarkable.

I want to take this opportunity to thank our sponsors and suppliers for their ongoing support, and to our valued members for making our organization a success. To our members, as public works professionals, thank you for your continued support. I'd also like to encourage you to volunteer in any capacity with our association. The friendships, accomplishments and professional developments last a life time, and are richly rewarding.

I have been fortunate to work in our profession since I was 17 years old, at that time mowing roadsides. In all that time, every day, I'm truly impressed with each of our member's contributions to our communities. I feel honoured and proud to serve as President on your behalf.

Matthew K. Brown

President
Public Works Association of British
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A Message from the Alberta Public Works Association



The High Level Bridge in Edmonton, Alberta, lights up in the APWA's chapter colours for National Public Works Week.

APWA Executive

PRESIDENT AND APWA COUNCIL OF CHAPTERS DELEGATE

Peter McDowell
Transportation Supervisor
Town of Okotoks
T: 403-938-8928
E: pmcdowell@okotoks.ca

DIRECTOR OF SUSTAINABILITY (TREASURER)

Mike Haanen
Roads Operator III / City of Fort Saskatchewan
T: 780-992-1375
E: mhaanen@fortsask.ca

PRESIDENT-ELECT

Dennis Tomuschat
Town of Bruderheim
T: 780-796-3731
E: dennis.tomuschat@bruderheim.ca

DIRECTOR OF EMERGING LEADERS

Risha Rushton
Public Works Manager / O'Chiese First Nation
T: 403-989-3943
E: risha.r@ocfn.ca

PAST PRESIDENT AND CPWA DIRECTOR

Patty Podoborzny
CAO Town of Bruderheim / Alberta Chapter
T: 780-796-3731
E: patty.podoborzny@bruderheim.ca

NORTHERN ALBERTA IDEA GROUP LEADER

Dennis Tomuschat
T: 780-796-3731
E: dennis.tomuschat@bruderheim.ca

DIRECTOR, ALLIED MEMBERS

Chris Dechkoff
Technical Manager / ACP Applied Products
T: 780-960-1690
E: cdechkoff@acpapplied.com

PEACE COUNTRY IDEA GROUP LEADER

Rob Naugler
T: 780-532-7393
E: rnaugler@countypg.ab.ca

DIRECTOR OF IDEA GROUPS

John Allen
Retired
T: 780-437-6096
E: johnallen@shaw.ca

CENTRAL ALBERTA IDEA GROUP LEADER

Frank Enes
T: 403.478.8279
E: fenes@rockyview.ca

DIRECTOR, OUTREACH (EVENTS)

Garry Webster
Operations Supervisor / Town of Stony Plain
T: 780-963-2469
E: g.webster@stonyplain.com

SOUTHERN ALBERTA IDEA GROUP LEADER

Randy Olson
T: 403-635-1571
E: randyolson@raymond.ca

DIRECTOR OF ROADEO

Joe Guido
City of Edmonton
T: 780-721-6935
E: joe.guido@edmonton.ca

EXECUTIVE DIRECTOR & PUBLIC WORKS SUPERVISOR PROGRAM REGISTRAR

Jeannette Austin
T: 403-990-APWA (2792)
F: 888-812-7014
E: admin@publicworks.ca

After the long cold winter in the southern part of the province many communities were behind with annual maintenance, and I am sure everyone had a busy summer catching up!

Thank you to all the communities that proclaimed National Public Works Week (NPWW) throughout the province, May 20 to 26, 2018. A big thank you to the City of Edmonton for lighting the High-Level Bridge in Blue and Red to show their support of NPWW. In addition, the APWA Alberta Chapter was introduced at the Alberta legislature on May 31, 2018, when I became President once again of the APWA Alberta Chapter. Thank you to Patty, Joe, Mike, Risha and Jeannette for joining me in Edmonton, where we were lucky to meet with the Minister of Labour Christina Gray.

The Alberta Chapter has been busy putting on courses and helping with events. Our chapter helped out in High River with the Flood Readiness Orientation (FRO); 18 communities were in attendance to view products and resources that are available from the provincial flood equipment tent in the M.D. of Foothills. Thank you to the communities that were able to help out by sending staff and resources to help make the event a success. It was great to have our members help out!

PWX 2018 was held in Kanas City, August 26 to 29, 2018. We had

a great time at the Western Canada Chapters dinner at the KC Royals game. We were also proud to have two of our Roadeo winners from last year compete in the Backhoe and Skid Steer events.

The 21st Annual Equipment Roadeo will be held in Red Deer, September 6 to 7, 2018. I am certain it was once again a great event! Thank you to the Director of Roadeo, Joe Guido, as well as his team of volunteers for putting on the annual event.

Don't miss the APWA Alberta chapters Annual Excellence in Public Works Conference & Trade Show, October 1 to 3, 2018. Also, save the dates June 4 to 6, 2019; we will be hosting the Western Canada Snow Conference in Edmonton.

On behalf of the Board and myself, we would like to say thank you to Joline McFarlane for her contribution serving on the executive board of the APWA Alberta chapter and congratulate her on her new job with the City of Kelowna in British Columbia.

Thank you to all the members of our Board of Directors, Jeannette Austin, and the many other volunteers who help make the Alberta Chapter so great! Hope you had great summer and a safe fall. We are better together!

Peter McDowell

President
APWA Alberta Chapter

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40th Anniversary as a Chapter in 2018!

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A Message from the Saskatchewan Public Works Association

SPWA Executive

PRESIDENT/APWA COUNCIL OF CHAPTERS DELEGATE

Dale Petrun

Business Process & Projects Supervisor
Roadways and Operations Support
Saskatoon, SK
T: 306-975-8092
E: dale.petrun@saskatoon.ca

PAST PRESIDENT/ CPWA DIRECTOR

Andrew Stevenson

Manager
ATAP Infrastructure Management Ltd.
Saskatoon, SK
T: 306-244-8828
E: stevensona@ae.ca

TREASURER

Stewart Schafer

Director of Utility Services
City of North Battleford
North Battleford, SK
T: 306-445-1735
E: sschafer@cityofnb.ca

CHAPTER ADMINISTRATOR

Trina Miller

Saskatoon, SK
T: 306-232-9300
E: spwa@sasktel.net

DIRECTOR

George Jakeman

General Manager
ATS Traffic
Regina, SK
T: 306-522-0511
E: georgej@atstraffic.ca

DIRECTOR

Staci Dobrescu

Water/Wastewater Supervisor
City of Moose Jaw
Moose Jaw, SK
T: 306-694-4479
E: sdobrescu@moosejaw.ca

DIRECTOR

Brian Wirth

Manager, Water and Sewer Construction
City of Regina
Regina, SK
T: 306-537-0611
E: bwirth@regina.ca

DIRECTOR

Eric Quail

Roadways Manager
Roadways and Operations Support
Saskatoon, SK
T: 306-975-2912
E: eric.quail@saskatoon.ca

DIRECTOR - SMALL TOWN (<3000)

Owen Green

Public Works Manager
Rosthern, SK
T: 306-232-4455
E: publicworks@rosthern.com

DIRECTOR - RM (RURAL MUNICIPALITIES)

Garret Halbgewachs

Manager of Roadways
RM of Sherwood
Regina, SK
T: 306-525-237
E: garret@rmofsherwood.ca

SUPPLIER REPRESENTATIVE

Rebecca Gatto

Sales Representative
Xylem
Saskatoon, SK
T: 306-933-4849
E: rebecca.gatto@xyteminc.com

APWA

Rhonda Wilhite

Chapter Coordinator
Kansas City, MO
T: 800-848-APWA ext. 3512
E: rwilhite@apwa.net

REGION IX DIRECTOR

Dan J. Hartman, PWLF

Director of Public Works
City of Golden
Golden, CO
T: 303-384-8152
E: spaulson@cityofgolden.net

2019 will mark
the SPWA's 60th
anniversary!

As school and activities for our children wound down, I hope you took some time off, found moments to relax, and enjoyed the many local festivals, lakes and events in our great province. Since I last wrote to you, our chapter has been busy again with a successful National Public Works Week (NPWW) Emergency Planning Workshop in Regina, with attendance from across the province. There were great discussions and questions regarding the provincial/local alert systems, creating incident plans, establishing a chain of command and identifying threats. The APWA Public Works First Responders logo was unveiled to the crowd.

Planning has already started for the 2019 Annual Conference in Saskatoon this February. This will be the 60th Annual Conference for our chapter so we are hoping to celebrate and make it the best one yet!

Recently, our Backhoe Roadeo & Golf Tournament was held on June 22, 2018 in Warman. We hosted both the backhoe and mini-excavator events that morning. Tyler Roth, from the Town of Rosthern, won both events and competed at PWX in Kansas City. SPWA provided the flights and two nights hotel to help him represent the chapter. A huge thank you to Finning for supplying the equipment for the Roadeo! Thank you also to ATS Traffic for sponsoring and providing safety equipment at the Roadeo. As usual, the golf tournament was a great time with a steak supper and door prizes following the golf at the Warman Legends Golf Course. A heavy rain cut the golfing short after nine holes but that didn't dampen the spirit of the attendees. You can check out our website for event pictures.

The Western Canada Snow Conference is being held in Saskatoon, September 26 to 27, at Prairieland Park. This is our first snow conference and it is looking like it will be a great event. Sessions on new technology, innovations by communities in Saskatchewan and winter maintenance best practices are being held for the snowfighters. A Snow Plow Roadeo competition is also taking place, so make sure you sharpen up your driving skills to be crowned the Inaugural Champion! Watch your email for more information on these events. (Remember that the discounted rate members receive at our combined yearly events pays for the annual cost of membership with SPWA).

