

SPECIAL FEATURE

May 28, 2018

# ROADBUILDING & HEAVY EQUIPMENT

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## Passing lane projects among priorities of 2018 highway construction season in Saskatchewan

REGINA  
Saskatchewan's 2018 highway construction season will focus on improving safety on its highway system thanks to a number of passing lane projects and other improvements.

"Our government is making a major commitment to improving safety on some of our busiest highways," Highways and Infrastructure Minister David Marit said in a statement. "Constructing passing lanes on Highway 6, south of Regina for example, will greatly improve safety throughout this corridor."

The two sets of passing lanes on Highway 6 between Regina and the junction with Highway 39 will be constructed this year. Construction will also begin in 2018 on two sets of passing lanes on Highway 4 between North

Battleford and Cochin.

"Highways 6 and 39 are important arteries for the trucking industry and connect Canada to the United States — Saskatchewan's largest trading partner," Saskatchewan Trucking Association Director of Policy and Communications Nicole Sinclair said in a statement.

"Passing lanes along these highways will make the movement of goods along these key trade corridors both safer and more efficient. Any project that increases those two key factors is always strongly supported by the trucking industry."

Motorists can expect to see road work in every region of the province throughout the construction season.

Construction will also continue on the Regina

Bypass, Highway 7 twinning west of Saskatoon and new overpasses on Highway 11 at Warman and Highway 12 at Martensville.

An investment of about \$118 million will result in 700 km of repaving and preventative maintenance across the province, including repaving on Highway 2 south of Chamberlain; Highway 4 north of North Battleford; Highway 26 between Vawn and Mervin; and Highway 35 south of Weyburn.

The Saskatchewan Ministry of Highways and Infrastructure operates and maintains 26,000 km of provincial highways. Since 2008, the Government of Saskatchewan has invested more than \$8 billion in its transportation system.

JOC NEWS SERVICE

## \$30 million earmarked for new rural Manitoba bridge

MYRON LOVE  
CORRESPONDENT

A bridge that has served the Lac Du Bonnet district in southeastern Manitoba for close to 90 years will soon be no more.

The original PR313 bridge was built in 1908. That first wooden bridge was the first to accommodate a Winnipeg Hydro Tramway.

In 1931 the wooden bridge was replaced with a steel Dominion Bridge structure that was used for both rail and highway traffic.

**'New pier caps have been casted to accomodate the widening of the bridge,'**

Russ Andrushuk  
Manitoba Infrastructure

The bridge deck was later raised by four feet in order to accommodate rising water levels created by the McArthur Falls Generating Station. Further modifications and repairs were undertaken over the years including the removal of the rail tracks in 1963.

Due to concerns about the integrity of the bridge, Infrastructure Manitoba commissioned engineering surveys of the bridge in 2015 and solicited suggestions for rehabilitation.

Meetings were held with stakeholders and

the general public. The consensus was that a new bridge should be built using the existing piers.

Russ Andrushuk, Acting Executive Director — Structures, Manitoba Infrastructure, reports that demolition work is underway to dismantle portions of the existing bridge.

He notes that the existing bridge will continue to be open to traffic — one lane controlled with signals — throughout most of the year-long construction period.

The initial stages of the work, he points out, involve some post tensioning of the substructure.

"New pier caps have been casted in order to accommodate the widening of the bridge," he says.

The general bridge construction tender has been awarded to MD Steele Construction Ltd. MD Steele has a good track record for constructing and rehabilitating many bridge structures in Manitoba.

The existing bridge is 6.2m (20 feet) wide, while the new bridge will be 9.6m (31.5 feet) wide. A new sidewalk on the north side will replace the existing sidewalk.

The plan, Andrushuk notes, is to build the new \$30 million structure in stages. At some point in late fall or the early part of the new year, the site will be closed to traffic for a period of three weeks.

The bridge is scheduled to be fully open by December 2019. The new bridge is expected to serve the community for 40 years or more.



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# SILICA CONTROL TOOL

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The BCCSA has developed the Silica Control Tool as a resource for the construction industry in BC. The Tool assists employers in conducting appropriate risk assessments and implementing effective controls and safe work practices where RCS dust may be an occupational hazard. The Tool identifies processes that may lead to exposures over the allowable exposure control limit, provides information about how to bring the exposure within the allowable limit, and produces a corresponding Exposure Control Plan (ECP) for the user.