You can visit our website and see the "Public Works Used Equipment" page as a means for you to be able to post your items for sale to others. The entire website is very user-friendly, contains information on all our events, and is designed as a virtual "one-stop shop" for public works. You can also visit us on Twitter @SPWAchapter.

As you can see, the SPWA is endeavouring to bring our members, and others in the public works profession, greater value in educational and networking opportunities. We will also continue to promote professionalism in the public works field, advocate the essential role that public works plays in the quality of life, and promote it as a career choice for the working force of the future.

Visit our Chapter website at <http://saskatchewan.cpwa.net>, or contact our Chapter Administrator, for more information and details about our upcoming SPWA events or how to become an SPWA member.

Dale Petrun

President
Saskatchewan Public Works Association

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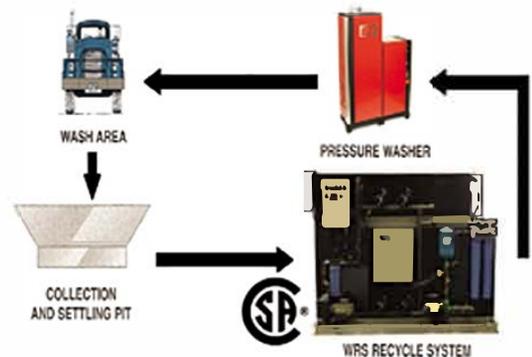
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Manitoba Chapter, CPWA, Executive

PRESIDENT

Jean-Luc Lambert, P.Eng.
T: 204-806-0786
E: jeanlambert@winnipeg.ca

PRESIDENT ELECT

Chad Buhlin
T: 204-384-7754
E: publicworks@rmofmontcalm.com

PAST PRESIDENT

Neil Gobelle
T: 204-945-7562
E: neil.gobelle@gov.mb.ca

SECRETARY

Alexis Wilcott, P.Eng.
T: 204-896-1209
E: awilcott@ksggroup.com

TREASURER

Bonnie Konzelman, P.Eng.
T: 204-451-3795
E: bkonzelman@winnipeg.ca

APWA COUNCIL OF CHAPTERS DELEGATE

Craig Rowbotham, P.Eng.
T: 204-896-1209
E: c.rowbotham@ksggroup.com

CPWA DIRECTOR

Steve Blayney, GSC
T: 204-509-7385
E: sblayney@shaw.ca

DIRECTORS

Duane Falk, P.Eng.
T: 204-362-8166
E: dfalk@cityofwinkler.ca

Mike Neill, CET

T: 204-471-5660
E: mike.neill@gov.mb.ca

Maria Fernanda Pinzon, P.Eng.

T: 204-930-1746
E: mafe.pinzon@ccppa.ca

Derrick Saedal

T: 204-986-6400
E: dsaedal@winnipeg.ca

Justin Taplin, EIT

T: 204-505-0855
E: taplin@sbccinc.ca

Kas Zurek, P.Eng.

T: 204-986-2025
E: kzurek@winnipeg.ca

A Message from the Canadian Public Works Association, Manitoba Chapter

As I sit down to write this message for this issue, summer is in full swing. Children are out playing, the young at heart are enjoying the hot sunny days, some are enjoying the great outdoors, while others take in music festivals and other summer-only activities. Summer is full of energy, enjoyment and adventure, and it seems to pass in a blink of an eye.

For those in public works, summer is a busy time of year. In a few short months, numerous projects are undertaken and services are delivered so that communities and citizens can continue to rely on the infrastructure on which they depend. It is their job (a very important job!) to provide the services that maintain and beautify our cities, towns and municipalities.

As a public works professional, I often find myself going about my daily activities, going through my routine duties, making certain that projects get completed and that services are delivered as expected. As time passes by, I find myself becoming more and more compliant with daily work activities.

This past June, I attended our CPWA Chapter's Spring Fling event and had the pleasure of meeting up with some colleagues that I don't see on a regular basis, except at such events. One colleague with whom I was able to touch base with is a gentleman who retired a few years back and with whom I had the pleasure to work alongside. As we were discussing how our families were doing and what endeavours we had underway, my colleague reflected on how he saw the importance and significance of public works, and commented that he always saw his role as a public works professional as a servant to the public.

When he made the comment on his role as a servant to the public, it made me pause.

Going back home that evening I reflected on how I viewed my role as a public servant and on how my work affects the community and contributes to it.

I realized that I spend a lot of time and energy going about making certain that staff have the direction and resources needed to do their work... make certain that programs are developed and rolled out... that projects are managed properly... that departmental processes are followed and adhered to... and so on.

Rarely do I find myself asking the question, "is this the best service I can provide to my community?" I understand that resources and finances are limited, and that policies, standards and by-laws need to be adhered to. However, am I making the best decisions within the limitation of my work so that my community is receiving the best service that can be?

Unfortunately, there is no magic formula or process that gives the most optimum service delivery method. It is left up to professionals and practitioners who choose to offer their work and life as a servant to their communities and strive to balance limitations with a need to progress.

So, as you go about your work, I encourage you to reflect and discern once in a while on how you can go about your work in an effort to provide your community with the best service possible. After all, your work touches how people are able to commute, enjoy a beautiful day at the park, partake in a festival, have water to grow a garden and allows businesses to move their goods and services.

I hope you all had a wonderful summer.

Jean-Luc Lambert, M.Sc., P.Eng.

President
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E: jduplessie@lsac.ca

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T: 403-845-4444
E: cheggart@amsapw.ca

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Craig Pittman
MD of Taber
T: 403-223-3541
E: cpittman@mdtaber.ab.ca

Devon Thiele

Lethbridge County
T: 403-328-5525
E: dthiele@lethcounty.ca

ZONE 2

Rick Green
County of Stettler
T: 403-742-4441
E: rgreen@stettlercounty.ca

Erik Hansen

Clearwater County
T: 403-845-4444
E: ehansen@clearwatercounty.ca

ZONE 3

Brian Anderson
County of Wetaskiwin
T: 780-361-6244
E: banderson@county.wetaskiwin.ab.ca

ZONE 4

Kevin Cymbaluk
Municipal District of Smoky River
T: 780-837-2221
E: kcymbaluk@mdsmokyriver.com

Leonard Van Oort

County of Northern Lights
T: 780-836-3348
E: vanoort@countynorthernlights.com

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Darby Dietz
Beaver County
T: 780-663-3730
E: ddietz@beaver.ab.ca

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A Message from the Alberta Municipal Supervisors Association

As construction season winds down, the planning for next year's infrastructure projects no doubt begins... "no rest for the wicked," as they say. It's my hope that your municipality is able to complete all of your 2018 budgeted capital and maintenance programs over the summer months, before the snow starts to fly in the fall.

For those of you who aren't familiar with who we are, the Alberta Municipal Supervisors Association's (AMSA) mission is to unite our members towards individual development, improved service to their municipality and the public, and to improve our members' knowledge related to their role in public works / operations. Our association provides a forum for the exchange, both online and in person, at conventions, and the development of innovative ideas, as well as offers various professional development opportunities. I do encourage you to visit our website, www.amsapw.ca, and learn more about AMSA's 40-year history of advocacy, sharing best practices and training.

Each year, AMSA hosts a spring and fall conference and this year's fall conference takes place on November 20 to 22 in Edmonton, with various presentations and guest speakers over the three days. From social media, to wetlands policy, to changes in Occupational Health and Safety (OHS) legislation, the fall convention is one you won't want to miss. Convention attendees review the impacts of legislative amendments and ground-breaking technologies, as well as examine management strategies beneficial to both seasoned public works professionals and newcomers to the field.

The Roadrunner magazine, created in partnership with four other public works associations from across western Canada, is another example of how best practices are

shared in the industry and at the same time speaks to the strength of each of the respective associations and their commitment to enhancing the field of public works.

I do need to mention a kudos to all the public works staff across southern Alberta, who experienced a challenging spring and summer due to flooding. Your hard work is appreciated, and Albertans are lucky to have dedicated public works professionals who put in extra time and effort to re-open roads and bring communities back on line. Don't forget the sacrifice these individuals make, along with their families, as quite often extraordinary events of this nature take people away from their families for extended periods of time.

As well, thank you to AMSA executive members, both past and present, for their support in developing fantastic convention itineraries and the continued pursuit of professional development opportunities for our engaged group of municipal public works leaders. AMSA's Certificate in Municipal Management and Leadership wraps up in March 2019, but stay tuned for more to come.

This fall there will be several executive board vacancies so if you are interested in becoming part of AMSA's executive, we'd love to have you join our team. Please consider putting your name forward to become an AMSA executive member.

Final thanks, on behalf of AMSA and its 150+ members, goes to our dedicated group of sponsors as your contributions help sustain our operations, allowing us to continue to provide two conventions annually, at no cost to members.

Joe Duplessie

AMSA President
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Construction Bonds:

A Useful Tool in a Local Government's Strongbox

By Adrienne Atherton and Sonia Sahota, P.Eng, Civic Legal LLP

Construction bonds are commonly used for public works infrastructure projects. Broadly speaking, a bond is a three-party agreement between the bonding company (the “Surety”), the service provider, such as a general or subcontractor (the “Principal” or “contractor”) and the service recipient or beneficiary, such as the project owner (the “Obligee” or “owner”). Under the bond, the Surety is required to step in and fulfill the Principal’s obligations to the Obligee in the event that the Principal breaches its obligations.