## WHAT DOES IT DO?

The Tool guides the user step-by-step for each of their identified RCS dust producing processes through:

- Assessment of the risk from exposure
- Identification of the expected exposure
- Suggestions for appropriate controls
- Identification of expected exposure with the controls
- Any PPE that may be required
- Production of components of a related Exposure Control Plan (ECP)



## EMPLOYERS' KEY BENEFITS

- Help to ensure the health & safety of workers engaged in RCS dust producing processes.
- Assist in complying with the requirements of the OHS Regulation relating to assessing & controlling RCS dust exposures to below the allowable exposure limit.
- In some situations, eliminate the need for air monitoring tests for planned work processes, which is particularly helpful given that testing can often be challenging on construction sites because of short duration of work, and changing nature of activities.
- Preparation of specific process-based ECP templates that can be tailored for each jobsite.

The BCCSA Silica Control Tool can be a valuable aid to qualified persons in conducting RCS dust risk assessments, selecting and implementing controls and developing ECPs. However, the Tool is NOT a replacement for professional advice or jobsite air monitoring tests as may be needed. Jobsites and construction projects can be highly complex with unique variables and ever changing nature of work. The Tool does not purport to provide a conclusive output for every possible RCS dust producing process. Employers are ultimately responsible for taking whatever steps are needed to ensure that the requirements of the OHS Regulation are met.

...another tool developed by  

**BC Construction Safety Alliance**



DR. JOHN CHURCH

The TRU Compass at Thompson Rivers University in Kamloops, B.C. is solar walkway demonstration project which is testing technology for potential solar roads.

## Solar roads wait for their moment in the sun

IAN HARVEY  
CORRESPONDENT

The first solar roadway in Canada is up and running at Thompson Rivers University campus in Kamloops and proponents hope it's the first in a trend to bring the technology into the mainstream.

It's more of a walkway than a road since it doesn't bear vehicular traffic but moving solar roads move from the conceptual and laboratory stage into the real world will require many such demonstration projects.

Brian H. Johnson, general counsel and managing director of Solar Earth Technologies in Vancouver says there are 64 modules, each just under a square metre, installed at the TRU campus which will generate about

5.3 watts in an area which gets about 2,000 hours a year of sunshine.

"It's still early yet since the modules were just installed in July and we had the official opening in October," he says.

"And then of course it was winter and there was snow (which blocked the sun)."

Initial data, however, shows the modules are producing power consistently with projections, some used in the university and the unneeded power sold back into the grid.

Projects like the TRU Compass are important demonstrations not just of the concept in-ground solar — as solar roads are called — but also of the manufacturing process, design and other components that make up a roadway.

Not only must the modules be robust enough to withstand the design load, whether that's pedestrians, bicycles, cars or trucks, it must also stand up against the weather cycle and provide traction. Clearly, a glass surface with a low coefficient of friction would be deadly on a highway during a rainstorm.

"So there's a surface coating which creates traction which is one of the areas in-ground solar companies are going to compete, each is different," says Johnson.

"And in engineering the cells and modules to be cheaper and more robust as the technology develops."

The anti-skid layer is an optical quality material designed to minimize or eliminate reflected light while still adding a coefficient of friction through glass polymers particles which give a gritting effect.

It's the critical layer because solar cells are only about 43 per cent efficient and anything which obstructs sunlight reduces that further.

The irony of solar roads for vehicular traffic is that each passing car or truck shades the cells, reducing electrical generation potential. The busier the road during sunlight hours, the less generation possible.

It's the same for snow or ice, pedestrians and cyclist but that hasn't stopped the interest in solar roads. Solar Earth is working on its second generation of modules for vehicular traffic and has two subsidiaries in China where it sees vast opportunities.

In May 2017 Solar Earth installed China's first solar sidewalk with Hua Sheng Xing Science and Technologies and Chongqing Jiaotong University.

China also opened the world's first highway pavement test section in Jinan City. It is 1,080 metres and two lanes have PV modules capable of generating 812.1 kilowatts. Since then some four million vehicles have travelled over it and initial results are good with the power going to streetlights, digital signboards, tunnels and toll stations.

They are planning to upgrade the tech-

nology onto more lanes with a goal of offering road to electric vehicle touchless charging, thermal ice melting, internet connectivity all with big data aggregation and mining.

"One of the biggest challenges is that there no international standard for in-ground solar yet," says Johnson.

There are also issues around connecting to the modules and ensuring the cabling is robust and impervious to moisture. Adding battery storage is useful, but extremely expensive as that technology continues to develop so the power currently generated tends to be used on site in the moment or sent to the grid for revenue.

Global roadbuilder Colas of France, which this year closed their acquisition of Canadian pavers, the Miller and McAsphalt group, also sees solar roads as a key part of their offerings through their subsidiary, Wattway. They've been installing in-ground solar in France for four years as demonstration projects, their most recent being a patch to power toll gates on a highway on a concrete surface.

The first was developed in 2014 in Normandy where they installed 2,800 square meters which they hoped would 280 kilowatts at peak, enough to power lighting in public places in the town of 5,000.

They also installed a pilot roadway with 50 square metres in Georgia two years ago and have explored similar installations in Canada but cost remains the big challenge with the added drawback of snow and ice which limit electricity production.

Initially a square metre of in-ground solar cost US\$2,126 with the related support required such as monitoring and grid access, Wattway says and while it is coming down it's a long way from being a practical solution for municipalities.

The potential is there, however, the company insists, roads are only occupied by vehicles 10 per cent of the day and that 20 square meters of in ground could supply power for a single family home.



MICHAEL MEHTA

A closer look at the TRU Compass which is comprised of 64 in-ground solar modules which will generate 5.3 watts in an area which sees 2,000 hours a year of sunshine.



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# Are super-elastic memory alloys coming to a bridge near you?

**DON PROCTER**  
CORRESPONDENT

An engineering professor and his former PhD student at UBC's Okanagan campus in Kelowna have developed "a residual drift-based design" for concrete bridges that employs a super-elastic reinforcement alloy which can withstand the impact of earthquakes.

Conventional reinforced steel, by comparison, sustains "large deformation demand during big earthquakes which causes the steel to strain beyond its elastic limit," says Shahria Alam, associate professor in the school of engineering at UBC's Okanagan campus in Kelowna.

A case in point is the earthquake that hit Kobe, Japan, in 1995 leaving more than 100 steel reinforced concrete bridges beyond repair. If those bridges were reinforced with a super-elastic memory alloy, they might have only required "minor repairs" because the alloy can deform and return to its original state without damage, says Alam, adding that earthquakes teach engineers new things about structures — and how to improve them.

The engineering professor and his former PhD student Muntasir Billah — now employed as a bridge engineer in Vancouver — designed five bridge pier models, each with a different alloy reinforcement. They were tested to different seismic scenarios forces that B.C.'s Lower Mainland could face.

All of the alloys performed well but one — ferrous polycrystalline alloy — stood out from the rest, he says.

"They all have a self-centering capability: When you load it, it goes into large deformation — the elastic stage but it does not have permanent deformation which is why it is unique."

Actual bridge piers were constructed and tested at the University of Nevada in Reno, but the UBC pair developed a design using several numerical guidelines for detailing bridges through their modelling tests.

The super-elastic alloy must overcome a number of hurdles before it can be considered for adoption in design building codes. And, right now it is impractical because of its high price — about \$80/kg for a nickel-titanium alloy compared to offshore steel rebar priced as low as \$500 per tonne.

But Alam believes that continued research around the globe will help bring the price down largely because of the use of copper and iron in the alloy's composition.



SUBMITTED PHOTO

**Shahria Alam stands near some of the concrete bridge piers tested at the Applied Laboratory for Advanced Materials and Structures at the University of British Columbia. Alam and a former PhD student have developed a residual drift-based design for concrete bridges that employs a super-elastic reinforcement alloy.**

"In the next five to 10 years you will see many different alloys in the market that will be cheaper and competitive with regular steel."

The "true value" of the alloy is determined through life cycle analysis, he says adding that the product also has "very good corrosion-resistance — maybe even better than stainless steel."

Super-elastic alloys were discovered in the 1960s by the U.S. Navy. Since then research has evaluated it for different applications.

Alam says that building codes place more emphasis on infrastructure designs that can withstand earthquakes now than they did decades ago because there is more at stake in today's growing cities when infrastructure goes down.

"The losses increase substantially because of urbanization. Previously we thought life safety was most important and we didn't have to consider infrastructure safety. Now, we see infrastructure is a huge investment that we don't want to lose."

"It gives this product a great advantage and at the same time we see it as a more sustainable (design) solution for infrastructure."

While Alam's research looked at alloys in new construction, he says there is also potential for using alloys in bridge repairs and retrofits.