The cost associated with securing construction bonds is undoubtedly passed onto owners through the contractor’s price for the work. As such, owners should not lose sight of bonds as a possible tool when contractor performance slips. The common types of bonds used in the construction industry in the procurement phase are bid bonds, and in the construction phase are performance bonds, and labour and material payment bonds.

A **bid bond** is commonly used to secure a bidder’s obligation under the tender contract (Contract A) to enter into the works contract (Contract B) if selected as the preferred bidder. If the bidder breaches this obligation and refuses to enter into the works contract, then the owner may claim under the bid bond the resultant incremental costs associated with selecting the next highest preferred bidder, or conducting another procurement process.

A **performance bond** secures the Principal’s obligation to complete the works required under the contract with the Obligee. If the Principal defaults in its performance of the contract, then the performance bond may be used by the owner to ensure completion.

Regardless of the type of bond, it is vital that all formalities of the formation of the bond agreement are undertaken, such as proper execution, witnessing and sealing if required, to ensure the enforceability of the agreement. Likewise, to ensure recovery under the bond, it is vital to adhere to all terms of the bond, such as notice requirements.

Once notice of a bond claim is provided to the Surety, the Surety largely controls the process of investigating the claim and determining the approach to remedy the Principal’s default. Under a typical industry standard bond (such as the CCDC 9), the Surety’s options may include: (i) the Surety remedying the default; (ii) the Surety completing the works; (iii) the Surety selecting another party to complete the works; or (iv) the Surety paying out to the owner. The third option is often a preferred choice for surety companies.

Once an owner provides notice of claim under the bond, it is required not to do anything that could prejudice the Surety, such as taking steps to remedy the default without the Surety’s consent, terminating project-related insurance, or inadequately securing the work site from theft or damage.

A **labour and material payments or “L&M” bond**, secures the contractor’s obligation to pay its subcontractors and suppliers for improvements made on the owner’s project. An L&M bond is unique in that the owner acts as a trustee, and the subcontractors or materials suppliers, as the beneficiaries, may claim under the bond should the contractor default in its payment obligations to them.

Owners should be aware of a recent Supreme Court of Canada decision, *Valard Construction Ltd. v. Bird Construction*, which has expanded what the construction industry had previously understood the owner’s role and potential liabilities to be in relation to an L&M bond. In this case, Bird was a general contractor for an oil sands project and subcontracted with Langford whom supplied an L&M payment bond naming Bird as the trustee.

Langford in turn subcontracted with Valard, but defaulted in its obligation to pay Valard. Valard failed to inquire about a possible L&M bond until after the bond’s prescribed notice period for a claim had passed, but proceeded to file a claim nevertheless. Due to the expiry of the notice period, the Surety denied Valard’s claim under the bond. Valard then sued Bird for breach of trust.

The Supreme Court of Canada found that Bird knew of the non-payment issue, but had failed to disclose to Valard the existence of the L&M bond. The Court determined that L&M payment bonds were uncommon

on private oil sands construction projects, which was a significant finding, given that the Court concluded as a result that it was incumbent upon Bird to have taken reasonable steps to notify potential beneficiaries, including Valard, of the existence of the L&M bond, such as posting a notice of the bond in the project trailer. In the result, the Court ordered Bird to pay Valard's claim.

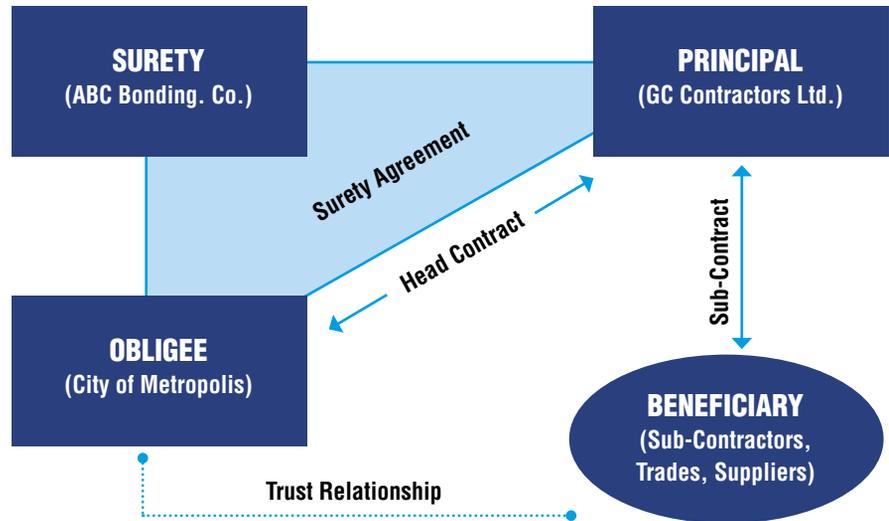
Consequently, owners are wise to take steps to notify beneficiaries of the existence of bonds, such as posting a notice of bonds at a project site office, particularly where an owner becomes aware of any concerns that a contractor has not met, or may not meet, its payment obligations. Further, it is important for owners to ensure that Surety agreements, as with other project documentation, are easily accessible during the administration of the contract, and to be alive to and comply with the terms of Surety agreements, such as notice requirements, default provisions, and key dates and deadlines. ▸

This article is intended for general information. If your organization has specific issues or

concerns relating to the matters discussed in this article, please consult a legal advisor.

Adrienne Atherton and Sonia Sabota are partners at Civic Legal LLP, a British Columbia law firm with expertise in local government law, land development, construction, procurement, insurance and complex contract matters. Sonia,

a solicitor who, prior to becoming a lawyer, practised as a professional engineer for 10 years, and Adrienne, a senior litigator, work as a team in the areas of procurement and construction law to provide clients with a full range of legal services from concept through completion to dispute resolution. Visit www.civiclegal.ca for contact and additional information.



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Leading from the Front Lines



By Chris Anderson, City of West Kelowna, B.C., Canada

The City of West Kelowna is a young city in British Columbia that is currently in our 10th year since incorporation on December 7, 2007. As the Public Works Manager for the City of West Kelowna (CWK), I have been fortunate enough to have been with the city from almost day one, and through this time I have seen our team work through many positive and challenging situations.

One of the positive situations was when I was “voluntold” to represent the Engineering and Public Works Department as a member of the CWK’s Customer Service Committee. At first blush, I will admit that I was initially slow in my buy-in and skeptical about the intent of this important committee. During this stage of my career, I wasn’t in a leadership role for the city and I remember thinking “what am I doing here.”

That said, I found myself getting engaged with the committee rather quickly as I began to realize the importance of what the CWK’s leadership team was looking to accomplish with the committee. Our Customer Service Committee was tasked with setting the service standard for our young new municipality. As the committee met over the course of a few months, it became clear to us that we wanted to establish a set of service standards by which all CWK employees are to guide their day-to-day actions and activities as a part of the West Kelowna municipal team.

After a few months of honest discussion, consideration, review and debate, the CWK’s Customer Service Committee rolled out “Our Commitment to Customer Service.” This commitment is a very simple poster that has been put up at strategic locations throughout various CWK facility and building locations, and are placed in a manner which make them visible to both internal and external clients of the City of West Kelowna.



Our Commitment to Customer Service

City of West Kelowna staff will:

- Welcome Our Customers
- Be Respectful and Courteous
- Listen
- Be Responsive and Accountable
- Make It Simple
- Strive to Continuously Improve



“Our Commitment to Customer Service” posters are hung at strategic locations throughout various CWK facility and building locations.

Here is the “Our Commitment to Customer Service”:

City of West Kelowna Staff Will:

- Welcome Our Customers
- Be Respectful and Courteous
- Listen
- Be Responsive and Accountable
- Make it Simple
- Strive to Continuously Improve

So, when thinking about these six commitments and how they were created for the whole CWK municipal team, it’s easy to draw the link to the commitments that we make as a team member of the City of West Kelowna and how they affect our team of public works professionals who are leading from the front lines in the community on a day-in, day-out, basis. For West Kelowna, this team includes the following divisions: Parks, Utilities, Roads and Drainage, and Facilities. From

our welcoming front desk staff, to the qualified and professional operators in the field, right on through to the responsive and accountable supervisory and management team, these six commitments are what drive CWK Public Works as customer service leaders in the municipality.

When thinking about “leaders from the front lines” however, how can this statement not be true when thinking about the millions of public works professionals working on the front lines of all of our municipalities throughout North America? These dedicated team members on the front lines are the faces of our organizations. They have the challenging, yet rewarding, job of leading our cities and municipalities through the ups (and downs) of providing our citizens safe, enjoyable and reliable services and spaces; spaces that everyone should be proud to call home.

Yes, of course, there are always the typical clichés of public works; the tap turns on and water comes out, then that water disappears down the drains without question, the roads are plowed in order to get to work safely, garbage cans are emptied regularly, parks/trails/pools/libraries are clean and safe, the list goes on. But my point here is that all of this doesn’t happen without our front line public works leaders who help navigate our cities through the day-to-day needs of the communities we serve.

As it relates to the City of West Kelowna’s “Commitment to Customer Service,” let’s take a quick look at the six commitments and how they can link to the CWK’s front line leaders in public works.

Welcome Our Customers

How simple is this one? A simple “Hello, nice to see you!” or “Hi, I’ll be right with you” can go a long way in easing any possible tensions or welcoming a client back. What a great tool for our reception staff to be using on a daily basis, for any public works professional heading into a meeting, or an operator in a park. Say hello! This is the simplest thing that one can do as a leader on the front line.

Be Respectful and Courteous

Can you hear your mom with this one? “Treat others the way you want to be treated.” It’s so true though. Our front-line leaders in the office or out in the field are expected to behave in this manner and do so excellently.