The engineering professor has also done research on alloys as reinforcement for concrete beam/column connections in buildings exposed to earthquakes. "We showed that a building will perform the same way (as a bridge) and won't experience permanent damage."

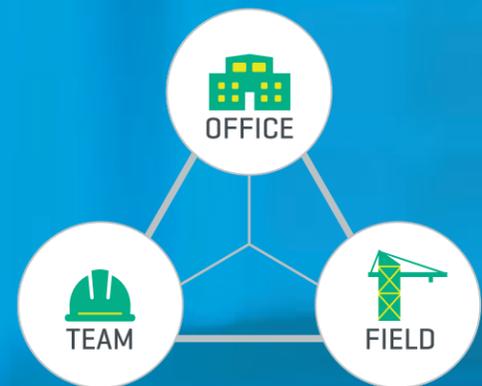
Alam and another student have patented a buildings and bridges bracing system with the alloys in Canada, the U.S. and Japan.

"We have developed models and tools for structural engineers so they can analyze and design those structures fitted with such new bracings."



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# Heavy equipment gears up for a greener future

IAN HARVEY  
CORRESPONDENT

The familiar roar of a diesel engine and black puffs of exhaust from heavy equipment could soon start to fade from construction sites.

Like all vehicle manufacturers, heavy equipment makers are looking to harness electricity to drive all of the mobility and hydraulic functions on their machines.

Japanese compact equipment maker Takeuchi recently showcased its fully electric e240 excavator, operating it throughout last year's CONEXPO-CON/AGG 2017 show in Las Vegas, despite being indoors. Takeuchi says not only does it generate zero fossil fuel emissions on site, it is 90 per cent cheaper to run than a comparable diesel-driven machine.

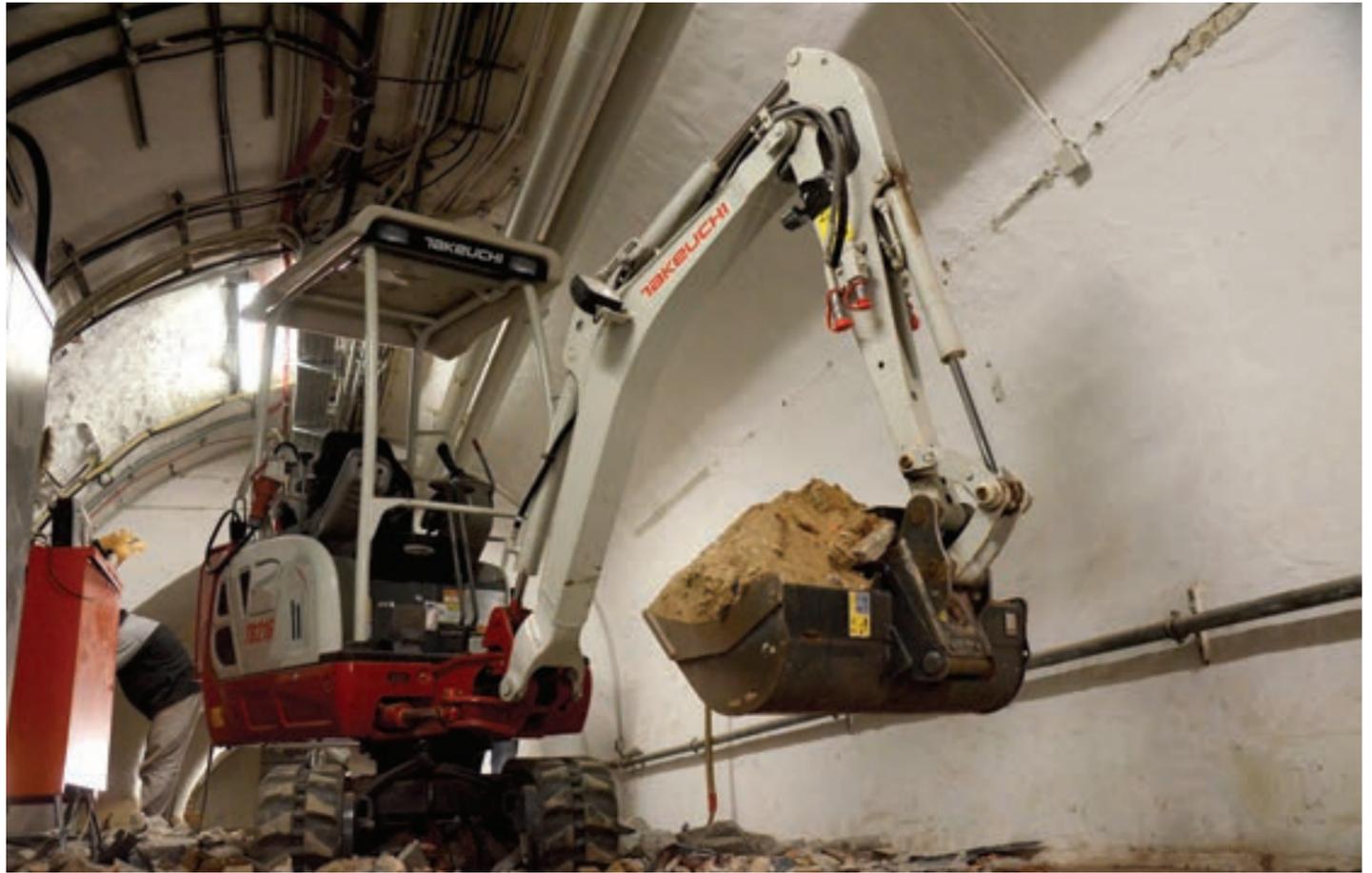
While the prototype is not yet a production model Takeuchi projects battery-powered heavy equipment will replace diesel in 10 to 15 years, gaining traction now and ramping up as buyers look for green alternatives.

The e240 is a compact and suitable for enclosed space applications such as within a building or in large tunnels, where diesel emissions cause issues.

What they do have in production, however is the compact TB216H which rolled out in November 2016. It's a hybrid machine and perhaps a taste of what will become the norm through the industry as battery technology advances.

It doesn't actually run on batteries but is a plug-in, running on either a three-phase source at between 400 and 480 volts. It can also switch wholly to diesel power with equal power on tap regardless of the source.

Rethinking earthmoving equipment is a trend across the industry, large and small.



SUBMITTED PHOTO

The TB216H produced by Takeuchi is a hybrid powered machine which can switch wholly to diesel power when needed and provides the equal amount of power no matter its source.

From whisper-quiet power trains with zero emissions to more flexible designs and more efficient formats, manufacturers are looking for the next generation of machine.

There are many other areas for improvement and incorporation of proven tech-

nology, however. John Deere, for example, presented some of their work at the same CONEXPO-CON/AGG 2017. They teamed with BMW's Designworks to create the Fixstern backhoe, a concept based on customer feedback.

Part of innovations focus on the ergonomics with an isolated command centre design for the cab which dampens vibrations and cuts operator fatigue. It also has 15 per cent larger opening for ease of access and exit and visibility front and back with a larger interior for better storage.

The use of composites has reduced overall weight by 20 per cent and the frame itself has been developed as exoskeletal modules, with a longer wheelbase for better stability and improved onboard stabilizers. The tires are airless radials and steering is through all four wheels giving a tight turning circle while the lower profile of the tires also increases visibility.

John Deere says the features rank among the most asked for in customer feedback surveys and while the concept isn't likely to see production for a decade, some of the features could be incorporated soon in existing product lines.

In line with the trend it's also been designed with a hybrid drive train, which in turn has also lowered the centre of gravity.

Manufacturers are also looking at how to incorporate autopilot functions into the machines, through clearly the technology required will be much different than existing self-drive software for trucks and vehicles.

Supersized dump trucks are already on autopilot while working within the closed parameters of a quarry or mine site and autonomous dirt movers are already on the horizon.

Start-up Built Robotics in the U.S., for example, has raised \$15 million to build a production version of their autonomous dirt mover. The machine is designed to be programmed with parameters and tasks and then left to do its own thing — ensuring of course that the designated work area is free of hazards and people.

Meanwhile, software is automating groups of controlled actions and monitoring load transfer progress.

Volvo launched their take on automation two years ago with 'load assist', which is available on their front end loaders ranging from the L110H to L250H.

It's a monitoring technology integrated with Volvo Co-Pilot, the in-cab interface that tracks load transfers for greater inventory control and production tracking.

Case CE, meanwhile, is floating its DL 450 concept, described as half Compact Track Loader and half dozer. It seeks to fill the niche with a dual machine which can be used in dozer mode with a 90 inch blade but is better designed to move the stress through the chassis instead of the arms which are otherwise prone to failure. It also features modern tech like back up cameras and two interior cab screens to enhance the operator's visuals.