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What's great about this in the CWK is our corresponding policy, in that we all have the right to walk away, hang up the phone, or take whatever means we see as reasonably necessary when not being treated in a respectful or courteous manner. This is one of the most basic soft skills any leader should possess.

Listen

It's amazing how easy it is to listen. After nearly 15 years in local government in public works-related challenges, listening to someone, no matter how frustrated they are, and letting them vent might be the single most important tool I've learned. Listening, really listening and trying to understand their perspective, can go a long way. Ultimately, you may agree to disagree with the person you are listening to, but our leaders on the front lines should recognize the power of listening.

Be Responsive and Accountable

If you're going to do something, do it. If you've made an appointment to be somewhere, be there. As a leader on the front line, your client's time is just as important as yours. So, be that leader by standing behind your words and actions. If you can't make your commitments, be responsive and let your client know that something has come up and you need to reschedule.

Make It Simple

One can't argue that part of working in local government is enforcing red tape. But while leading from the front line in whatever public works setting you find yourself, do what you can to make things simple for all of those around you. This would and should include both your internal and external clients.

Strive to Continuously Improve

This may be one of the more difficult commitments to work towards given the tendency of relying on the old saying "if it ain't broke, don't fix it" and the corresponding mentality. But as leaders on the front lines, and considering how times and technologies are constantly changing, striving to continuously improve is as important as ever. This is not only true for all of us leading in the world of public works in our day-to-day work lives, but in a perfect world, this same commitment should be true in all of our personal lives as well.

Conclusion

In closing, leading from the front lines = what we do as public works professionals every single day of the year. Our public works teams are what makes our communities tick; we are the lifeblood of what makes your city the place you want to call home and where you are happy to serve. But our communities could not be these vital places and healthy spaces without the dedicated hard work of our public works

professionals, who are leading from the front lines. ▶

Chris Anderson, AScT, ELA Class X, is Public Works Manager for City of West Kelowna, B.C. He is also a member of the APWA Leadership and Management Knowledge Team, and a Director for the Public Works Association of British Columbia. He can be reached at chris.anderson@westkelownacity.ca.



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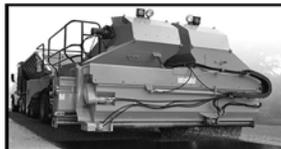
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21st Annual Alberta Public Works Association Rodeo
September 6 to 7, 2018
Red Deer, Alberta
Westerner Park

Webinar: Talking Top Tech – Geographical Information System (GIS) Mapping
September 13, 2018
Hosted by the American Public Works Association

PWABC Annual Technical Conference and Tradeshow
September 16 to 18, 2018
Sun Peaks, British Columbia
Sun Peaks Grand Hotel & Conference Centre

PWABC Emerging Leaders Breakfast Series, Session 2
September 25, 2018
Location TBD

Western Canada Snow Conference
September 26 to 27, 2018
Saskatoon, Saskatchewan
PrairieLand Park

Alberta Public Works Association, 2018 Excellence in Public Works Conference & Tradeshow
Better Together: Planning, Building and Maintaining our Assets
October 1 to 3, 2018
Red Deer, Alberta
Sheraton Hotel

Webinar: Talking Top Tech – Unmanned Aircraft Systems (UAS) / Drones
October 11, 2018
Hosted by the American Public Works Association

PWABC Emerging Leaders Breakfast Series, Session 3
November 15, 2018
Location TBD

AMSA's Fall Convention
November 20 to 22, 2018
Edmonton, Alberta
Shaw Convention Centre

SPWA's 60th Annual Conference & PWville
The Power of Public Works
February 26 to 28, 2019
Saskatoon, Saskatchewan
The Saskatoon Inn

AMSA's Spring Convention, 2019
March 19 to 20, 2019
Edmonton, Alberta
Shaw Convention Centre

The North American Snow Conference
May 16 to 22, 2019
Salt Lake City, Utah

Western Canada Snowfighters Conference
June 4 to 6, 2019
Edmonton, Alberta

2019 PWX – Public Works Expo
September 8 to 11, 2019
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What's the Big Idea?

The Alberta Public Works Association's Idea Groups meet two to four times every year. You can connect with your area's Idea Group leader by going to www.publicworks.ca/idea-groups.

The Northern Alberta Idea Group's next meeting is October 16, 2018. Others (Peace Country, Central Alberta and Southern Alberta) are TBD.

A Day in the Sun (and Rain!)

The Saskatchewan Chapter's Backhoe Roadeo & Golf Tournament was held on June 22, 2018 in Warman.



Thank you to ATS Traffic for sponsoring and providing safety equipment at the Roadeo.



Thank you to Finning for supplying the equipment for the Roadeo!



An 'ol vet trying a practice round.



Tyler Roth, from the Town of Rosthern, won both the backhoe and mini-excavator events and competed at PWX in Kansas City.



Here comes the rain



Despite the weather, it was a great day.

Jack Kraft Scholarship – Deadline for Applying is Fast-Approaching!

The Alberta Public Works Association's Jack Kraft scholarship is offered in memory of a dedicated APWA - Alberta Chapter member. Jack was an exceptional leader whose vision was a driving force for a number of chapter initiatives.

To qualify for this \$500 scholarship, a student must be a child of an active public works employee who, in turn, must be a member of the chapter. Each applicant for this award must fill out the nomination form found at www.publicworks.ca/awards and return it to office@publicworks.ca by **September 15**.



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Note, subscriptions are free for members of all the association's this magazine is published for (see the top of the front cover for the list).



Participants of the Flood Readiness Orientation in High River June 11, 2018. Left to right: Chris Lavoie, Peter McDowell, Jeannette Austin, Willard March, Michelle Tetreault, and Patty Podoborzny.



Alberta Public Works Association Board Members along with Minister Gray, who introduced the Board Members during question period at the Legislature. Left to right: Joe Guido, Peter McDowell, Minister Gray, Jeannette Austin, Risha Rushton, Patty Podoborzny, and Mike Haanen.



Patty Podoborzny (left) receiving the Public Works Week Proclamation from Alberta's Minister of Labour, Christina Gray.



Happy Retirement!
 Congratulations and best wishes to Jack Dunsmore on his retirement! In July, AMSA and its members wished Jack, a long-time AMSA member/AMSA peer award recipient, all the best. Here's to your next chapter Jack!



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Congratulations to the APWA Alberta Chapter, which is celebrating its 40th Anniversary as a Chapter in 2018!

And to the Saskatchewan Chapter, which celebrates its 60th anniversary in 2019!

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Training Local Women for Local Work

By Angela Smith, Women Building Futures

Reanne Adobas, a lifelong resident of the Town of Stony Plain, Alberta, knew she wanted a career that would allow her to work in her community. When she heard about the Women Building Futures Operator Readiness Program, with Stony Plain as a sponsor, she decided to apply and was accepted into the program. After four weeks of hard work, she graduated and was hired into a temporary position with the town's Public Works Department. She then took a permanent position as a Facility Operator.

Now Reanne has a rewarding career in the community she loves and is

contributing to her hometown in ways she never thought possible.

Reanne wasn't the only one who gained from the program, though. Her employer also benefitted by adding such a passionate and hard worker to the team. "We have a great employee as a result of this partnership," says Tom Goulden, Town Manager of Stony Plain. "I am hugely impressed and am proud that we are a part of the Women Building Futures program."

Women Building Futures (WBF) operates as a non-profit that is valued for empowering women to enter and succeed in careers where they have been under-represented through skilled trades and operator training.

WBF's first step in attracting women into the trades is to build awareness of in-demand construction and maintenance careers and help women determine their level of readiness to work in that industry. "When a municipality sponsors a program, it means we engage with women in their communities and inform them of the opportunity for local work," says WBF's Manager of Industry Relations, Megan Bates. "Even if a woman doesn't attend a program right away, she's still educated about local employment opportunities. The seed is planted that she could work right in her hometown."

WBF works with program sponsors to ensure the program content is relevant to



The 2018 WBF Operator Readiness Program graduates, shown here with their sponsors.

“Engaging the local workforce is important to help our communities thrive. This program is a way to do that and gain strong employees in the process.”

their workforce demands and will result in graduates who possess the knowledge and skills they need in the workplace, including best practices in construction and maintenance, safety certifications, hands-on skills training and career development. Once the program nears completion, sponsors, like Stony Plain, have the opportunity to interview and hire.

Any graduates not hired by the sponsors work with WBF to find employment among a network of 76 WBF Employers of Choice or through relationships WBF builds with local companies who are also looking to hire from within their community. WBF graduates consistently have a 90 per cent plus employment rate.

This collaborative approach is a key reason why these partnerships are so successful. “What we value most from our program sponsors is that they work with us to make our programs better and better every year,” says Bates. “With their feedback, we can continuously improve our training and ensure that our partnerships are relevant over the long-term.”

Because of this success, the Town of Stony Plain plans to continue sponsoring WBF’s programs, along with other municipalities, including the City of Spruce Grove, the City of St. Albert and Parkland County.

“We feel huge inroads have been made for women taking on non-traditional

occupations through the services offered by Women Building Futures,” says Stuart Houston, Mayor of Spruce Grove.

The impacts of these programs and partnerships with municipalities are significant. The students learn about careers they may not have considered before and gain in-demand skills and rewarding careers. The municipalities tap into a local, diverse workforce. And the entire community benefits.

“Great partnerships make a huge difference in our communities,” says William Choy, Mayor of Stony Plain. “In many cultures, if you teach a woman new skills, she tends to transfer that knowledge to others, thus improving the standard of living for the entire community.”

Reanne agrees, saying the female instructors in the WBF program were invaluable mentors, offering words of encouragement, sharing their own life experiences and inspiring her. “I want to be a similar role model for my daughters,” she says.

As the success of this partnership grows, there’s no doubt more municipalities will want to get involved. “My hope is to have a program that is fully supported by municipalities moving forward,” says Bates. “Engaging the local workforce is important to help our communities thrive. This program is a way to do that and gain strong employees in the process.”

For inquiries about partnering with Women Building Futures, visit www.WomenBuildingFutures.ca or contact Megan Bates at mbates@womenbuildingfutures.ca.

Women Building Futures: 2017 At a Glance

- 190 graduates from WBF programs;
- 95 per cent of graduates employed in industry within six months of graduating;
- 76 Employers of Choice hiring program graduates;
- 157 per cent average increase in earned income on first day of hire; and
- 48 Indigenous communities actively engaged.



The CPWA Board of Directors Annual Meeting in Ottawa

By Anne Jackson, American Public Works Association

Each year, the CPWA Board of Directors meets in Ottawa to discuss policy and advocacy issues and to build relationships with other stakeholder associations, government departments and Parliamentarians. This year's meeting—which also included APWA Region I Director, Gary Losier; APWA/CPWA Executive Director, Scott Grayson; and APWA Director of Sustainability and CPWA Advocacy, Anne Jackson—was held April 30 to May 1, just over a week after CPWA President Andrew Stevenson was in Ottawa to testify before the bipartisan House of Commons Standing Committee on Transport, Infrastructure and

Communities about the government's infrastructure investment plan.

In addition to the topic of infrastructure, the CPWA Board of Directors discussed their activities at PWX, the new Public Works Responder National Symbol, the new "Top 5 Tech" webinar series, the National Public Works Week proclamation campaign, and how to expand advocacy efforts both nationally and to chapters. The CPWA Board of Directors also received an APWA Update from Scott Grayson and an Ottawa Update from CPWA's consultant in Ottawa, TACTIX.

Outside of its business meeting, the CPWA Board of Directors held meetings with two partner associations—the

Federation of Canadian Municipalities (FCM), and the Canadian Construction Association (CCA)—received presentations from two federal departments—Public Safety Canada (PS) and Natural Resources Canada (NRCan)—and hosted discussions with two Parliamentarians—Senator Rosa Galvez, Independent Senator from Quebec (Bedford) and MP Marc Miller, Liberal MP from Ville-Marie-Le Sud-Ouest-Île-des-Soeurs.

The CPWA Board meets with Federation of Canadian Municipalities and Canadian Construction Association

FCM Manager of Policy and Research, Alana Lavoie, spoke with the CPWA Board

about several FCM funding programs—FCM’s Municipal Asset Management Program (MAMP) and Municipalities for Climate Innovation Program (MCIP)—and provided an overview of issues FCM is focused on that intersect with many of CPWA’s Public Policy Priorities, including infrastructure investment, Federal Wastewater Systems Effluent Regulations, the safety of “vulnerable” road users, and cannabis legalization, including FCM’s *Municipal Guide to Cannabis Legalization*. Lavoie and the CPWA Board also discussed the next iteration of the Canadian Infrastructure Report Card (CIRC).

CCA President, Mary Van Buren, and CCA Vice-President of Government Relations and Public Affairs, Rodrigue Gilbert, spoke with the CPWA Board about CCA’s new strategic plan, which is focused on three broad themes: diversity, innovation and infrastructure. As part of the strategic planning process, CCA asked members to envision what construction will look like in the future—with the rise of the tech worker, for example. Van Buren and the CPWA Board also discussed alignment in the areas of emergency management, career development and workforce issues.

The CPWA Board meets with Public Safety Canada and Natural Resources Canada

Ryan Hunt, Public Safety Canada Director of Critical Infrastructure Partnerships, provided the CPWA Board with an overview of Public Safety Canada Critical Infrastructure (CI) Initiatives, including:

- PS CI Exercise Program;
- PS Regional Resilience Assessment Program (RRAP);
- PS Virtual Risk Analysis Cell (VRAC);
- PS Cyber Engagement – Industrial Control Systems (ICS) Symposiums; and
- PS Critical Infrastructure Gateway.

Kaili Levesque, Senior Director with NRCan’s Office of Energy Efficiency, and André Bernier, Acting Director General of NRCan’s Electricity Resources Branch, provided the CPWA Board with an overview of federal programs to reduce greenhouse gas emissions and generate clean growth, including:



The CPWA Board of Directors with Parliament in the background, left to right: Gary Losier, APWA Region I Director; Michel Frenette, Quebec Chapter; Don Morehouse, Atlantic Provinces Chapter; Scott Grayson, APWA/CPWA Executive Director; Patty Podoborzny, Alberta Chapter; David Sparanese, British Columbia Chapter; Chris Hamel, Ontario Chapter; Anne Jackson, APWA Director of Sustainability and CPWA Advocacy; Steve Blayney, Manitoba Chapter; Chris Smillie, CPWA Advocacy Consultant; CPWA President Andrew Stevenson, Saskatchewan Chapter; Sal Iannello, Ontario Chapter; Leon MacIsaac, Newfoundland-Labrador Chapter; and Alan Young, CPWA Advocacy Consultant.

- NRCan Clean Energy for Rural and Remote Communities: BioHeat, Demonstration & Deployment Program;
- NRCan Emerging Renewable Power Program;
- NRCan Smart Grids Program;
- NRCan Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative;
- NRCan Energy Efficient Buildings Strategy;
- Industrial Energy Management;
- NRCan Green Construction through Wood (GCWood) Program; and
- Innovation, Science and Economic Development Canada (ISED)’s Clean Technology and the Clean Growth Hub.

The CPWA Board meets with Senator Rosa Galvez and MP Marc Miller

Senator Galvez, who is the Chair of the Standing Committee on Energy, the Environment and Natural Resources, and a Member of the Standing Committee on Transport and Communications, spoke with the CPWA Board about her work in the Senate on infrastructure. She referred to committee studies on the effects of transitioning to a low carbon economy as well as the regulatory and technical issues related to the deployment of connected and automated vehicles, and noted that a pre-study of the Government’s budget and carbon tax legislation (Bill C-74,

Budget Implementation Act, 2018, No. 1) is now being undertaken in the Senate. Senator Galvez encouraged CPWA to continue building awareness about its issues in Parliament.

MP Miller, who is Parliamentary Secretary to the Minister of Infrastructure and Communities, was joined by Mathieu Bélanger, Director of Policy in the Office of the Minister of Infrastructure and Communities. The conversation with the CPWA Board centered on the Government’s infrastructure investment program, including a progress update on bilateral agreements with all the provinces, as well as a discussion about challenges, including metrics, timelines, and when and how financing is delivered.

CPWA Directors provided feedback to Miller about municipal challenges, including funding for maintenance, project notification requirements, meeting the needs of rural communities, defining “small” communities in terms of eligibility, and the timing of federal and provincial grants. Bélanger encouraged the CPWA Board to share its members’ perspectives about infrastructure investment because Infrastructure Canada wants a qualitative check on the program. ▮

Anne Jackson is the Director of Sustainability and CPWA Advocacy for the American Public Works Association, headquartered in Washington, D.C.

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Write for THE ROADRUNNER

*We are planning the upcoming 2019 editorial schedule.
Do you have a story to tell or expertise to share?*

The magazine is looking for content from Western Canada, written by public works professionals or industry experts who work with public works professionals, in the following areas:



Legal Briefs – Law firms in Western Canada are invited to submit topics of interest to public works departments.



HR Reports – Public works staff / departments are invited to submit topics that are human resource-related. Past topics have included the ins and outs of using social media as a tool to interact with the public, achieving gender parity, and succession planning.



Community Highlights – Public works staff / departments are invited to share success stories and details on how they have overcome challenges in their communities.

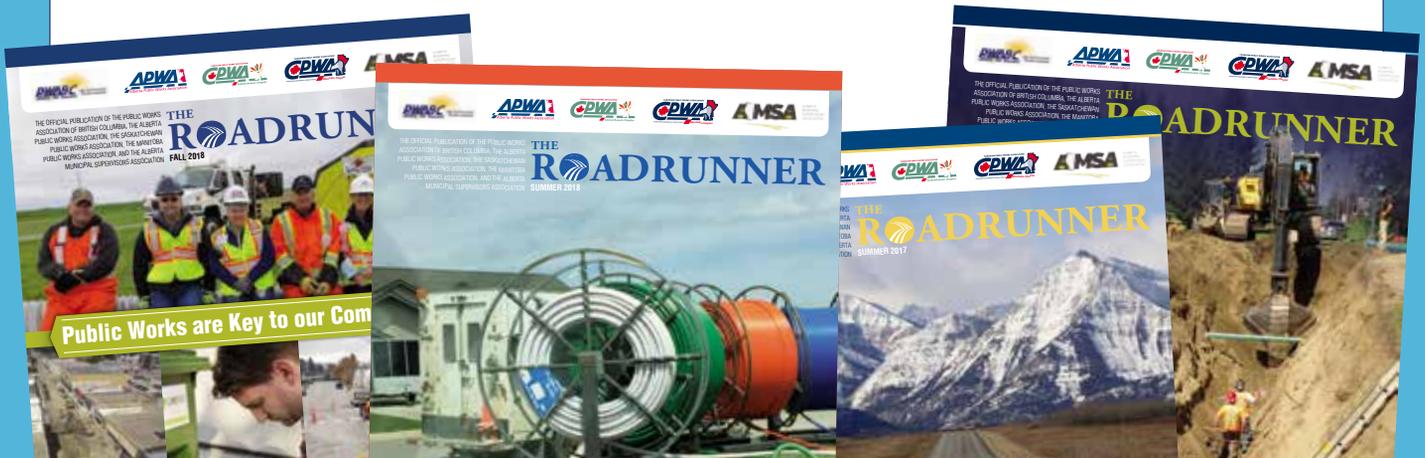


Tech Talks – Companies that provide tools and technologies to the public works community are invited to showcase their products and how they are being used in Western Canadian communities.