As onboard technology merges with software advances its clear big changes are in store for big machines over the next few years.



SUBMITTED PHOTO

The John Deere 644K is powered by a hybrid-electric drive and delivers up to 25 per cent better fuel efficiency than its conventional engine counterpart.



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# B.C. roadbuilders see less red tape with COR to SAFE agreement

## MOU allows companies with COR to achieve SAFE designation easier

PETER CAULFIED  
CORRESPONDENT

In 2017, the BC Construction Safety Alliance (BCCSA) signed a memorandum of understanding (MOU) with the BC Forest Safety Council (BCFSC).

The agreement enabled construction companies with COR (certificate of recognition) to comply with the forestry sector's similar but different safety requirements.

**"In 2017, BCCSA had 1,032 COR-certified employers. That's a 70 per cent increase since 2010,"**

Vernita Hsu  
BCCSA

Not long after the BCCSA signed the MOU, the first of its kind in B.C., it was followed by two safety associations from outside the construction industry.

The agreements mean COR-certified contractors from the construction, oil and gas and trucking industries can go through a so-called conversion process that enables them to achieve the BCFSC's SAFE certification without having to first complete the extensive training and audits that are formally required.

SAFE (Safety Accord Forestry Enterprise) is a pre-qualification safety initiative

that is required to bid on forestry work in BC.

Owners and supervisors of COR-certified companies can take a four-hour, online Forestry Safety Overview course that orients them to B.C. forestry conditions and safety expectations.

The course is one part of the conversion process, which also requires registration and annual provision of documentation.

COR is a voluntary, incentive-based program that recognizes employers who have implemented an occupational safety management system that has successfully passed an audit and met WorkSafeBC's COR program standards.

"BCCSA was the first COR-certifying partner to adopt the process," said Vernita Hsu, director of BCCSA's COR and injury management.

"It was followed by two other COR-certifying partners, SafetyDriven and Energy Safety Canada."

Safety Driven (The Trucking Safety Council of BC) works with management, employees, and owner-operators in the B.C. trucking industry.

Energy Safety Canada is the national organization that represents the safety interests of the oil and gas industry.

Hsu says that, in addition to COR's popularity with the construction industry, an increasing number of construction contractors are obtaining SAFE certification to bid on forestry contracts.

"In 2017, BCCSA had 1,032 COR-certified employers," said Hsu.

"That's a 70 per cent increase since 2010. And currently (end of May 2018) 36 BCCSA COR-certified employers have obtained SAFE certificates through the conversion process."

The impetus for the initial BCCSA-

BCFSC collaboration was a provincial government decision regarding the eligibility of companies to bid on some government contracts.

Early in 2017, the B.C. Ministry of Forests, Lands and Natural Operations decided that contracts with COR-certified roadbuilders working in the forest sector were going to be contingent on acquiring the SAFE certification.

**"The agreement eliminates a lot of unnecessary red tape and it increases safety,"**

Kelly Scott  
B.C. Roadbuilders Association

The government's move led the BC Road Builders and Heavy Construction Association, whose members were affected by the decision, to approach the BCCSA.

"Many of our members work in both construction and forestry, but there was no cross-over between the safety requirements in each industry," said Kelly Scott, president of B.C. roadbuilders association.

"To take time off to fill out a lot of extra paper work in order to get SAFE certification resulted in a lot of delay for our members who wanted to bid on forestry contracts."

It's a year later, and Tyler Noble, the manager of quality assurance for the Nechako Group of companies, says the agreement has benefited the northwestern B.C. group.

Nechako, which has three operating

companies, works mainly in road and bridge maintenance for the provincial Ministry of Transportation and Infrastructure, but also works from time to time for the Ministry of Forests, Lands and Natural Resource Operations.

"Although our business is primarily road and bridge maintenance, being SAFE-certified has enabled us to consider opportunities in the forest sector," said Noble.

The three companies in the Nechako Group are ISO 9001-certified and COR-certified, for which they go through extensive audits every year.

"We had Dunoon Contracting become SAFE-certified through the standard process," said Noble.

"When the COR-to-SAFE conversion was offered, we decided to get the other two companies into the program. Earlier this year [2018] we had all three renewed. It's an efficient process which encouraged us to maintain our SAFE Certification for all three companies."

BCFSC covers harvesting, sawmills and wood pellet mills, says CEO Rob Moonen.

Companies covered by the safety organization come in a variety of sizes.