If you're interested in contributing to an upcoming issue, reach out to Shannon Savory (ssavory@matrixgroupinc.net) with your idea.

NOTE: All abstracts are subject to approval. Please do not write full articles until your abstract has been approved.

We look forward to continuing to share interesting and informative public works stories!





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Chilliwack Completes Critical Culvert Rehabilitation Project with Precast Concrete Pipe and Box Structures

Chilliwack began specifying rigid infrastructure including concrete pipe and precast concrete box culverts in 2015. Photos courtesy of The Langley Concrete Group of Companies.



By Joel Shimoszawa, P. Eng., The Langley Concrete Group

The Langley Concrete Group (LCG), with their primary manufacturing facility located in Chilliwack, B.C., supplied all precast concrete products for the 2017 Culvert Rehabilitation Project for the City of Chilliwack. The project consisted of replacing seven existing corrugated steel pipe (CSP) and CSP arch culverts with concrete pipe and precast concrete box culverts. Several of the culverts were identified by the city as being “critical replacements,” having less than five-years of service life remaining.

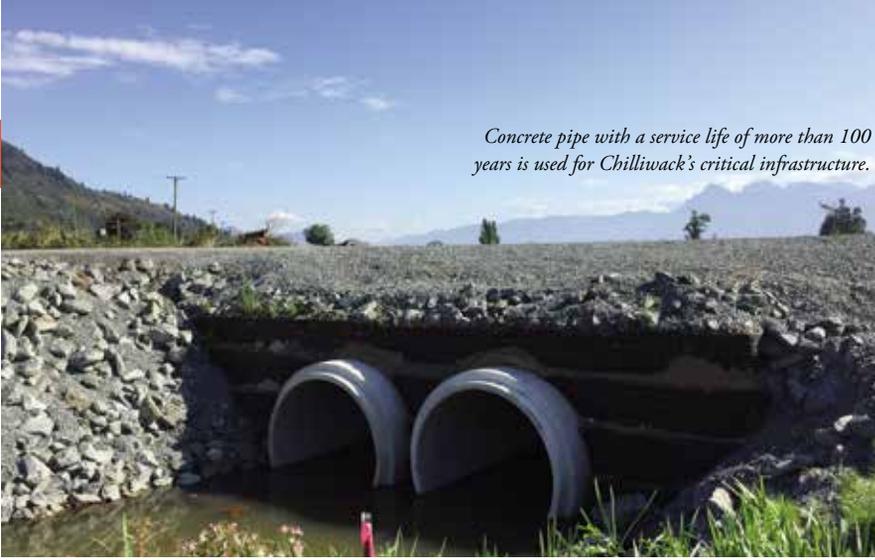
LCG produces dry-cast concrete products that accommodate the accelerated construction method due to high production capabilities and a controlled manufacturing environment for product curing and quality control. LCG delivered precast concrete box structures to the contractor quickly, to enable successful completion of the project by the September 30 deadline. The majority of the culvert replacements were in yellow or red-coded streams, which limited the construction window to within the July 1 to September 30 fisheries construction window.

Chilliwack began its infrastructure study of more than 1,000 of the city’s storm drainage culverts in 2014. Galvanized CSP culverts had

Project Details	
Project Name	2017 Culvert Rehabilitation / Tender No. 2017-10
Location	Various locations in Chilliwack
Project Manager	Kyle St. Amour, Drainage Technician, City of Chilliwack
Engineering Design Consultants	McElhanney Consulting Services Ltd. & ISL Engineering and Land Services
Contractor	Walter’s Bulldozing

Inventory of Culvert Replacements			
No.	Location	Existing Infrastructure	New Replacement
1	41565 Keith Wilson	(x2) 1,825 mm x 1,250 mm CSP Arch Culvert	3,050 mm x 1,524 mm Concrete Box Culvert
2	5725 Chadsey Road	(x2) 1,825 mm x 1,250 mm CSP Arch Culvert	3,050 mm x 1,524 mm Concrete Box Culvert
3	7975 Aitken Road	1,400 mm CSP Culvert	1,650 mm Concrete Culvert
4	9700 Banford Road	1,500 mm CSP Culvert	1,800 mm Concrete Culvert
5	51756 Nevin Road	1,200 mm CSP Culvert	1,350 mm Concrete Culvert
6	51734 Nevin Road	2,250 mm x 1,650 mm CSP Arch Culvert	2,438 mm x 1,829 mm Concrete Box Culvert
7	42920 Yale Road	(x2) 1,500 mm CSP Culvert	(x2) 1,800 mm Concrete Culverts

Concrete pipe with a service life of more than 100 years is used for Chilliwack's critical infrastructure.



been used in overwhelming proportions and inspection results demonstrated that this culvert material had a maximum service life of 40 years, with some culverts reaching 20 years only before showing signs of failure due to corrosion. Standing water in CSP culverts causes the material to corrode at the spring line, allowing soil to infiltrate into the pipe. This compromises the soil-structure interaction required to support dead and live loads.

Since 2015, the city has used rigid infrastructure including concrete pipe and precast concrete box culverts in the majority of culvert replacements in their rehabilitation program. As the city continues to replace aging infrastructure and upgrade their drainage system to a higher standard, concrete pipe and box culverts will continue to offer a structural solution that is durable, resistant to corrosion and designed for a service life of 100-years.

Walter's Bulldozing, a local Chilliwack civil contractor, successfully tendered the project in June 2017. The contractor planned the logistics for removing and reinstalling the seven culverts located within sensitive protected waterways. The city required the contractor to retain a qualified environmental professional (QEP) to ensure that the watercourses and surrounding habitat were protected throughout construction. In areas of critical habitat, which included the Oregon Spotted Frog and the Salish Sucker, additional site enhancements, such as the installation of Coho gravel inside the culverts, were completed.

Chilliwack is a growing community in the Fraser Valley. The municipality lies at the base of the Canadian Cascade mountains and is bound by the Fraser and Chilliwack Rivers, both prominent networks for fish migration.

The Langley Concrete Group has extensive experience working with contractors, municipalities and the province in rehabilitating critical infrastructure, especially in Chilliwack, where LCG's robotic production facility is located. LCG is actively involved with community initiatives, and with over 60 employees from the municipality, there was a great sense of pride in producing and providing quality, structural, precast concrete products that can be relied upon for generations.

Joel Shimozawa, P. Eng., is the Technical Marketing Engineer for The Langley Concrete Group.

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Photo (left to right): Lance Mackinaw, Risha Rushton, Perry MacDonald, Adeline Whitford and Abel Lagrelle.

O'Chiese First Nation's Water Well Management Program

By Risha Rushton, O'Chiese First Nation

Water wells are a primary source of drinking water for many rural residents. On First Nations, public and residential drinking water quality is monitored by a Community Health Representative (CHR) and overseen by Health Canada. On the residential side, water samples are taken from each household annually and delivered to a provincial lab where a microbiological analysis is run to test for the presence of coliforms and E.coli. When results from the microbiology indicate that there is a presence or the potential for the presence of coliforms or E.coli, a Boil Water Advisory (BWA) is issued by Health Canada to the resident.

Like many First Nations communities in Canada, in the spring of 2016, O'Chiese First Nation had numerous active BWAs. Of the 200 residential water wells in the community at that time, approximately 65 were on a BWA. The duration of time that the wells were under this advisory ranged in length from days up to three years. Although Health Canada provides drinking water quality sampling

(via microbiological analysis) to First Nation communities, they are not responsible for addressing any issues beyond notifying the resident and the department overseeing water and wastewater, which typically falls under public works.

Unfortunately, Indigenous Services Canada (ISC) currently does not fund residential water sources, such as water wells and cisterns, in First Nation communities; although the cumulative impacts of impure private systems can far surpass those of the public systems we now so often hear about in the news. The onus to address BWAs falls on the private citizen or the First Nation to fund and administer private water system clean-up activities.

Despite measures such as shock chlorination (a process involving a highly-concentrated solution to be injected into a water well and contained within the plumbing of the home for a period of time to eliminate harmful bacteria) being taken on O'Chiese prior to 2016, records were missing and efforts to address the growing numbers of BWAs had been inconsistent. So, in the summer of 2016, the everyday heroes of

O'Chiese Public Works set to work to solve the BWA problem.

We began by broadening our scope beyond the water well itself and looking at water from a more holistic perspective—from source to source. “We need to respect the water,” Martin Ironbow, O'Chiese First Nation Councillor and Elder recounted. “Water is Mother Earth...How much water is floating away from not being respected, the water is thinner now by the riverside.”

We established a working group of elders, community members and staff within the community, and identified the risks to source water and ways to mitigate those impacts into a community Source Water Protection Plan. We then sought out the assistance of Perry MacDonald with PM Environmental to help us assess, design and implement a plan to address the active BWAs, and to prevent future BWAs from occurring.