"Most contractors in wood harvesting are small, five employees or less, whereas many of the mills are large operations," Moonen said.

Moonen says he is "very pleased" with the agreement.

"It's an easy way that's not overly bureaucratic, nor does it induce audit fatigue for COR-certified companies to obtain SAFE certification," he said.

Scott says his B.C. roadbuilders association members are happy with the results.

"The agreement eliminates a lot of unnecessary red tape and it increases safety," he said.

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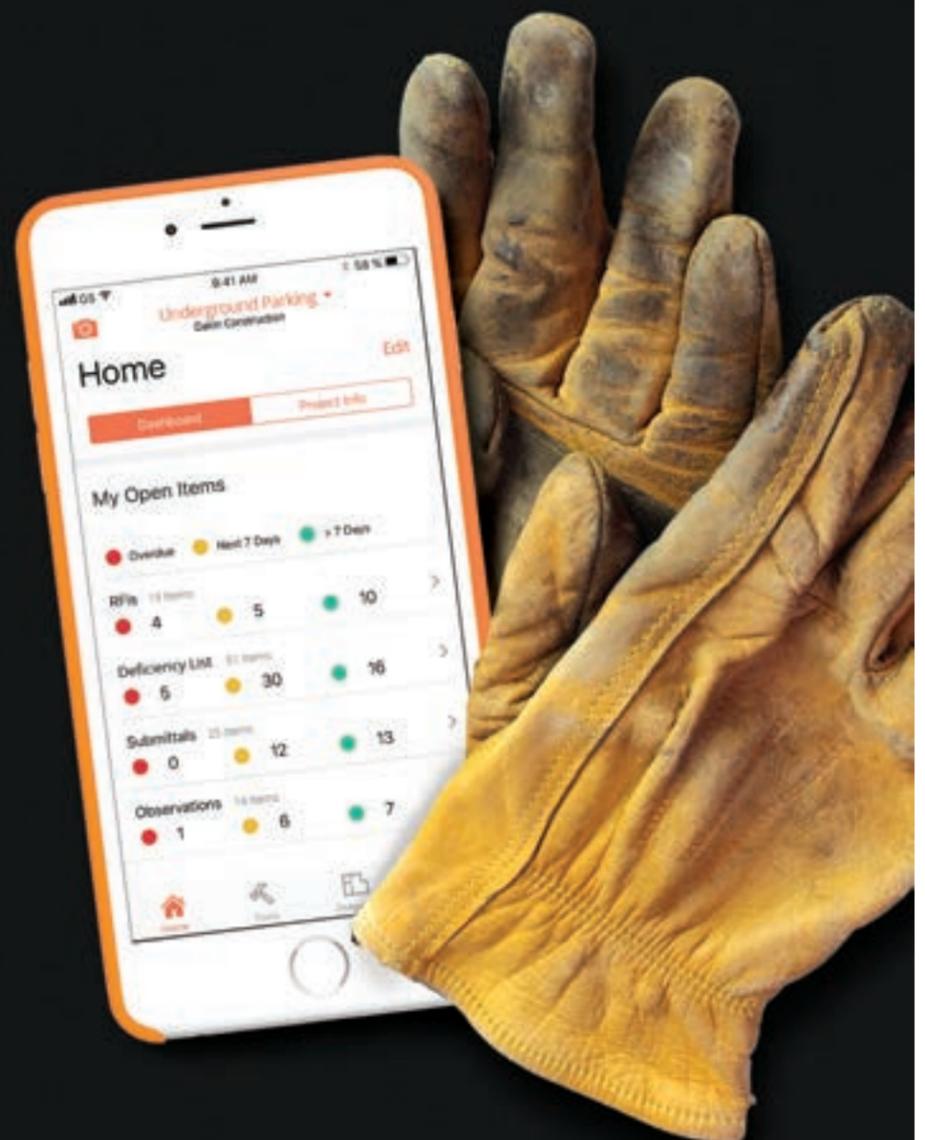
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TED MCGRATH/FLICHR CREATIVE COMMONS

WorkSafeBC and the B.C. crane industry recently held the Tower Crane Industry Safety Conference, the first such conference held in B.C. since 2009. The conference dealt with different aspects of tower crane safety. In 2017 there 12 B.C. tower crane incidents, such as failures or contact with overhead conductors. Above, cranes dot the Burnaby, B.C. skyline.

## WorkSafeBC and crane industry relaunch safety conference

PETER CAULFIELD  
CORRESPONDENT

Tower crane professionals from across British Columbia came together recently for the Tower Crane Industry Safety Conference. It was the first such conference held in B.C. since 2009.

The approximately 150 attendees at the March conference in Richmond included tower crane owners, suppliers, engineers and technicians.

**'Buildings are taller, cranes are taller and many of them are operating on narrower plots,'**

Al Johnson  
WorkSafeBC prevention services

The conference was part of the implementation of WorkSafeBC's (WSBC) 2018-2020 Crane Industry Initiative, which promotes the safe erection, operation, maintenance and inspection of tower cranes.

According to WSBC, the purpose of the agency's tower crane strategy is "to identify and eliminate specific tower crane hazards and unsafe work practices that have the potential to cause serious injury, death or catastrophic equipment failure."

Tower crane operation in B.C. is not without its occasional mishaps.

In 2017-18, a dozen tower crane incidents were reported.

The majority were caused by crane and hoist equipment failures; contact with overhead conductors, tower cranes and concrete pumps; and workers being struck by falling loads or by rigging and other objects.

"Because the last tower crane conference took place almost 10 years ago, WorkSafe and the B.C. crane industry realized it was time to get together again," said Al Johnson, WSBC's vice-president of prevention services.

Johnson says tower crane operators in B.C. face many challenges.

"There are construction cranes everywhere you look in the Lower Mainland," he said.

"Buildings are taller, cranes are taller and many of them are operating on narrower plots of land."

Conference sessions dealt with different aspects of tower crane safety. For example, OptiCrane Inc. is a Maple Ridge, B.C. company that distributes range-limiting and anti-collision devices for tower cranes.

The systems allow operators to protect public areas and electrical conductors, says OptiCrane founder and operator Paul Roussel.

"They also monitor each crane's position in real time and warn the operators through visual and audible warnings, as well as slow and stop the cranes as per programmed parameters," said Roussel.

OptiCrane is also a distributor of a line of industrial cameras.

"In addition to eliminating blind lifts, by providing operators with a straight-down view of the load from any crane, site progress can be monitored wirelessly through the web," he said.

Roussel says tower crane safety technology has room to grow in Canada.

"Several high-level developers have adopted the technology and are using it," he said.

"But the industry is not yet at the European level, where most cranes are equipped with these systems."

Roussel says the main factor that is limiting the adoption of safety technology is that they are not yet mandatory.

"Some jurisdictions still allow the use of written safe-work procedures, despite engineered devices being readily available," he said.

Cathy Lange described the BC Construction Safety Alliance's (BCCSA) Tech-

nical High Angle Rope Rescue Program (THARRP).

THARRP is a train-the-trainer program that helps fire departments meet the requirements for technical high-angle rope rescue.

"THARRP prepares fire department personnel in technical rescue procedures for workers at height, such as tower crane operators, who are in distress," said Lange, who is chairwoman of BCCSA's THARRP Committee.

Since 2013, there have been 47 crane rescues in B.C., says Lange.

"Most of the people who have needed to be rescued are members of the public," she said.

All of the 34 paid fire-fighting departments in B.C. (not including the many volunteer fire departments) have had THARRP training to national standards since 1991, Lange says.

A program development officer with the Industry Training Authority (ITA) updated conference attendees on the new requirements of the Red Seal program.

In December, 2017, ITA launched a Red Seal program for tower crane operators.

Before the change, an ITA Certificate of Qualification was available, but without Red Seal endorsement.

"The Red Seal endorsement is an indication that a tradesperson has met the national standard for the trade," said Colleen Rogan, manager of ITA program standards.

"Provincially, we work closely with BC Crane Safety to implement standards that meet national Red Seal requirements and also serve the needs of BC Crane Safety."

WorkSafeBC's Al Johnson called the conference "a great success."

"We expected between 50 and 60 people, but more than 150 people attended," he said.

He says the conference was so successful, in fact, that there are already plans to hold a similar event in 2019.

"It will probably take place some time in the first quarter of next year," he said.

"It's a valuable opportunity for WorkSafe and the crane industry to get together, touch base and discuss what's new."



LOTUS JOHNSON/FLICHR CREATIVE COMMONS

Tower crane operators face many challenges in British Columbia such as tight work zones and taller buildings being built, say experts.



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**THE SAFETY STORE**  
EQUIPMENT RENTALS AND SALES