The process involved building an inventory of the physical and microbiological condition of every single water well in the community. We enhanced our Water Division team within Public Works

by creating three new full-time positions, including water wells technicians and an administrative assistant to manage all the new data coming in. Waterline Resources, based out of Calgary, Alberta, were also contracted to perform a baseline hydrogeological study of our groundwater. In addition, we added maps detailing characteristics of the aquifers we access and the wells in use by the surrounding area to provide a bigger-picture understanding of source and groundwater.

With our water well shocking program in full swing, since the spring of 2017, we have been able to build operating procedures that can be specified to each individual well to know exactly what concentrations and steps must be taken to ensure the well is treated properly. After one full year of implementing the program, we were able to remove over 63 residences from being under boil water advisories!

We are also performing annual preventative maintenance on all wells, such as shock chlorination and teaching residents about the importance of keeping the area around their well dry and free of debris. We also monitor our wastewater much more closely. All chlorinated water from the shocking process is dechlorinated prior to being put back to the earth. We also follow Alberta best management practices for the discharge of wastewater by testing for multiple parameters and ensuring guideline limits are met prior to releasing our tertiary cell of our sewage lagoon system each fall.

Our goal is to respect and effectively manage our water resources from source back to source. The next steps in our program include continued and enhanced monitoring for the potential impacts of oil and gas drilling operations on water quality and quantity. We also hope that the water well program we have established on O'Chiese can be used to empower and assist other First Nations communities and rural residents to understand and manage their private water systems. ▸

Risha Rushton is the Public Works Manager for O'Chiese First Nation, which is located in Alberta.

After one full year of implementing the program, we were able to remove over 63 residences from being under boil water advisories!

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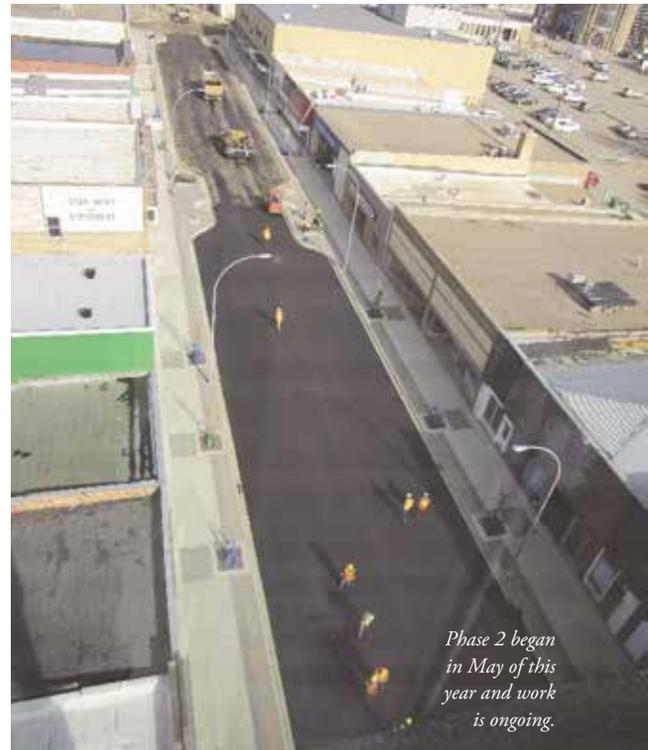
North Battleford Downtown Revitalization



Construction began in June 2017.



King Street Station and King Street (101st Street today) before revitalization began.



Phase 2 began in May of this year and work is ongoing.

By Susanne Abe, City of North Battleford

With a population of about 15,000, the City of North Battleford is the fifth-largest in Saskatchewan. However, the Battleford's region trading area is estimated to serve as many as 73,500 people.

From trains to cars

Back in the days, when riding the train was the main method of transportation, North Battleford's King Street Station and King Street (101st Street today) were the commercial hub. Like most other places in Saskatchewan, things changed for North Battleford when more and more people were able to afford a car and did not rely on trains anymore. Economic activities also shifted away from the core of the city as bigger stores opened that needed more space than the downtown could provide.

Moving ahead

Fast forward to today. Even though downtown North Battleford has some vacant, dated buildings, it does retain significant infrastructure and character. Revitalizing the downtown had been on everybody's minds for a long time and eventually the city commissioned a consultant firm to develop a Downtown Revitalization Action Plan that would guide the city in improving the overall image and experience of downtown North Battleford.

The place to be

The vision and ultimate goal for the North Battleford downtown is to become the beating heart of North Battleford and area again. What does this look like? Re-establishing a safe, walkable and business-friendly downtown that offers a mix of retail, restaurants and events, and where the community comes together, all top the list.

Phase 1

The Downtown Revitalization Action Plan was a joint work in progress for several years, including various consultations and workshops with stakeholders and the community. The final plan was released in February 2017. It looked at four character zones for downtown that each have distinct purposes and design elements.

To tackle all aspects of the revitalization—from underground work and paving, to street scaping and branding—the downtown work was divided into phases. Phase 1 included the downtown "T", located in the King Street character zone: 101st Street from 11th to 12th Avenue, and 12th Avenue from 100th to 102nd Street. The guidelines and work applied to this zone are to rejuvenate the historic plaza-like commercial nature of King Street. This area serves as the main north/south

pedestrian-focused corridor to and through the downtown core; designed to accommodate high pedestrian flows and slower vehicle speeds.

In addition, the City of North Battleford strives to apply the principals on Crime Prevention Through Environmental Design (CPTED) in all planning and development projects with the goal to create a safer environment by lighting up areas, natural surveillance and essentially, more foot traffic and eyes on the street.

Construction begins

In June 2017, the Downtown “T” was closed off to vehicles and pedestrians and work began. Lead service lines got replaced and the two travel lanes were repaved with accent paving at walkway bulbs to strengthen priority at crossings. Parallel on-street parking remains with additional angle parking along the avenues. The width of the sidewalk was not changed but reconstructed and street scape amenities, such as trees, plant hanger baskets, benches and waste containers, were incorporated.

The city chose solar powered bollards to highlight pedestrian structures and improve safety. Laser cut tree guards that feature North Battleford’s water tower, the city logo as well as the downtown logo, protect the newly planted trees, support their growth and serve as bike racks. Another special feature are new banners that reflect the community’s tapestry of history and culture, and acknowledges that the city is located on Treaty 6 Territory.

After three months of complete closure of the Downtown “T”, the sidewalks were reopened in August and, on October 16, 2017, the entire area celebrated a grand re-opening with a ribbon cutting ceremony and numerous sales taking place at retailers throughout downtown.

Phase 2

Phase 2 of the Downtown Revitalization started in May this year with upgrades to the next two blocks along 101st Street beyond 12th Avenue. This area requires less underground work compared to Phase 1. Replacing of lead service lines, repaving and patching of the road is done as needed.

The area in Phase 2 is located in the Civic Character Zone, which represents the transition from the urban character of the downtown to the single-family dwelling character of residential North Battleford.

Efforts are paying off

Eateries and cozy cafés have located to the downtown and construction on the new four screen theatre has started, which will complement the newly-renovated single screen theatre.

Where to next

Phase 3 of the Downtown Revitalization is slated for 2019 and 2020, with major construction and water and sewer line replacements on 100th Street from 11th to 14th Avenue. Phase 4 and 5 will take place in 2021 and 2022, according to the five-year capital plan.

More information is available at www.cityofnb.ca.

Susanne Abe is the Communications Coordinator, City of North Battleford.

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Saving Money, Saving the Earth: Composting as a Social Enterprise

By Teresa Looy, Green Action Centre

Tonight we're having barbecued chicken thighs, local peas we shelled at home and mashed potatoes. The food waste: four chicken bones, a pound of pea shells, and a handful of potato peels, plus the half a jar of applesauce we were going to eat, but realized had gone mouldy while sitting in the fridge. Repeat this scene in thousands of households across the city.

Now funnel all the waste straight into the landfill.

Across the country, consumer-driven food waste equals 134 lbs per person per year, with another 134 lbs of waste throughout the rest of the food production, processing and distribution chain. That equates to the Canadian economy losing \$31 billion every year—and unfortunately, that number just keeps growing.

Fortunately, municipalities and businesses across the world are working hard to cut down this waste. Decreasing personal food waste is a key component to the strategy, but we will never be able to prevent it all. When it comes to the inevitable scraps that remain, composting is the next best option.

Benefits of commercial composting

Composting reduces the amount of organic waste going to landfills, which extends their lives; it reduces greenhouse gases (especially methane) produced by organics decomposing anaerobically in landfills, and it produces an end-product that can be used for landscaping, agriculture and landfill capping.

Backyard composting programs and commercial composting programs both provide significant benefits to communities and the environment. Backyard composting comes with a lower cost but requires more citizen effort. This, combined with the fact that you cannot compost meat, dairy or compostable plastics in small-scale systems, means that it tends to process lower volumes of waste. Commercial compost offers municipalities a much higher diversion rate.

Compost can also be great for the pocketbook and the economy. Depending on tipping and landfill maintenance costs, composting can save significant amounts of money from the operational budget. Typical estimates find that composting creates seven jobs for each one that a landfill provides.

Compost Winnipeg

While Winnipeg has a leaf and yard waste collection and composting program, there is no city-wide food waste pickup service for either commercial or residential clients. To fill this gap, Compost Winnipeg stepped in. In 2016, this social enterprise of Green Action Centre started collecting compost from commercial clients and in 2017, residential pickups were added. Today, the social enterprise serves nearly 250 clients.

With over 1,000 individual pickups per month, Compost Winnipeg is growing steadily. Three trucks and an electric bicycle, driven by courier staff, cover the routes seven days a week,



Photos courtesy of the Green Action Centre.



year-round. Since 2016, over 276,000 kg of organic waste has been composted, and 162,840 kg of CO₂e has been avoided. This is equivalent to 624,220 kilometers of driving avoided.

Currently, the organic waste is taken to a privately-owned third-party site northwest of Winnipeg. It is the only nearby, licensed facility accepting organic food waste for composting. A key component of the sustainability of any compost pickup service is availability of a licensed site to compost the waste. Compost Winnipeg is taking steps towards developing its own site within Winnipeg where it will process a portion of the compost it's collecting. Once complete, staff time and greenhouse gas emissions will be decreased through less driving time. This site will also be used for demonstrations and education, further building Winnipeg's composting capacity.

Each client receives weekly pickup and a monthly bill geared to the quantity of organic waste they produce. Residential clients receive a five-gallon bucket and a BPI Certified compostable bag to line the bin. This is picked up by couriers on the client's weekly collection date. Commercial clients choose from three sizes of rolling carts, which are again lined with a compostable bag. These carts are rolled right onto the truck and replaced with a clean cart and bag.

Commercial clients include offices, coffee shops, restaurants, a hospital food distribution centre, a mall, a nature centre, festivals, farmers' markets, apartment and condo

buildings, and schools. The response has been overwhelmingly-positive, and clients love that they can compost all food waste, compostable packaging, and paper towel.

While Compost Winnipeg has a huge impact and is providing a much-needed service in Winnipeg, the small social enterprise cannot meet the demand a large city has for organics recycling. A larger-scale solution is needed for Winnipeg, and communities throughout the Prairies.

Numerous municipalities across Canada already offer curbside pick-up of organics, alongside garbage and recycling, and Compost Winnipeg's 300-household residential client waiting list is great evidence that "the people are ready."

Teresa Looy is the Composting Coordinator for the Green Action Centre. Learn more at www.greenactioncentre.ca.

"We absolutely love Compost Winnipeg! Being able to include meat and dairy means our trash is down to half a bread bag per week!" – Home compost pick-up subscriber



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The city crew repairing a water main break on Allison Street. The newly-implemented Roads and Highways solution has enhanced the maintenance workflow significantly.

Managing Roads and Highways Effectively in Penticton

By Arif Rafiq, Esri Canada

Roads and highways connect communities and are akin to arteries vital for survival. These are the busiest and most used assets, especially in rural areas and smaller towns that lack marine or aerial transportation options for travel and logistics. In Canada, over the past few decades, the burden of infrastructure ownership and maintenance has been moving from senior levels of government to municipal levels, which not only calls for easy and abundant availability of advanced technology and workforce, but also finance.

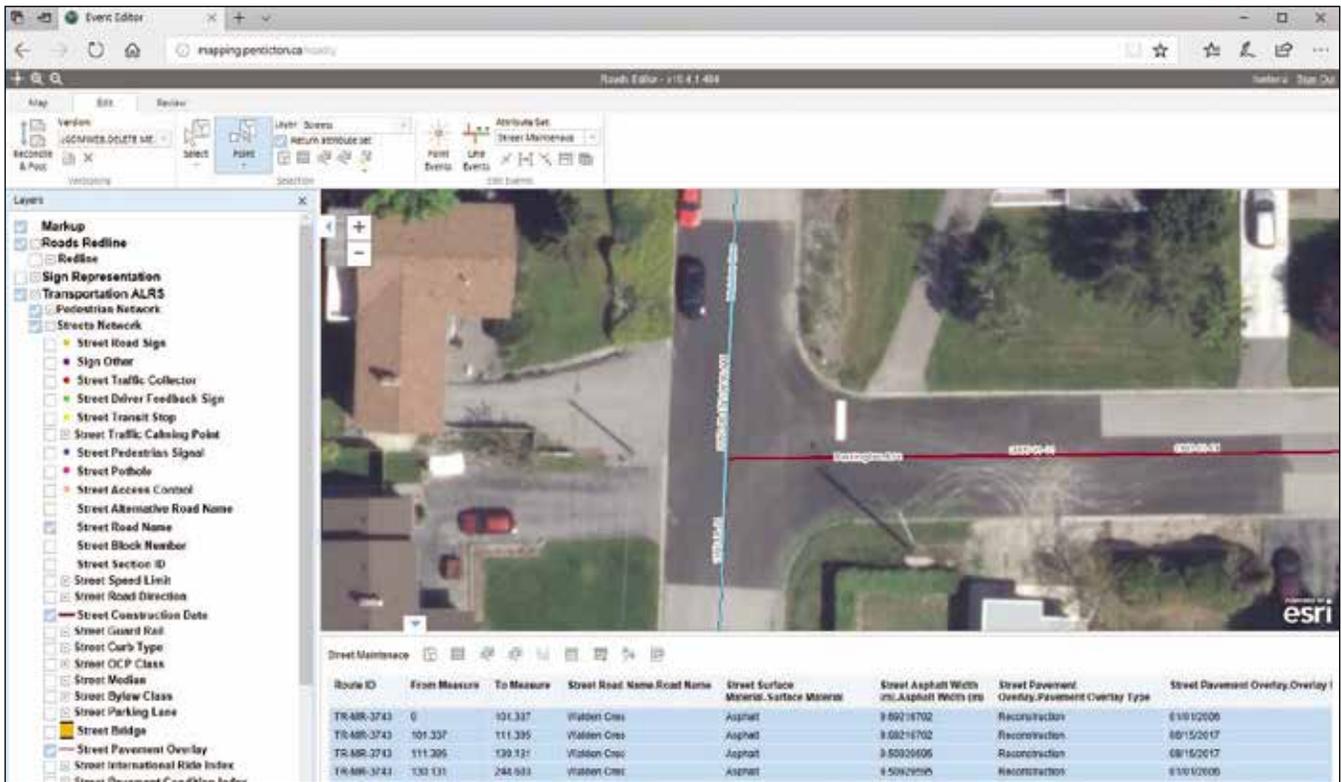
Faced with a \$76.8 million general infrastructure deficit in 2015, the City of Penticton—located in the beautiful Okanagan Valley in central-southern British Columbia—was looking for ways to deal with the increasing deficit. With a population of approximately 33,761 residents, the city manages 184 kilometres of roads and 143 kilometres of walkways and sidewalks, among other infrastructure assets.

When the municipality completed its asset management audit in 2016, it realized that the aging infrastructure required more

Article continued on page 48

A Roads and Highways diagram.





Compared to a traditional intersection-to-intersection model, the Roads and Highways ALRS can accurately represent the details of any construction.

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attention; the population wasn't growing as much as the cost of maintaining infrastructure had been. In the long run, it could start impacting municipal taxes if they didn't consider adopting a foundation for strategic asset management. Penticton decided to explore geographic information systems (GIS) to manage its infrastructure.

Why GIS, you might wonder.

The reason is simple. Physical infrastructure is defined by its geographical location and a mix of qualitative and quantitative data; as a result, GIS can play a vital role in managing spatial data and producing insights that lay the foundation for effective asset management.

Going back to Penticton, the city bought its first enterprise GIS system, Esri's ArcGIS Enterprise, and hired its first GIS analyst in 2012. It began with desktop analysis for smaller, ad hoc mapping requests followed by managing electrical assets.

"The momentum built up from the successful electrical project aligned with the city's asset management planning, which quickly led to the migration of the city's water, storm water and sanitary sewer data into the enterprise geodatabase with the roads data next on the list," recalls Dave Polvere, IT manager for the City of Penticton.

To facilitate the maintenance and management of data, the GIS team used Esri's Local Government Information Model, which includes several related maps and apps that can be configured for any organization.

"After reviewing the different approaches for managing road information, we found that Esri Roads and Highways, based on Web GIS, is able to record information at a finer level of detail without the need for complex editing of

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geometries,” Polvere explains. “This is the only solution we found that could optimize asset management for our city.”

Esri Roads and Highways is based on an advanced linear referencing system (ALRS) method, which uses positions and locations to reference assets along a route. Locations are relative to the length of the route and may change positionally when the route changes, whereas positions are discrete points on the ground and have no direct relationship to a route. This innovative and highly-efficient solution allows government departments to integrate data from multiple linear referencing system networks to get a comprehensive view of their roadways.

The ease of visualizing and maintaining road networks, creating transparency and eliminating silos, go a long way in optimizing available assets in any community—something that the City of Penticton wanted to achieve for effective asset management.

After the initial scope of the project was fulfilled, it became apparent that the ALRS provided through Esri Roads and Highways had some clear advantages over the traditional intersection-to-intersection segmented road model used by other municipalities. The city decided to establish a second ALRS to manage the complex attribution information of sidewalks, pathways and trails. Now, Penticton has a connected pedestrian network that allows the GIS team to perform advanced reporting and analysis of pedestrian assets.

By laying a sound foundation for connecting and managing transportation assets, the City of Penticton is ready to engage city staff and the public with a multi-modal transportation system that incorporates different types of transportation modes (such as walking, sharing a bike, riding a train or driving a car) into city planning. By making data open and transparent, it's breaking barriers and inter-organizational silos, and encouraging city-wide consumption of data and participation in data management. It's getting ready for the future, a smart future. ▸

Arif Rafiq is the Transportation Industry Manager for Esri Canada, which provides geographic information system (GIS) solutions. He focuses his efforts on advising customers on how to use GIS technology to improve all areas of transportation management, specifically for highways, public transit, aviation, marine, rail, freight and logistics. He can be reached at arafiq@esri.ca.

When the municipality completed its asset management audit in 2016, it realized that the aging infrastructure required more attention; the population wasn't growing as much as the cost of maintaining infrastructure had been.

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